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S.No	Academic Year	Description	Page Number
1.	2022-2023	Journals Papers	2



Cyber Security in Blockchain Technology

K. P. Shana Sherin^{1*}, T. Ambikadevi Amma², K. Sivakumar³, S. Divya⁴

¹PG Student, Department of Computer Science and Engineering, Nehru College of Engineering and Research Centre, Thrissur, India

^{2,3}Professor, Department of Computer Science and Engineering, Nehru College of Engineering and Research Centre, Thrissur, India

⁴Assistant Professor, Department of Computer Science and Engineering, Nehru College of Engineering and Research Centre, Thrissur, India

Abstract: Numerous qualities of blockchain technology are available, such as decentralisation, dependability, trackability, and immutability. But by itself, this technology is unable to ensure cybersecurity. This study seeks to present a thorough analysis of the methods and components proposed to achieve cybersecurity in blockchain-based systems. Our research investigates the many potential forms of assaults before making recommendations for how to defend against them. Our findings demonstrate that fresh blockchain applications can benefit from the Internet of Things (IoT), networks and machine visualisation, public key cryptography, online apps, certification systems, and safe keeping of personally identifiable information (PII). Blockchain has steadily grown in popularity as one of the best ways to protect data storage and transmission using decentralised, trustless, and transparent mechanisms. However, recent research on the security and privacy of blockchain technology has revealed that effective attacks have been launched against a number of apps.

Keywords: Blockchain technology, Cyber security.

1. Introduction

Cybersecurity has become more important in the business world due to the rise in cloud computing and internet applications. One of the most significant and cutting-edge technologies in the current computer paradigm, blockchain technology (BCT) increases the security of information system applications. Although BCT has many advantages, it also has several disadvantages, including a high risk of external cybersecurity threats, expensive capital costs, and excessive energy usage. New forms of data and compute outsourcing are now conceivable thanks to the Internet of Things (IoT), and network technologies are advancing swiftly. Decentralized storage offered by blockchain technology allows for the safe storing of data without the requirement for a single trustworthy entity. This essay examines the many cybersecurity measures that have been suggested when blockchain technology is involved.

In order to investigate how cybersecurity is addressed when blockchains are deployed, this study looks at 128 business endeavours and 272 scholarly works. It offers a taxonomy of the elements utilised in the suggested study, such as cybersecurity traits, methods for each property, geographical areas, technical developments, and the appropriate application of blockchains. With a primary focus on user privacy and transaction anonymity, it examines the security concerns and challenges that already-existing cryptocurrencies confront,

including the potential for attacks. The majority of system users have certified the authenticity of Bitcoin, a decentralised peer-to-peer digital currency that maintains shared transactions between users and keeps track of all digital happenings in a public ledger. Blockchain is a promising technology that might make single point hacks less likely, but a coded infiltration or system weakness might still make things worse.

This paper provides a comprehensive investigation of BT security flaws. Blockchain technology enables reliable transactions between untrusted network users by way of a distributed ledger with a cryptographic underpinning. It has been used commercially, impacted the world's currency exchanges, supported the expansion of illicit dark web marketplaces, and significantly contributed to the rise of cyberattacks with a financial motivation. This article focuses on the research that has already been done on the use of blockchain as a supporting technology for cyber security applications, covering the business domains of data privacy, security, integrity, and accountability as well as its application in protecting networked devices like the Internet of Things (IoT). The main objective is to establish a community-driven project for a more in-depth examination of blockchain and cyber security with a particular emphasis on the connections between the two hotly debated topics.

2. Methodology

In this study, blockchain technology-based cybersecurity initiatives are investigated. It addresses five issues: how cybersecurity was achieved in blockchain-based systems, which application fields benefited from blockchains, which blockchain technologies were combined with cybersecurity, whether there is evidence of poor cybersecurity use of this technology in academic works, as well as how the industry is approaching the use of blockchains for cybersecurity. The purpose of this work is to provide a current assessment of the literature on current research, to contribute to the growth of a body of accepted knowledge, to identify research gaps based on discoveries from earlier literature, and to suggest new avenue of academic inquiry. The collection of papers being considered consists of published articles as well as papers from conferences and workshops. All articles are obtained from the DBLP database, and conferences are chosen from class A conferences in accordance with the GII-GRIN-SCIE categorization.

*Corresponding author: shanasherin999@gmail.com



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Security Issues in Web Application

K. P. Shana Sherin^{1*}, T. Ambikadevi Amma², K. Sivakumar³, K. Arun⁴

¹PG Student, Department of Computer Science and Engineering, Nehru College of Engineering and Research Centre, Thrissur, India

^{2,3}Professor, Department of Computer Science and Engineering, Nehru College of Engineering and Research Centre, Thrissur, India

⁴Assistant Professor, Department of Computer Science and Engineering, Nehru College of Engineering and Research Centre, Thrissur, India

Abstract: Given that it serves as the fundamental underpinning for the global digital society, web security presents a significant challenge to businesses. This essay examines the several flaws in web security, including passwords, encryption, authentication, and integrity. It also examines a variety of defence strategies for dealing with these group of dangers and evaluates why they have not been more effective. Additionally, the level of web page security in educational systems is assessed, and the variations in web application security between academic institutions are explored. Finally, a suggestion for safeguarding websites is discussed.

Keywords: Security, Attacks, Web application.

1. Introduction

Web security is a crucial component of web applications, as it is susceptible to attacks like worms, browser attack, cookie-session theft, and cross-site scripting. The security evaluation conducted by application defence centre found that more than 85% of web apps were open to assaults. 75% of Internet dangers are tied to Web apps, and 75% of attacks have been directed at application-level targets. The education industry is one of the major sectors that heavily uses web apps and websites for information dissemination, lectures, assignments, collaborations, discussions, conferences, grading, training, remote learning, research activities, and many more objectives. Unfortunately, scholars have not paid much attention to the importance of protecting these data.

2. Methodology

Two prevalent security flaws are SQL injection and XSS, according to research of various vulnerabilities in the literature. An unintentional command known as SQL injection is sent to an interpreter and user input into form fields for database queries is made possible. A well-crafted attack URL called an XSS can be changed to allowing access which enable an assault to be launched. The client and the server are the two components that make up a web application. Cross-site scripting assaults, clickjacking, the use of scripts, and plug-in technologies are some of the security risks that the browser faces.

Server-side web applications are similarly impacted by the persistence of malicious code, coming under attack from the Webpage Trojan horse. The two main types of attacks we

frequently experience are aggressive attacks and passive attacks.

Our objective was to categorise 12 higher education, academic, and research institutions in Kuwait into governmental and commercial sectors. Examples of government-funded institutions include Kuwait University (KU), the Public Authority for Applied Education and Training (PAAET), and the Kuwait Institute for Scientific Research (KISR). The profit-driven private institutions have a partial focus on governmental rules. Both categories of applications are aimed for websites that offer services in the form of web applications, such as student information systems (SIS). Website security flaws or vulnerabilities are found using tools like Web scanners and scanner. Acunetix is an online vulnerability scanner tool with various cutting-edge capabilities like an automatic JavaScript analyser, the most thorough and comprehensive SQL injection and Cross-site scripting testing available in the industry, and a multi-threaded, blazing-fast scanner. An intelligent crawler can determine the languages used by web servers and apps by scanning hundreds of thousands of pages, crawl, analyse websites, including those with flash content, and cross-reference the OWASP top ten vulnerability list. The approach used to assess the security of web application servers includes crawling each targeted website and listing any vulnerabilities discovered, categorising them into four categories: High, Medium, Low, and Informational. If any of the vulnerabilities were met, a 10% number was added.

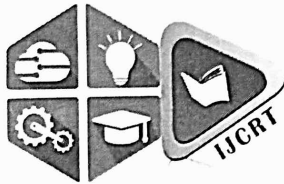
3. Results

Web applications are less safe due to malicious attacks. Users should utilize parameterized statements or well filtered sanitized input to protect themselves from SQL injection attacks. Whenever possible, developers should employ filter metacharacters rather than relying on user input to prevent cross-site scripting attacks. The most important aspects of this study are the client programme code security, client and server security technology, security risk provided by Web client script, AJAX protection method, and client programme code security. The client's security technology involves the operating system's real-time patches and the browser version, and it is important to promptly fix any vulnerabilities in both. The four components of the server's security protection method are the user end's application system, an external program's mechanism, data

*Corresponding author: shanasherin999@gmail.com



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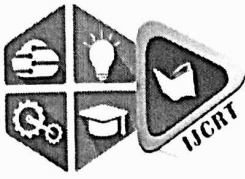
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ARDUINO BASED SNAKE ROBOT CONTROLLED USING ANDROID APPLICATION

Rahul M Nair¹, Kiran M², Anaswara K M³, Drisya M⁴, Sooraj K S⁵

¹Assistant professor, Electronics and Communication, NCERC, India

²Assistant professor, Electronics and Communication, NCERC, India

³UG Student, Electronics and Communication, NCERC, India

⁴UG Student, Electronics and Communication, NCERC, India

⁵UG Student, Electronics and Communication, NCERC, India

ABSTRACT

We humans have repeatedly acted motivated by nature really that we try to copy all things that kind likely, individual such I illustration is making a mechanical reptile. Which slides and moves like a reptile and form it fun and knowledgeable to build. In this project we will discover to attain motions like the reptile utilizing Servo motors and Arduino. The reptile-like robot is a biomorphic energetic-excessive machine that simulates a reptile. The shape and sizes of the twisting robot is revolved around on allure own use, various use may demand various sizes and shapes, because this project primarily mark search out design a snake-like machine that can prevent the barriers, so the reptile-like machine is planned to a moderate size accompanying 12 divisions, because the reptile-like machine can move flexibly in the landscape that has a lot of barriers. In order to form the reptile-like machine function and move like a absolute biological reptile, the reptile-like machine be going to involve numerous joints that allow the reptile-like machine to have numerous points of freedom, that present it the capability to bend, reach and approach a massive strength in its table accompanying an limitless number of configurations. This flexibility can allow the machine to move around in more involved surroundings. So, the use for this reptile-like machine could be very beneficial in hard to reach places or dangerous surroundings.

Index Terms – Arduino, Bluetooth, Servo Motor, Assault Pack

I. INTRODUCTION

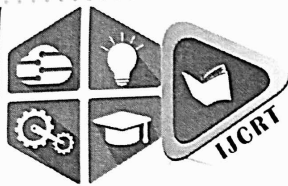
The idea for reptile machine comes from organic snakes. Snakes display wonderful flexibility skills and can adapt to any type of landscape, containing narrow and restricted positions. They are good climbers, very effective swimmers, and few snakes can even fly by begin undertaking arms and utilizing their material to slide through the air. A reptile robot is a mechanical machine created to move like a organic reptile. Inspired by the strength and support of the movement of organic snakes, reptile machines carry the potential of convergence the increasing need for mechanical flexibility in anonymous and questioning environments. The reptile controls having twelve of something sections stimulated by servo motors and linked with hardware supports. The servos are conditional an Arduino Mega and stimulate by a 7.4-volt assault pack. The snake possibly conditional an app using Bluetooth. The reptile is more capable of independent of self-determining activity. After all, 12 sections are related, head and tail portions need to be additional in consideration of sustain the Arduino and batteries. Snake machines are a new type of machines, famous also as sly machines. As the name offers, these machines occupy various actuated joints accordingly various qualities of independence. This gives the system superior ability to bend, reach and approach a immense strength in allure table among infinite number of configurations. It can travel through nearly all types of terrains. So it maybe secondhand for many uses in the way that rescue responsibilities, firefighting and maintenance location it grant permission either be highly narrow or also hazardous for people to operate.



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VOICE CONTROLLED ROBOT VEHICLE FOR FARMING

Greena Sunny¹, J Sreejith², Raheeb U³, Sajitha A S⁴, **Kiran M⁵**

¹UG Student, Electronics and Communication, NCERC, India, greenasunny01@gmail.com

²UG Student, Electronics and Communication, NCERC, India, sreejithpooppatta68@gmail.com

³UG Student, Electronics and Communication, NCERC, India, uraheeb033@gmail.com

⁴ Assistant professor, Electronics and Communication, NCERC, India, sajithaas.ece@ncerc.ac.in

⁵ Assistant professor, Electronics and Communication, NCERC, India, kiran.ece@ncerc.ac.in

ABSTRACT

This report gives the utility of solar strength within the manipulate of robot automobiles using speech recognition. Arduino is used with Android apps for required capability. The Android app connects to the robot's Bluetooth module via Bluetooth. ship commands to the robot the usage of the Android app's voice. at the receiving stop, DC vehicles are connected to a microcontroller for vehicle motion. Bluetooth's RF transmitter gets voice commands that are converted into encoded records in order that the robotic is at a sufficient distance (as much as a hundred meters). The receiver determines the records before feeding any other microcontroller to force the DC motor through the motor motive force IC for the best motive. It also has the ability to paint in agriculture and is a device to assist manipulate agriculture in agriculture. achievement says we will plant seeds with out shifting our bodies

Keywords:- Arduino, Bluetooth, Android, Automation, iot, RF Transmitter etc.

I. INTRODUCTION

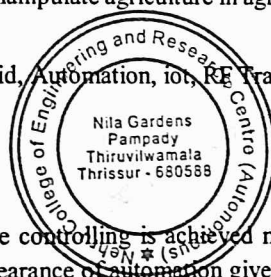
From long time in the past mostly, the controlling is achieved manually which include seed sowing inside the farms and flora. however as the time surpassed the appearance of automation gives the person alternative manner to control such home equipment.. without the want for the person to stroll. The advancement mention is that without transferring our frame we are able to sow the seeds and with the assist of net of factors (IoT) era. We use cell smartphone and an app to talk with the tool.

Voice recognition is the system of taking spoken phrase as an enter to this system. it's miles the capacity of the device to get hold of and interpret dictation, or to apprehend and perform spoken instructions. shifting records or commands via voice is a natural method and studies in Speech reputation or voice popularity are actively beneath process.

The intention of this tool is to listen and act on the commands received from the user. the 2 automobiles are related with microcontroller through motor driving force integrated circuit. Bluetooth managed robot worried building a robotic that may acquire commands via Bluetooth and then execute the ones commands the combination of manipulate unit with Bluetooth tool is achieved to seize and read the voice instructions. The robotic automobile then operates as consistent with the command acquired through android utility.

The receiver stop reads those instructions and translates them into controlling the robotic vehicle.

The android tool sends instructions to transport the car in ahead, backward, proper and left guidelines. After receiving the commands, the microcontroller then operates the cars I order to move the car in four directions. The communicate between android tool and receiver is sent as serial conversation information. The microcontroller application is designed to transport the motor through a motor driving force IC as in line with the commands despatched by means of android device.



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SOLAR OPERATED SMART MULTIFUNCTIONAL FLOOR CLEANING ROBOT

¹Malavika Venugopal, ²Abhijith P, ³Aswin V, ⁴Srijush P R, ⁵Vishnu Prabha N Kaimal

¹UG Student, ²UG Student, ³UG Student, ⁴UG Student, ⁵Assitant Professor

¹ Electronics and Communication Engineering,

¹Nehru College of Engineering and Research Centre, India

Abstract: The conventional floor cleaning machines is most widely used in airport platforms, railway platforms, hospitals, bus stands, malls and in many other commercial places. These devices need an electrical energy for its operation and not user friendly. In India, especially in summer, there is power crisis and most of the floor cleaning machine is not used effectively due to this problem, particularly in bus stands. Hence it is a need to develop low cost, user friendly floor cleaning machine. In this project, an effort has been made to develop a solar powered mobile operated floor cleaning machine so that it can be an alternative for conventional floor cleaning machines. Automated floor cleaning machines are commonly used in developing countries since many years because of high cost of labor, time, efforts and affordability. The concept is not popular in developing or emerging economic countries. Reasons for non-popularity are cost of machine and operational charges in terms of power tariff. A semiautomatic floor cleaning machine is developed by keeping basic consideration for less energy consumption, machine as well as operational cost reduction, reduce the human effort, environment friendly and easy to handle. Base of the project was to use renewable energy which is abundant in most of the countries, will have less Environmental impact.

I. INTRODUCTION

Cleaning is important work approximate every place. Sometimes this is easy and sometimes difficult. Sometimes we assigned people for purpose of cleaning and pay money and sometimes cleaning is required in areas where presence of living being dangerous so we cannot assigned living being in every place. Some places are so that have a large floor areas in that place for cleaning purpose we need more than one person so we required some technique to compensate these problems. In advancement of science a robot come in light but it operate by a personnel. To avoid this limitation of personnel we require more technologies. Cleaning machine is very much useful in cleaning floors and outside ground in hospitals, houses, auditorium, shops, bus-stands and public place etc. In modern days interior as well as outside cleaning are becoming an important role in our life. Cleaning of waste is a very important one for our health and reduces the man power requirement. Many of floor cleaning machines are available but we developed machine is very simple in construction and easy to operate. Anybody can operate this machine easily. Hence it is very useful in hospitals, any large area space. The time taken for cleaning is very less and the cost is also very less. Maintenance cost is less. Much type of machines is widely used for this purpose. The Floor cleaner is of very simple construction and is very easy to operate, anyone can operate it without any prior training of any sorts with safety.

II. LITERATURRE SURVEY

Solar powered unmanned cleaning robot -Rajkumar P, Abhiram K, Anushiya R, Elakkiya M, Harshidha P.R (IJEAT)-The SPUCR navigates in all directions with help of motors connected to the wheel. The robot moves by itself without continuous human guidance and cleans the house or office. Thus, saving a lot of time and making it convenient and useful.

Manually operated floor cleaning machine-N.B Khan, G.V Ana sane, R.A Bhoyar, Y.S Shaikh(IJEAT)-Now a day the conventional floor cleaning machines are most widely used in airport platforms, Railway platforms, hospitals, bus stands, malls and in many other commercial places.

Solar floor cleaner robot-Aishwarya Harke, Aboli Ramteke, Oshine Gour, Manaswi Charde(IRJMETS)-Ultrasonic sensor is the most important component for autonomous floor cleaning robot because ultrasonic sensor works as eyes of robot. Ultrasonic sensor useful for turning of robot by sensing the obstacle or wall. Sensing distance range set by programming. In this range robot sense the obstacle and turn back.



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Wearable Smart Personal Health Care Device

¹Akhil J, ²Akshay C K, ³Anandu P D, ⁴Nivedh K R, ⁵Lisa C
¹UG Student, ²UG Student, ³UG Student, ⁴UG Student, ⁵Assitant Professor
 Electronics and Communication Engineering,
¹Nehru College of Engineering and Research Centre, India

Abstract: The intention behind this project is to create a wearable consumer friendly health Monitor system. The project enables multiple uses. GSR, heart sensor, EEG, skin temperatures data is taken and processed to give specific output. Electro dermal activity is the skin 's response caused by environmental trigger or mental stress. It is measured by GSR sensor (galvanic skin response). Skin temperature and heart beat rate is also measured. Brain activity is measured by EEG. The data is also send to smartphone using internet via esp8266. The microcontroller used here is atmega328p. RTC module can also be used here to give store time data. This ensures the correct sleep cycle of the user.

I. INTRODUCTION

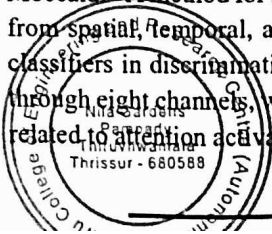
Currently, people have started becoming more conscious of their health. Due to the change in lifestyles and development in knowledge of the people, they started taking health as a priority. More focus is now being given to their mental health status as well. These can be understood from the growth of fitness industries. Monitoring health (both mental and physical) is a tedious process, especially for patients. Continuous monitoring of health isn't an affordable or reliable way. So, we are developing a wearable smart health care device which will detect various health parameters of human including brain activity. The data is processed and corresponding output is displayed in the device. This will be useful for patients in the hospitals and also common people can use this device. The device will be useful for patients in hospitals and also common people can use this device. Bystanders can easily monitor the health state, both mental and physical, of their patients with this device. It is can also be useful in detecting earlier signs of meltdown occurring in an autistic person. Numerous health state of a person can be identified using this device. This project uses human computer interaction techniques to assist the people classified as autistic by helping their care givers understand their emotional status via their autonomic data. This open-source project consists of a t-shirt embedded with an electrophoretic (e-ink) display that can display the wearer's hear rate, skin temperature, and galvanic skin response.

II. LITERATURE SURVEY

Arduino ATMEGA-328 Microcontroller Hari Sudhan IJIREEICE - Arduino ATMEGA-328 microcontroller has been programmed for various applications. Mainly these Arduino software supports c and c++ programming languages. ATMEGA328 microcontroller, which acts as a processor for the Arduino board. It consists of 6 analog inputs that are shown in the pin diagram. Analog inputs can be represented as PC0 to PC5.

Electronic paper Flexible active-matrix electronic ink display Hill, R. S., Harwood, D. M. & Webb, P.-N. Rev. Palaeobot. Palynol. 94, 11-24 (1996). Ashworth, A. C. & Kuschel, G. Palaeogeogr. Palaeoclimatol. Palaeoecol. 191, 191-202 (2003). Askin, R. A. & Raine, J. J. Terra Antartica 7, 493-501 (2000). Zachos, J. et al. Science 292, 686-693 (2001). DeConto, R. M. & Pollard, D. Nature 421, 245-249 (2003)-Electronic displays that look like print on paper are of great interest 1-4 for application in wearable computer screens, electronic newspapers and smart identity cards. This use of electronic ink technology on such an ultrathin, flexible substrate should greatly extend the range of display applications. Used a 75-mm-thick steel-foil substrate to build the TFT backplane because steel foil is lightweight, mechanically stable and compatible with existing fabrication processes for active-matrix liquid-crystal displays. A typical TFT has a threshold voltage of 4.0 volts and a linear mobility of 0.50 cm² V⁻¹ s.

High wearable EEG based distraction detection in motor rehabilitation Andrea Apicella, Pasquale Arpaia, Mirco Frosolone & Nicola Moccaldi - A method for EEG based distraction detection during motor-rehabilitation tasks is proposed. Different feature extractions from spatial, temporal, and frequency domain and classification strategies were evaluated. The performances of five supervised classifiers in discriminating between attention on pure movement and with distractors were compared. The EEG signal, acquired through eight channels, was filtered through a 12 IIR band-pass Filter Chebyshev type 2 filter bank. Changes in cognitive processes related to attention activate different parts of the brain.



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AUTOMATIC COMMUNICATION SYSTEM FOR ELECTRICITY METER READING

¹Jessna P A, ²Aiswarya R Nayanar, ³Aswini K, ⁴P Rajkumar

¹UG Student, ²UG Student, ³UG Student, ⁴Assitant Professor

¹ Electronics and Communication Engineering,

¹Nehru College of Engineering and Research Centre, India

Abstract: Energy meter reading is a laborious and an expensive affair. In conventional system the meter reader has to go and take the reading manually to issue the bill, which will later be entered in the software to automate the billing and payment system. To reduce the tedious task and financial wastage, the manual meter reading process and the bill data entry process can be automated. This Project utilizes a new network communication system for energy meter reading by integrating communication technology and software system along with the existing meters. A wireless communication system will be integrated with electronic energy meter to have remote access over the usage of electricity. Even though they are two different modules, energy meter deliver the reading details as on when it demands by the communication system. The communication system is further connected with electricity regional/sub-regional office, which will rather act as a base station. Instead of creating a separate communication system and backbone, any of the secure existing communication service infrastructures may also be utilized to avoid any initial investments. In this system a prepaid energy meter is installed in the house, which enables the system to communicate with the user through notification. The communication channel is identified by the consumer's number and it is secured by any cryptographic standards. Base office can verify the energy meters performance by checking the day to day consumption of energy. This will also help to avoid any tampering or break down of energy meter. In this Project, we propose to use ESP 32 to control the system with the software programming in Embedded C, integrated to the Power Meter module.

I. INTRODUCTION

Despite surviving thousands of years without electricity before, we have come to depend on it to complete our everyday tasks and have built our lives around it. We are so reliant on electrical power that it would be a shock to many if you no longer had the regular supply. Now a day energy meter reader goes to every premise and takes the reading manually then issues the bill. In manually reading human error possible and not provide reliable meter reading. An energy meter is a device which is used to measures the consumption of energy of any residence or other industrial establishment. In Conventional metering system to measure electricity consumption the energy provider company hire persons who visit each house and record the meter reading manually. This is only a sluggish and laborious. In Conventionally metering system people try to manipulate meter reading by adopting various corrupt practices such as current reversal or partial earth fault condition, bypass meter, magnetic interference etc. If any consumer did not pay the bill, the electricity worker needs to go to their houses to disconnect the power supply. This project aims to reduce the labour and modify the conventional electricity meter reading practices. This is a metering system that is to be used for data collecting from the meter and processing the collected data for billing and other decision purposes.

II. LITERATURE SURVEY

Automatic Meter Reading of Electricity by using Power line Communication- Rahul S Puhkala, Samir V Bavenc, Poornam Borle, Santhosh N Kashid proposed that Power is the soul of world which is relevant to the electricity and "ELECTRICITY" is the word which now rules the world. So, proper utilization of this commodity is of immense important to us. Hence, it is required to measure power consumption. Conventional system requires an individual and agent to physically come and take down the readings and report to house hold or office the amount one has to pay. The aim of this project is to measure and monitor the electricity consumed by consumers in a locality and transmitting the measured reading between the consumer and utility. Wireless Communication System for Energy Meter Readings- Cindy M Goral, Kenneth E Torrance, Donald P Greenberg and Bennet Battalia proposed that a new network communication system for energy meter reading by integrating communication technology and software system along with the existing meters. A wireless or wired communication system will be integrated with electronic energy meter to have remote access over the usage of electricity. Even though they are two different modules,

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VOICE CONTROLLED ROBOT VEHICLE FOR FARMING

Greena Sunny¹, J Sreejith², Raheeb U³, **Sajitha A S⁴**, Kiran M⁵

¹UG Student, Electronics and Communication, NCERC, India, greenasunny01@gmail.com

²UG Student, Electronics and Communication, NCERC, India, sreejithpooppatta68@gmail.com

³UG Student, Electronics and Communication, NCERC, India, uraheeb033@gmail.com

⁴ Assistant professor, Electronics and Communication, NCERC, India, sajithaas.ece@ncerc.ac.in

⁵ Assistant professor, Electronics and Communication, NCERC, India, kiran.ece@ncerc.ac.in

ABSTRACT

This report gives the utility of solar strength within the manipulate of robot automobiles using speech recognition. Arduino is used with Android apps for required capability. The Android app connects to the robot's Bluetooth module via Bluetooth. ship commands to the robot the usage of the Android app's voice. at the receiving stop, DC vehicles are connected to a microcontroller for vehicle motion. Bluetooth's RF transmitter gets voice commands that are converted into encoded records in order that the robotic is at a sufficient distance (as much as a hundred meters). The receiver determines the records before feeding any other microcontroller to force the DC motor through the motor motive force IC for the best motive. It also has the ability to paint ings in agriculture and is a device to assist manipulate agriculture in agriculture. achievement says we will plant seeds with out shifting our bodies

Keywords:- Arduino, Bluetooth, Android, Automation, iot, RF Transmitter etc.

I. INTRODUCTION

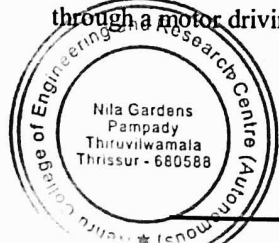
From long time in the past mostly, the controlling is achieved manually which include seed sowing inside the farms and flora however as the time surpassed the appearance of automation gives the person alternative manner to control such home equipment without the want for the person to stroll. The advancement mention is that without transferring our frame we are able to sow the seeds and with the assist of net of factors (IoT) era. We use cell smartphone and an app to talk with the tool.

Voice recognition is the system of taking spoken phrase as an enter to this system. it's miles the capacity of the device to get hold of and interpret dictation, or to apprehend and perform spoken instructions. shifting records or commands via voice is a natural method and studies in Speech reputation or voice popularity are actively beneath process.

The intention of this tool is to listen and act on the commands received from the user. the 2 automobiles are related with microcontroller through motor driving force integrated circuit. Bluetooth managed robot worried building a robotic that may acquire commands via Bluetooth and then execute the ones commands the combination of manipulate unit with Bluetooth tool is achieved to seize and read the voice instructions. The robotic automobile then operates as consistent with the command acquired through android utility.

The receiver stop reads those instructions and translates them into controlling the robotic vehicle.

The android tool sends instructions to transport the car in ahead, backward, proper and left guidelines. After receiving the commands, the microcontroller then operates the cars I order to move the car in four directions. The communicate between android tool and receiver is sent as serial conversation information. The microcontroller application is designed to transport the motor through a motor driving force IC as in line with the commands despatched by means of android device.



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HOUSEHOLD OBJECT FINDER USING WEBCAM AND CNN ON RASPBERRY PI 3

¹Anagha EP, ²Aiswarya P, ³Saranya CM, ⁴Aswathi CS, ⁵Jithin Jose Kallada

¹UG Student, ²UG Student, ³UG Student, ⁴UG Student, ⁵Assitant Professor

¹ Electronics and Communication Engineering,

¹ Nehru College of Engineering and Research Centre, India

Abstract: Blindness and low vision problems are increasing nowadays for both youth and aged society. Working members have to work outside in the day time to earn money for the family. So those people are forced to live alone and facing a difficulty because they cannot see things clearly. In this research, Convolutional Neural Networks (CNNs) for household objects finder is proposed. Raspberry Pi 3 is used to help to see objects and tell the type and location of the objects via voice. YOLO neuron network is selected because of the speed and resource images was prepared and fed into YOLO network as training inputs. YOLO is trained in coco database.. Trained YOLO can detect objects .Prototype of wearable device is built by using a webcam, headphone, push switch, battery and Raspberry Pi 3. Device will capture an image when a push switch is pressed and Raspberry Pi returns pre recorded voice results consist of objects types and their locations through headphone to users. This device can be used for finding various kinds of objects without more delay. Availabiliry of the components create this device easily available in the market and reduces its cost.

I. INTRODUCTION

Most of the blind and low vision people in a family are forced to live alone in their house because their children have to work outside in the day time in order to get enough income for whole family. The most common issue for elderly is that they cannot see things clearly and always lost important objects such as glasses, cell phone and TV's remote controller. Aim of this research is to develop the prototype wearable device that can identify the objects in front of the elderly and also can tell the elderly roughly locations of that objects by using Convolutional Neural Networks (CNNs). The CNNs is trained for both classification and localization on specific common household objects such as glasses, folk, spoon, cell phone, etc. YOLO is trained on coco database to create wearable device that easy to carry around a house. Webcam and an in-ear headphone are connected to Raspberry Pi 3 to gather picture and deliver the output voice of the locations and kinds of recognized objects. Because of the flexibility, CNN can be easily implemented and can achieve the good performance even though operates in very limited resources hardware likes in Raspberry Pi platform.

II. LITERATURE SURVEY

Real time member recognition using Rasspberry pi fo visually impaired people- Mr Mohiuddin Ahmad, Mr. Mansi Mahendru, Sanjay Kumar Dubey (IEEE) on their research work firstly describes the development and estimation of raspberry Pi is a very powerful processor.

Real time object detection with audio feedback using YOLO vs YOLO-V3- Mr Mansi mahendru ,Sanjay Kumar Dubey (IEEE) describes that Object recognition is one of the challenging application of computer vision, which has been widely applied in many areas. With the rapid development of deep learning many algorithms were improving the relationship between video analysis and image understanding. This paper proposes a system that will detect every possible day to day multiple objects on the other hand promote a voice to alert person about the near as well as farthest objects around them. In this paper system is developed using two different algorithms i.e. Yolo and Yolo-v3 and tested under same criteria to measure the accuracy and performance. Both the algorithms are analyse using webcam in various situations to measure accuracy.

Household object finder and localizer(IEEE)- Mr Amit Pandhare ,Mr Marimuthu Konar ,Mr Adarsh Hemant Kenjale and Mr Dv Karthikeyan Velladurai Object detection is an important application focused on machine learning technology, which is distinguished by its high capacity for feature learning and representation compared to conventional object detection approaches. Convolution Neural Networks for House hold object finders and localizers are suggested in this study.

Object detection and narrator for visually impaired people (IEEE)- In this paper, Mr Jawaid Nasreen Warsi and Mr Arif Asad Ali Shaikh Proposed the implementation of computer vision machine learning algorithms to detect object and use it to aid visually impaired person. This paper explain how convolution neural network are trained on Image Net dataset that can detect objects and narrate detected objects information to the visually impairs person. This implementation can be used with any device using a camera that include computers.

Real time object detection for visually challenged people(IEEE)- Ms Sunit vaidhya, Ms Naisha shahand and Ms Niti shah , the authors of this project . The proposed approach suggests detection of objects in real-time video by using a web camera, for the object identification. YOLO model is utilized which is CNN-based real-time object detection technique. The objective of the

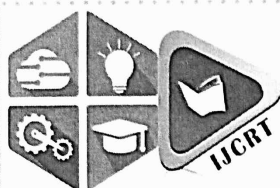
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Analysis of Various Visual Cryptographic Techniques and Their Issues Based on Optimization Algorithms

Sajitha A S^{*,†,‡} and S. Sridevi Sathya Priya^{*}

^{*}*Electronics and Communication Engineering
 Karunya Institute of Technology and Sciences
 Karunya Nagar, Coimbatore, Tamil Nadu 641114*

[†]*Nehru College of Engineering and Research Centre
 Near Lakkidi Rly. Station, Pampady
 Thiruvilwamala, Kerala 680588*

[‡]*sajithaa@karunya.edu.in*

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Visual Cryptography (VC) is a process employed for the maintenance of secret information by hiding the secret messages that are embedded within the images. Typically, an image is partitioned into a number of shares that are stacked over one another in order to reconstruct back the original image accurately. The major limitation that existed in the traditional VC techniques is pixel expansion, in which pixel expansion is replaced with a number of sub-pixels in individual share, which causes a considerable impact on the contrast and resolution of the image that further gradually decreases the quality of the image. VC is named for its essential characteristics, such as transmitting the images with two or more shares with an equal number of black pixels and color pixel distribution. The secret message can be decrypted using Human Visual System (HVS). In this paper, 50 research papers are reviewed based on various classification algorithms, which are effectively used for the VC technique. The classification algorithms are categorized into three types, namely, meta-heuristic, heuristic, and evolutionary, and the research issues and challenges confronted by the existing techniques are reported in this survey. Moreover, the analysis is done based on the existing research works by considering the classification algorithms, tools, and evaluation metrics.

Keywords: Visual cryptography; encryption; decryption; secret image share; optimization algorithm.

1. Introduction

Cryptography is a technology that is included with multiplex mathematics and logic to establish a powerful encryption technique to protect secret data, like integrity, data security, confidentiality, and entity authentication. Cryptographic techniques have various complicated mathematical problems, such as elliptic curve discrete logarithm limitation and prime number factorization. The major cause of this issue is

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Sajitha A S
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 Thiruvilwamala, Thrissur - 680588

SOLAR PADDY DRYER WITH SOLAR PADDY COOKING SYSTEM

Sangeetha V

Nehru College of Engineering and Research Centre,
Trissur, Kerala, India.

sangeethavinod1997@gmail.com

Sundaramoorthi P

Nehru College of Engineering and Research Centre,
Trissur, Kerala, India.

sundarped.sundar66@gmail.com

Abstract: Paddy is a mandatory food crop in South India. Most of the Paddy farming is in rural areas. After harvesting, the paddy has to move through different stages. One of the important processes of paddy processing is paddy drying. In most of the rural farmers are using open space paddy drying method. It is not an efficient method, where space for open drying is decreasing, and this process is not hygienic one. Insects and dust particles may mix with paddy. Or otherwise, large machinery is using for paddy drying. It may not be accessible for rural or small-scale farmers. Then solar paddy dryer is an alternative method that is useful for rural and small-scale farmers. Solar is renewable energy so; it is safe to process. Free of energy cost. The system is a hybrid one having a paddy dryer with a paddy cooking system. The harvested paddy has a two-stage process before milling for extracting rice, which is cooking partially first and drying. These two processes are satisfied with the system. The system has two chambers, one for cooking the paddy it is by the principle of solar cooker. Solar pressurized cooking is adapting for doing the cooking of paddy. And the suitable solar dryer is selected by software analysis. CFD analysis of solar indirect and mixed dryers is simulating in ANSYS software.

Keywords: CFD analysis, Indirect solar dryer, Mixed solar dryer, Solar cooking system

I. INTRODUCTION

As pollution increases, renewable energy systems usage is more, especially in the case of solar. Solar types of equipment are highly demanding in the market, for example, solar cookers, solar water heaters, solar lights, etc. [1]. In the agricultural field, solar energy is physically essential for plant growth and agriculture product drying. Traditionally drying is by exposing products under the sun, i.e., direct drying [2]. A solar dryer is a device that utilizes solar energy for drying different products such as vegetables, fruits, fish, grains, etc.

Rice is a staple food crop in many countries. After harvesting before milling paddy has to move through two processes that are cooking and drying the paddy [3-4]. The system "Paddy dryer with paddy cooking system" satisfies both the processes before milling. Now paddy cooking is done by using fuels, and open drying is doing. But space is decreasing for this way of drying. Farmers having small areas are difficult to do this. And fuel for cooking is not renewable [5]. So, this system is very much useful for paddy farmers for safe and efficient paddy processing.



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DSTATCOM BASED ADDITIVE AND SUBTRACTIVE TOPOLOGY MULTILEVEL INVERTER FOR IMPROVING POWER QUALITY

P. Sundaramoorthi¹ **G. Saravana Venkatesh²** **V. Prasanna Moorthy³**

1. Nehru College of Engineering and Research Centre, Thrissur, Kerala, India, sundarped.sundar66@gmail.com

2. Department of Electrical and Electronics Engineering, Periyar Maniammai Institute of Science and Technology, Thanjavur, India, saravanavenkatesh@pmu.edu

3. Department of Electrical and Electronics Engineering, Government College of Technology, Coimbatore, India, prasanna.gct1995@gmail.com

Abstract- This research proposes a DSTATCOM-based innovative multilevel inverter that uses additive and subtractive topologies to achieve larger output levels. In comparison to previous topologies, this strategy the active switches are dramatically decreased. The current multilevel inverter can only generate five voltage levels. The multilevel inverter can be converted to a nine-level inverter using the proposed architecture. Furthermore, the new multilevel inverter can employ a modified hybrid multicarrier Pulse Width Modulation (PWM) approach to provide continuous switch utilization and lower THD. An appropriate modulation technique is proposed, and the proposed concept is tested with simulation studies and a hardware model. The results show that the proposed DSTATCOM based multilevel inverter has successfully improved the power quality.

Keywords: DSTATCOM, THD Reduction, PWM Scheme, Multicarrier PWM Scheme, Additive and Subtractive Topologies.

1. INTRODUCTION

Multi-stage voltage source inverters have become feasible solutions for conversion of high-power DC-AC applications over the last few decades [1]. A multi-level inverter (MLI) is a power semiconductor device with a multi-input dc level (obtained from a battery source or capacitor) and an interlocking structure that synthesizes a step waveform [2]. When compared to traditional inverters, the voltage strains the power switches have gone through in MLIs are more affordable. Furthermore, when compared to a two-level waveform generated by traditional inverters, the multilayer the harmonic profile of the waveform is improved. Other benefits of MLIs include lower dv/dt load stress ability to operate fault-tolerantly [3]. Researchers are also looking on ways to use MLIs in application with low power consumption [4].

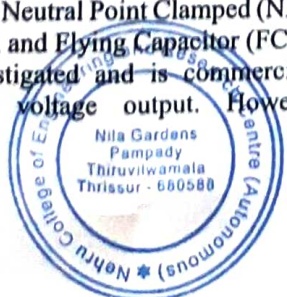
Converter types include Neutral Point Clamped (NPC), Cascaded H-Bridge (CHB), and Flying Capacitor (FC) has all been extensively investigated and is commercially available for multilevel voltage output. However,

increasing the number of output levels leads to an increase in active switches operating at the same time [5-6], increasing the system's overall cost. As a result, researchers are continuing to work on lowering the number of components in multilevel topologies using a variety of methods [7-8]. Topological changes, for example, are one of three sorts of techniques. Asymmetric sources, topological alterations, and asymmetric source configurations available for multilevel voltage output, converters have all been extensively explored and are commercially available [9-10].

The switched DC source topology, on the other hand, has a number of disadvantages [11]. As a result, we suggest a novel topology known as "Additive and Subtractive" to overcome these issues. It Principles of operation the topology is made up of 9-level single-phase inverters. A multi-carrier signal control approach is provided, along with simulation results [12]. Lastly the possible modifications that can be implemented to this newly developed MLI is addressed [13].

The output voltage waveform has a low Total Harmonic Distortion (THD) due to lower voltage stress across power switches; multilayer inverters have recently gained favors [14]. Multilevel converters have a high output power capability, Lower output harmonics and commutation losses are also advantages [15]. Their main disadvantage is their complexity, which needs a significant number of power devices and passive components, as well as complicated control circuitry. This paper establishes a novel MLI with additive and subtractive design for reduction in components counts.

This also contributes to lower manufacturing costs. The primary goal of this project is to create a single-phase, nine-level MLI with fewer components. The harmonic components level is reduced using this architecture. In comparison to traditional inverters, it requires less switches, gate drivers, and carrier signals. THD and switching stresses will be reduced using this topology and modulation approaches. For " $2n+1$ " levels, standard cascaded MLI requires " n " number of DC sources.



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PASSWORD BASED CIRCUIT BREAKER USING IOT

¹Harikrishnan C, ²Abhinandh menon N, ³Kiran S, ⁴Kalidasan K V, ⁵David E

¹UG student, ²UG student, ³UG student, ⁴UG student, ⁵Assistant Professor

¹Electrical and Electronics Engineering

¹Nehru College of Engineering and Research Centre, India

Abstract: Electrical shocks no matter how small it can be dangerous in many ways. Electric shock from even a small household circuit can have various detrimental effects on the victim. So we can imagine the level of consequences in case of an electric shock from high power lines. The electrical maintenance workers are working in a very dangerous situation with higher voltage lines daily. If something goes wrong the result can be fatal. A better and remotely accessible circuit breaker system can be a safer option to use when it comes to working on high power lines. If miscommunication occurs during the job the lineman can get seriously electrocuted. The best way to avoid such an unwanted scenario is to build a remote way to switch the load on and off by the lineman itself. A fast response circuit braking system that can be used anywhere is what the perfect solution will look like. A simple and powerful circuit breaker and the controller is what this proposed project is. The whole process happens quickly with the high response time capability added to the system.

I. INTRODUCTION

Utility work is necessary to keep the lights on in our homes, but it is also quite dangerous. Every day on the job, linemen risk falling, electric shocks, burns, and other accidents, some of which can be fatal. Utility workers undertake some of the most dangerous tasks in the industry when they operate on electrical lines. It is critical that workers are aware of these dangers. So, in order to eliminate these risk factors, a concept was developed to ensure lineman safety, so that the lineman can restore the fault line without risking his life, and to provide complete safety during the fault-correcting procedure. Also, it's critical to look after these linemen since they put in a lot of work to ensure that the electricity is turned back on in those places without fail, and they're a crucial aspect of human safety. Because many linemen have been injured by these types of accidents, this method ensures lineman safety and will help to reduce the number of electric accidents that occur in India and around the world.

II. LITERATURE SURVEY

S.S. Biswas et.al. (2018)- Circuit breaker is an important component of Electrical power Systems and other electrical related industries. This is used for protection and switching loads. Hence, reliable operation of circuit breaker is important. Circuit breaker ages over time and number of operations. This increases a concern regarding reliability of circuit breaker. In order to improve reliability of circuit breaker it is common practice to carry out preventive maintenance at fixed time periods. Moreover in current practice the control of circuit breaker is realized through hardwired control logic which increases the size of the device control and metering cabinet of the circuit breaker and prevents integration of IoT. This lay limitations on decision making process as circuit breakers data are not accessible on the fly. Presently monitoring of circuit breaker is being carried out through proprietary solutions like Remote Terminal Units and SCADA. Proprietary solution raises a concern regarding reliability and security of the safety, safety related, strategic application as the backend implementation of proprietary solution can't be accessible by the user.

H.U.Zaman et.al. (2018)- Along with the constant improvement of different electronic devices, the safety of technicians has also become a matter of great concern, as the lives of technicians are at risk while they work by switching off the circuit breakers, because even after the circuit breaker has been turned off, someone can unknowingly turn it on while the technician is still working. There must be a system for ensuring security for the technicians. Also, people do not like having to walk to switches all the time to turn on/off appliances such as fan/light/air conditioner. It results in wasted energy because of unnecessarily keeping appliance on. To solve these problems, we came up with a system with password controlled circuit breakers and wireless control of home appliances using an Android app. It replaces the traditional circuit breaker on/off system with a password controlled system, where nobody can turn on the circuit breaker without the password. Remote control of the home appliances helps the user save electricity. It also enhances the quality and comfort of life. The system also includes a



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SMART ENERGY METER FOR SMART GRID WITH HYBRID SOURCES

¹Sreelakshmi P, ²Ambili B S, ³Padmaraj P R, ⁴Vivek A, ⁵Rajesh P

¹UG Student, ²UG Student, ³UG Student, ⁴UG Student, ⁵Assitant Professor

¹Electrical and Electronics Engineering,

¹Nehru College of Engineering and Research Centre, India

Abstract: The amount of electricity consumption is rising day by day and simultaneously the amount of electricity wasted is also rising. This paper aims to introduce a smart energy meter for microgrid with hybrid sources, which mainly tries to solve following main issues –

To automatically switch between the source

To remotely monitor energy usage anytime anywhere

To prepay the energy bill and predict the energy usage

To trip down when fault is detected

To automatically switch between loads on priority base

In this system a prepaid energy meter is installed in the house, which enables the system to communicate with the user. The user can monitor their real time energy usage through a web interface. The data like power consumption, available balance, individual current usage and status of depended source are uploaded to the web. So the users can monitor and reduce their consumption and also the errors while acquiring the meter reading is also solved.

LINTRODUCTION

Smart Meters with hybrid sources have modernized the way of metering the energy usage by consumers. The main purpose of SEM with hybrid sources is to create the necessary infrastructure for providing information on energy consumption of household appliances and monitor the environmental parameters and provide the necessary services to home users. Using the proposed SEM, the following capabilities will be realized: - Monitoring and calculating the instantaneous power consumption, line voltage. Providing timely information to the customers about their current power consumption and the cost of consuming electricity up to now. Processing the power consumption data to provide useful information for both customers. The proposed system encompasses a program that predicts the monthly units which the user might consume at the end of the month. The consumers can cut the desired loads when they exceed their usage and also can cut the whole load whenever necessary. All these information will be displayed and can be controlled with the help of a webpage. Smart Meters have modernized the way of metering the energy usage by consumers.

II. LITERATURRE SURVEY

Automatic Meter Reading of Electricity by using Power line Communication- Rahul S Puhkala, Sunil V Bavache, Poonam Borle, Energy management of smart microgrid in presence of renewable energy sources based on real-time pricing – Ferdowsi University of Mashhad, Mashhad, Razavi Khorasan, describes about the energy management process using the renewable sources and also provides the real time price of the energy consumption. Smart Energy Metering For Cost And Power Reduction In House Hold Applications, C Komathi, S Durgadevi, K Thirupura Sundari T.R. Sree Sahithya, S. Vignesh, introduces a smart energy meter for



TRANSMISSION LINE FAULT DETECTION AND AUTOMATIC DISCONNECTION USING WEBSERVER

P. Sundaramoorthi¹, Ajith P², Sreejith P³, Mufeedha Sireen M S⁴, Navya P V⁵

¹Associate professor, Electrical and Electronics, NCERC, India, sundarped.sundar66@gmail.com

²UG Student, Electrical and Electronics, NCERC, India, ajuajith114@gmail.com

³UG Student, Electrical and Electronics, NCERC, India, sreejisreejith2002@gmail.com

⁴UG Student, Electrical and Electronics, NCERC, India, mufeedhasireenms@gmail.com

⁵UG Student, Electrical and Electronics, NCERC, India, navyapv2019@gmail.com

ABSTRACT

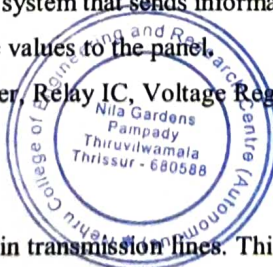
When a fault occurs, the insulation path and the conductive path are cut, causing a short circuit and open circuit in the conductor. At best, the electronic device operates at the same voltage and measured current. However, in the wrong case, the voltage and current values deviate from their values. Most of our electrical power comes from switching devices and relays, circuit breakers, fuses, etc. protected by protective equipment such as to reduce service due to power outage after a problem occurs. In this project, the web server has been used as an error detection system and it has been shown that there is a problem in the transmission. The proposed system consists of various protection devices, power and current measurement section, microcontroller section, LED display section and web server. The system will help the power plant and the maintenance personnel in the region to find the faults in a short time and prevent the generator from being damaged. In this system, there are many devices such as current transformers, voltage transformers, microcontrollers, relay ICs, voltage regulators. The system automatically detects, identifies and classifies errors with the help of a microcontroller. The system also provides information about what kind of fault has occurred in the transmission line, for example L-L (line to line), L-G (line to earth), L-L-G (two lines to earth) faults, L-L-L and L-LL-G (symmetrical errors). And the data is sent from the web server to the service provider's substation. Here in this paper, we developed a microcontroller-based transmission error detection system that sends information and error distribution from the web server to the distribution system. It also sends current and voltage values to the panel.

Index Terms – Voltage Transformer, Microcontroller, Relay IC, Voltage Regulator

1. INTRODUCTION

More than 80% of faults in electrical systems occur in transmission lines. This article presents the design and application of error handling, classification and prevention techniques. Most current and voltage signal distortions are caused by faults. Incorrect operation can cause interference in electronic equipment that can damage our products. The time required to locate the fault is greatly reduced because the system automatically informs about the location of the fault with the help of the microcontroller.

Electrical systems, machines and equipment are subject to a variety of failures while operating. When a fault occurs, the characteristic value of the transmission line is transferred from the value of the other value to the grid by lightning, wind, storm, even tree falling, equipment failure, etc. It will change until it arrives. In our system, phase CTs and PTs detect voltages and currents and the results are transmitted to the microcontroller and this information is sent to the substation service provider via the web server. This helps determine the type and location of the fault



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STEER-BY-WIRE

¹Dhanush K Mukundan, ²Divya K G, ³Jineesh Jayakumar Thomas, ⁴Midhun C, ⁵Anoopkumar M V

¹UG Student, ²UG Student, ³UG Student, ⁴UG Student, ⁵Assitant Professor

Electrical And Electronics Engineering,

¹Nehru College of Engineering and Research Centre, India

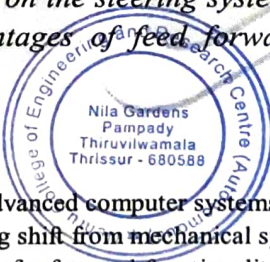
Abstract: Steer-by-wire system (SbW) replaces the mechanical steering connection between the hand wheel and road wheels with algorithms, electronics and actuators. SbW emulates the "feel of the road," offers a wide performance range (including sporty, luxury, comfort, etc.) and enhances maneuverability through our variable steering ratio. SbW supports traditional driving and varying levels of Automated Driving. Steer-by-Wire is the center link in advanced steering technology suite – unlocking new safety and performance benefits. It also opens new possibilities for vehicle light-weighting and packaging flexibility. The automotive industry has already implemented many advanced computer systems in an attempt to increase safety and comfort of drivers. In parallel with these advancements we see a big shift from mechanical systems to electrical systems and steer-by-wire is another implementation that is very promising in terms of safety and functionality. Recent advances toward steer-by-wire technology have promised significant improvements in vehicle handling performance and safety. While the complete separation of the steering wheel from the road wheels provides exciting opportunities for vehicle dynamics control, it also presents practical problems for steering control. This thesis begins by addressing some of the issues associated with control of a steer-by-wire system. Of critical importance understands how the tire self-aligning moment acts as a disturbance on the steering system. A general steering control strategy has been developed to emphasize the advantages of feed forward when dealing with these known disturbances.

LINTRODUCTION

The automotive industry has already implemented many advanced computer systems in an attempt to increase safety and comfort of drivers. In parallel with these advancements we see a big shift from mechanical systems to electrical systems and steer-by-wire is another implementation that is very promising in terms of safety and functionality. Already, there are Many accidents at Highways are taking place due to the various obstacles which are both large and small. Whenever any obstacle is detected in running vehicle depends on distance automatically control the speed of vehicle. Ultrasonic sensor system it will send signal to the embedded board. After receiving this signal embedded board sends a signal to the motor to reduce the car speed automatically which can control car speed immediately. Thus we are going to design a steer-by-wire system incorporated with an ultrasonic sensor.

ILLITERATURRE SURVEY

E.A.Bretz(2012)found that Steer-by-Wire systems are candidate to substitute the conventional (mechanical or hydraulic) steering systems in the new generation of vehicles. The task of a steer-by-wire system is twofold: turning the road wheels tracking the hand wheel rotation and providing the driver with a feeling of the steering effort. In this paper, the issue of designing a Steer-by-wire system is faced. An approach is proposed, based on three steps. Firstly, the model of a conventional steering system is formulated. Then the steer by wire system is developed with the same structure as the conventional ones. Finally, performance indexes for the steering maneuver are defined and utilized to set up the parameters of the steer by wire system. The paper has presented an approach to the design of a Steer-by-wire system. At first the conventional steering systems have been analyzed and a model of them has been formulated. Such an analysis has made it possible to arrange a steer-by-wire system replicating the structure of the conventional ones.



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Nehru College of Engineering and
Research Centre (Autonomous)
Nila Gardens, Pampady
Thiruvilwamala, Thrissur - 680588

CLOUD-BASED MQTT PROTOCOL FOR POWER MONITORING AND SOCKET CONTROL SYSTEM

Sundaramoorthi P

Department of Electrical and Electronics Engineering,
Thiruvalluvar College of Engineering and Research Centre,
Thrissur, Kerala, India.
sundaramoorthi.eee@ncerc.ac.in

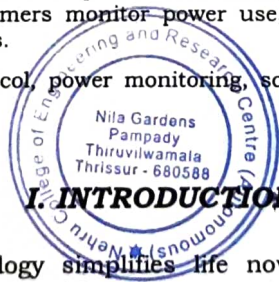
Albert Alexander S

School of Electrical Engineering,
Department of Energy and Power Electronics,
VIT University,
Vellore, Tamilnadu, India.
albert.alexander@vit.ac.in

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Abstract: An efficient system to monitor and manage home power usage and electrical sockets remotely is discussed in this paper. It collects power usage and environmental data from the home sensors, including current, voltage, temperature, and occupancy sensors. These sensors give real-time power monitoring and control information. Relays used in this system are remote-control electrical sockets and appliances. Relays allow users to remotely turn sockets on and off, making connected equipment easier to manage. The lightweight Message Queuing Telemetry Transport (MQTT) protocol is used in the system. The MQTT connects home sensors, relays, and cloud-based infrastructure. With the help of Wi-Fi, connectivity connects the devices. Users can log in remotely from any device with internet access. Users can monitor real-time power use, examine past patterns, and remotely regulate outlets and appliances. Cloud-based infrastructure stores, processes, and controls data. It analyses home sensor data to provide consumers with power usage insights. Data visualization, energy-saving suggestions, and interaction with other smart home devices are possible due to the cloud infrastructure. The technology simplifies home power monitoring and management. The technology helps consumers monitor power use, improve energy efficiency, and simplify their homes.

Keywords: MQTT Protocol, power monitoring, socket control, smart homes, internet of things.



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Thiruvalluvar College of Engineering and
Research Centre (Autonomous)
Nila Gardens, Pampady
Thiruvalluvar, Thrissur - 680588

I. INTRODUCTION

Automation technology simplifies life nowadays and replaces manual ones. The increasing growth of Internet users has made it a part of life. The Internet of Things (IoT) is a new technology. Consumer and industrial items may be networked to exchange information and accomplish tasks remotely [1]. IoT lets users control house services from afar. It saves energy. Intel Galileo integrates cloud network and wireless connectivity for remote home appliance control and cloud data storage. Sensor data modifies the system automatically. The system controls several devices.

Using wireless smart sockets and IoT technologies, the home energy management system reduces home appliance energy use without sensors [2]. It offers peak-time control, energy-limit management, automated control, and user

AN EIGHT WHEELED PLANETARY ROVER

BOBBY N. D

MIDHUNRAJ P K

AMRITA S NAIR

Head of Department, Department of
Mechatronics Engineering, Nehru
College of Engineering and Research
Centre, Pampady, Kerala

Assistant Professor, Department of
Mechatronics Engineering, Nehru
College of Engineering and Research
Centre, Pampady, Kerala

Student, Department of Mechatronics
Engineering, Nehru College of
Engineering and Research Centre,
Pampady, Kerala
newtonissac540@gmail.com

Abstract— The Mars rover's system architecture involves a complicated interaction of numerous elements. The rover is designed to do a variety of jobs in the harsh Martian surface, from site surveys to sample returns, equipment repair, and astronaut support. The eight-wheeled driving mechanism of the rover, which is biomimetic is its standout feature and exhibits remarkable potential. This paper describes the 8-wheeled drive mechanism of the mars rover. The current rover are developed by Rocker bogie mechanism and it is NASA's favored design. One of the major shortening's of current Rocker bogie rover is that they are slow. We enhance the high climbing capacity of the rover using 8 wheels to improve the mobility system. In this system there were eight links at both sides of the mechanism and balancing the rover in the moving condition. The rover leg ensure that it can traverse over highly rugged terrain and it allows to maintain the center of gravity of the vehicle. This project focuses on the mobility system of the rover. Beyond Mars exploration, the rover's architecture is adaptable. The technology may be customised for a variety of uses, including as the exploration of extraterrestrial worlds, deep ocean trenches, and other locations with a comparable severe topography. This system architecture offers the possibility of exploring a variety of difficult conditions, going beyond the bounds of conventional planetary exploration.

Keywords— Drive mechanism · Mars rover · Rocker-Bogie mechanism

I. INTRODUCTION

The Mars was a symbol of blood and battle, but for so many people at one time, the red earth may contain the secret to a glorious new era for humanity. The earth's degraded crimson face tells a story of devastation in its own unique way. The fourth earth from the sun may have been mistaken for the earth's more modest twin with flowing water on its surface millions of years ago, and may have even supported life. At the moment, the planet is a cold, barren desert with few hints of fluid water. However, after extensive research using orbiters, landers, and meanderers, researchers have discovered that Mars has a dynamic, wind-tossed landscape that may be able to cling onto microbial life under its damaged surface. The truth about the situation will eventually surface, but Mars will continue to inspire human imaginations, glowing red in our sky, and tales. Russia, the European Union, the United States, and India are essentially orbiting or roving around Mars' surface. a six-wheeled vehicle that NASA plans to use to explore Mars' outer regions. In 1996, Sojourner was relocated, and in 1997, it arrived. Additionally, the Spirit and the incident relocated the Martian images in 2003 and reappeared in 2004. In 2011 the Curiosity was moved, and it arrived in 2021. Perseverance, the sixth mars gipsy, was moved in 2020 and arrived in 2021. The rovers were designed to go through the unforgiving martian landscape with a great deal of simplicity. Our objective is to figure out how the meanderer will manoeuvre the eight-wheel, one-of-a-kind propulsion system that represents the ideal of mortal creativity in action. This component enables movement over strong barriers while keeping each of the eight buses in contact with the ground (6). For each wheel, the plan combines free machines. The rocker-bogie anticipatory system has evolved into a shown flexibility activity noted for its exceptional vehicle longevity and handcuffs climbing limit. The frame was successfully flown as a point of Mars Pathfinder's Sojournerwonderer after several innovation and assessment meanderer prosecutions. Because of its long history, the functioning of a rocker- type suspense was an unavoidable decision when the Mars Exploration Rover (MER) Design was initially conceived. The challenge set up by MER was to create a lightweight rocker-dread suspense that would enable adaptability to store within the restricted area accessible and translate into a design that the wanderer could likewise securely employ to go from the Lander and investigate the Martian face (3). You want the process of building a robot to be primarily as simple as is realistically expected. In general, you wouldn't put up with a suspenseful scene, but there are several examples where it is impossible to resist. The term "bogie" refers to connections with a driving wheel at either end. Interferers were frequently used as loafers to spread the mound throughout the landscape in the paths of reinforced force tanks. Naturally, interference was also used on semi-large equipmentage campers. The two surgeries now favour arm dormancies that follow. The rocker-bogie layout lacks end axles and springs for each wheel, allowing the gipsy to go over obstacles like tremors that are twice as big as the wheel's diameter while maintaining all six buses on the ground (5). Similar to any suspense frame, the location of the focal point of gravity limits the slant security.

II. LITERATURE REVIEW

The creation of planetary rovers—mobile robots specifically made to move on a planet surface—is when the rocker bogie suspension system first appeared. Early rovers, such the Lunokhod I, were teleoperated, whereas more contemporary rovers, like FIDO, Discovery, and the recently constructed Curiosity Mars Exploration Rover, are totally autonomous. The rovers had to be extremely durable and dependable since they had to survive dust, powerful winds, corrosion, and significant temperature variations while operating in enigmatic settings. Most rovers are powered by batteries that are recharged by solar panels that are

Autonomous Nursing Assistant

Kailas Sankar K
UG Scholar, Department of
Mechatronics
Nehru college of engineering and
research center
(Affiliated to APJ ABDUL KALAM
Technological University)
Thrissur, India
kailassankark@gmail.com

Vipeesh Krishnan
UG Scholar, Department of
Mechatronics
Nehru college of engineering and
research center
(Affiliated to APJ ABDUL KALAM
Technological University)
Thrissur, India
vipeeshvsh3@gmail.com

Bobby N D
HOD & Professor, Department
of Mechatronics
Nehru college of engineering
and research center
(Affiliated to APJ ABDUL
KALAM Technological
University) Thrissur, India
bobby1055@gmail.com

Abstract—Past Covid pandemic had led to the immense need of safe & contactless deliveries in the health care sector. An assistive robot which reduce risk of disease transmission can be an excellent idea. Which can deliver to desired destination according to users command directions. Secure delivery by using a password protected container to carry packages. A fully real time position tracking system using GPS, which can be tracked on the web server. It also monitor the patients temperature and pulse with different sensors that are occupied in the product. After its task done then return back to its original position. The current project illustrates the use of a transportable robotic platform for hospital patients to carry out fundamental nursing activities and human subject interactions. It's main objective is to define the specifications for a robotic platform for a nursing assistant. The main components of the application scenario are a robotic model, a patient and a head nurse who are a human subjects, and a tablet for the web server communication. The robot responds to the head nurse command by following predetermined automatic action steps.

Keywords—assistive robot, contactless and secure delivery, temperature & pulse monitoring

I. INTRODUCTION

Traditionally, advances in robotic era were in the manufacturing enterprise because of the want for collaborative robots. However, this isn't the case inside the carrier sectors, especially inside the healthcare zone. The dearth of emphasis put on the healthcare sector has caused new possibilities in developing provider robots that resource patients with ailments, cognition demanding situations and disabilities. Moreover, the COVID-19 pandemic has acted as a catalyst for the improvement of carrier robots within the healthcare sector in an strive to conquer the difficulties and hardships as a result of this virus. Using service robots are advantageous as they now not most effective save you the unfold of infection, and reduce human mistakes however they also permit front-line personnel to reduce direct contact, focusing their interest on better precedence tasks and creating separation from direct exposure to contamination.

The field of service robotics has expanded dramatically over time, particularly in the industrial sector. The healthcare industry has, however, received less attention than other industries, possibly as a result of the difficulties in providing interpersonal care given the nature of the service. Although this has delayed the creation of robots to

assist with patient care requirements, everything has changed with the Coronavirus outbreak. Robotic technology is being rapidly reviewed and applied to assist stop the transmission of pathogens and viruses through logistics, telemedicine, and disinfection. Additionally, there is a demand for service robots to help nurses and healthcare professionals in order to boost productivity, reduce future human-to-human contact, and make up for a major rise in the loss of human labour.

Doctors use vital signs like the patient's heartbeat, temperature, and blood pressure to assess the patient's health and determine the best course of medical care. Therefore, accurate measurement recording is essential, particularly when monitoring the patient's activity during rehabilitation or monitoring the patient's heartbeat during tasks. Among the vital signs previously mentioned, measuring the patient's temperature is a popular and routine way to keep track of their health.

II. RELATED WORK

Patients who are less active or suffer disabilities frequently need one-on-one assistance to handle their everyday routines. Nurses are unable to provide patients with enough care and attention due to the growing number of patients. We can free up some of the time that nurses need to prioritise their work with patients who have serious health issues by deploying robotic helpers for nursing activities. Various robotic systems that have been developed to assist patients with activities of daily living without requiring much assistance from others are described in the literature.

The provision of health care facilities with ever-higher quality services is a major concern at the moment. This concern has driven the development of services and goods across a range of application areas with the ultimate aim of enhancing the quality of life for patients. The development of a logistic service that would be in charge of delivering meals from the kitchen to patients' rooms and safely returning the soiled dishes presents one of the biggest challenges inside hospitals. This would prevent any potential contamination from the meal or the service staff.

HAND GESTURE TO TEXT AND SPEECH CONVERTER

Gautham Raj K.A
Department of Mechatronics
engineering, Nehru College of
Engineering and Research Centre,
Pampady, India
gauthamraj6244@gmail.com

Rishanmol K I
Department of Mechatronics
engineering, Nehru College of
Engineering and Research Centre,
Pampady, India
rshanamolki@gmail.com

Jyothisree Sajan
Department of Mechatronics
engineering, Nehru College of
Engineering and Research Centre,
Pampady, India
jyothisreesajan@gmail.com

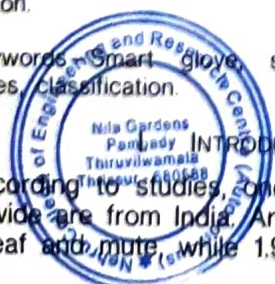
Niveth L
Department of Mechatronics
engineering, Nehru College of
Engineering and Research Centre,
Pampady, India
nivedh2058@gmail.com

Mohanakrishnan P
Department of Mechatronics
engineering, Nehru College of
Engineering and Research Centre,
Pampady, India
mohan8086623579@gmail.com

Dr. Bobby N.D
Department of Mechatronics
engineering, Nehru College of
Engineering and Research Centre,
Pampady, India
bobby1055@gmail.com

Abstract– A fundamental tool for those who lack the ability to talk and listen is sign language. Normal people typically don't pick up sign language to converse with speech- and hearing-impaired people. Additionally, many individuals with disabilities are unable to always carry a human translator with them. The result is a communication gap between persons with normal hearing and speaking and those who do not. As a result, numerous sign language interpreters and recognition systems have been created, which are detailed in this paper, to fill up this gap. Along with the literature study, a general classification of these sign language translators and recognition methods has been created from several studies in this subject, according to the taxonomy mentioned in the paper. Different techniques are now accessible for those who are physically impaired, such as the deaf and the dumb. However, the problem's effective remedy has not yet been fully implemented. By contrasting all of these ways, we are now offering a brand-new approach called "SMART GLOVE" that combines an Arduino sign language recognition system. This essay primarily focuses on elderly and disabled people who have speech and hearing impairments. The primary goal of the smart glove is to make fundamental communication more accessible, reduce communication gaps, and facilitate collaboration for those who are hard of hearing or voiceless. In order to do this, an automatic sign language recognition system has been created using Arduino Smart Hand Gloves, allowing persons with disabilities to coexist with able-bodied individuals. Since a deaf person cannot communicate, these smart gloves with flex sensors will enable him to translate his hand gestures into text and voice recordings. This makes it easier for the average individual to comprehend what he is saying and respond appropriately. This also intends to build a health care system that will be useful for the deaf and the paralysed, as well as for the pulse sensor-based heart attack detection.

Keywords– Smart glove, sign language, hand gestures, classification.



INTRODUCTION

According to studies, one in five deaf people worldwide are from India. Around 7 million Indians are deaf and mute, while 1.9 million have speech

impairment, per the 2011 census. Even so, most of the time persons with hearing or speech impairments find it extremely challenging to live a regular life. They start off life with a lot of obstacles to overcome. The main difficulty is communication. They are unable to communicate with those who can speak or hear since no one is taught Indian Sign Language (ISL), which is their native tongue. Only the closest relatives of those who have hearing or speech impairments learn ISL, and even then only superficially. This barrier frequently affects such persons on a variety of levels, including schooling and the ability to perform and comprehend daily tasks. Due to their lack of education, they frequently do not have strong writing and reading skills. According to census data from 2011, 30 percent of deaf and mute people have never attended school, and 63 percent are not employed. Now, what if these individuals wish to travel alone? Want to or are required to live alone? Or do you only need to get some groceries, go shopping, get a haircut, ride a rickshaw, or eat at a restaurant? Simply put, they are unable to accomplish all of this without assistance from a speaker and listener. They experience constant dependence on their parents, siblings, or friends as a result of this. For them, this is incredibly stressful. Therefore, a great deal of effort has been done in the field of sign language identification and translation with the objective of removing this communication barrier in order to assist such people.

Due to birth defects, oral disorders, and accidents, the number of people who are deaf or have trouble speaking has dramatically increased in recent years. When a person with impaired speech tries to communicate with a normal person, the latter finds it difficult to understand and asks the deaf-dumb person to make gestures to indicate what they require. The only requirement is that we comprehend their language if we are to communicate with a dumb person in their own language.

Sign language is the language that the deaf and dumb use to communicate with one another. There is no one origin for sign language. Since the average

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Nehru College of Engineering and
Research Centre (Autonomous)
Nile Gardens, Pampady,
Thiruvilwamala, Thrissur - 686588
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MAGNETIC PERPETUAL MOTION MACHINE

Aswin Thomas
Dept of mechatronics
Nehru college of engineering and
research centre
Pambady, Thrissur

Sudheesh S S
Dept of mechatronics
Nehru college of engineering and
research centre
Pambady, Thrissur

Hayam Fazan T M
Dept of mechatronics
Nehru college of engineering and
research centre
Pambady, Thrissur

Dr. Bobby N D
Assistant professor
Dept of Mechatronics
Nehru college of engineering and
research centre
Pambady Thrissur

Vinod R
Assistant professor
Dept of mechatronics
Nehru college of engineering and
research centre
Pampady Thrissur

Abstract—Electrical energy demand is increasing in accordance with rapid growth of the human population. Since fossil fuels is the most widely used energy source, thus it is depleting very fast. Alternative energy source is urgently needed to replace the use of conventional energy sources.

Perpetual Motion Machine (PMM) which can be applied to produce electricity, may be an alternative solution for the problem the world is facing today. The machine is designed to generate power from repulsive forces of permanent magnet without utilizing external sources. Some researches had conducted experiments and Neodymium magnet is most used in the project due to its strong magnetic field. The device is mainly built using a permanent magnet, a rotating wheel and a generator.

This paper reviews some aspects on how A Perpetual Motion Machine (PMM) generates electrical power. The aim of the paper is to provide a summary of the topic and its opportunities in further enhancements for better results. The study found that the concept is very effective, ecofriendly and less space needed. However, a larger scale development of the machine along with proper magnet and gear arrangement is currently needed for a better performance and application.

Keywords : Perpetual motion machine, Electricity, Mechanical energy, Magnet, Rotor, Efficient, Clean Energy

- Introduction** — Clean energy sources are urgently needed. Carbon finance has helped to support hydropower, which remains as one of the most scalable short-medium term clean energy technologies available to many countries.
- The 2021-2022 global energy crisis began in the aftermath of the COVID-19 pandemic in 2021, with much of the globe facing shortages and increased prices in oil, gas and electricity markets. The crisis was caused by a variety of economic factors, labour shortages, disputes, climate change, and was later compounded by the 2022 Russian invasion of Ukraine.

Gas shortages in particular have resulted in an increase in food prices and an increase in the use of coal.

The response by governments worldwide to the energy crisis have so far been piecemeal and largely ineffectual.

PROBLEM IDENTIFICATION

Many lands are submerged underwater while setting up a hydroelectric power plant and building a dam. It drastically affects aquatic life and wildlife. Methane gas is released when this submerged vegetation rots under anaerobic condition. There are limited sites for setting up geothermal energy and tidal energy power plants. Nuclear power plants produce radioactive wastes and radiation that can be a dangerous hazard leaked accidentally. The efficiency of renewable sources of energy like solar energy is low on a cloudy day. Clean Energy is essential for coming generation as it is our responsibility to maintain climate catastrophe at its bay. We all need energy for our daily activities. We obtain energy from natural resources like fossil fuels. Some of these natural resources are non-renewable and cannot replenish faster as we need them. The burning of fossil fuels causes many environmental issues like global warming and pollution.

BLOCK DIAGRAM



PRINCIPAL
Nehru College of Engineering and
Research Centre (Autonomous)
Nile Gardens, Pambady
Thiruvilwamala, Thrissur - 680588

SOLAR POWERED ROAD CLEANING ROBOT

Aashin Shibu V

Dept of mechatronics

Nehru college of engineering and
research centre
Pambady Thrissur

Aiswarya V

Dept of mechatronics

Nehru college of engineering and
research centre
Pambady Thrissur

Aswin J

Dept of mechatronics

Nehru college of engineering and
research centre
Pambady Thrissur

Joel Benjamin

Dept of mechatronics

Nehru college of engineering and research
centre
Pampady Thrissur

Neethu M

Assistant professor

Dept of mechatronics
Nehru college of engineering and
research centre
Pampady Thrissur**Dr. Bobby N D**Head of department
MechatronicsNehru college of engineering
and research centre
Pampady, Thrissur

Abstract—Waste Management is one of the core concerns of the modern age in each developed and developing countries. As nations around the world are improving, their responsibilities and accountability for a healthier and sustainable environment are also increasing. The collection of waste materials is one of the most difficult task for municipal corporations all over the world. This project deals with solar-powered waste management system, which is ideal for any type of city or town in both established and developing countries. Precision waste collection and regular rubbish disposal are required to preserve the green and clean environment around us. The robot will automatically collect the waste materials on the road sides and dump to the automatic waste bins. This is a solar powered moving robot continuously collect the waste materials. This project gives the efficient solution for collecting waste and it will make a clean environment.

Keywords : waste collecting robot, automatic waste bin , solar panel ,IR sensor, servo motor, Arduino.

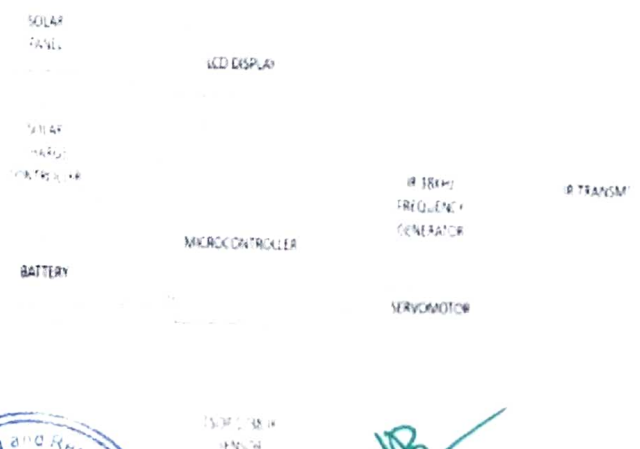
PROBLEM IDENTIFICATION

Lack of information about the collection time, disposal time, and collection area. There is no way to notify the waste collectors in real-time to collect the waste urgently. There is no estimation of the amount of solid waste on the road sides or in the waste bin and the surrounding area due to the scattering of waste. The lack of proper waste management by the authorities. There is no analysis of finding the best/shortest route of collecting waste from different bins located in several points in the city to instruct the collectors. The toxic waste may leads to health hazards.

SYSTEM REQUIREMENTS

BLOCK DIAGRAM

1. Dustbin side



Introduction --- As we all know, a lot of undesirable waste is produced in the modern period, including a lot of biodegradable goods, electronics, and plastics as countries expand quickly. There is an urgent need to address this issue because waste management is one of the most neglected issues in developing nations. The majority of nations in the globe have found it difficult to handle rubbish clearance in urban or metropolitan areas. By maintaining a green environment, a well-organized waste clearance system is essential. There are some existing methods for handling the waste materials on road but these methods are not giving proper solution for this problem. To overcome all these disadvantages a "SOLAR ROAD CLEANING ROBOT" has been developed. The main aim of the project is reducing the waste materials on the roads and maintaining a clean environment.



PRINCIPAL
Nehru College of Engineering and
Research Centre (Autonomous)
Nila Gardens, Pampady
Thiruvilwamala, Thrissur - 680586

HAND GESTURE TO TEXT AND SPEECH CONVERTER

Gautham Raj K.A

Department of Mechatronics
engineering, Nehru College of
Engineering and Research Centre,
Pampady, India
gauthamraj6244@gmail.com

Rishanmol K I

Department of Mechatronics
engineering, Nehru College of
Engineering and Research Centre,
Pampady, India
rishanamolki@gmail.com

Jyothisree Sajan

Department of Mechatronics
engineering, Nehru College of
Engineering and Research Centre,
Pampady, India
jyothisreesajan@gmail.com

Niveth L

Department of Mechatronics
engineering, Nehru College of
Engineering and Research Centre,
Pampady, India
niveth2058@gmail.com

Mohanakrishnan P

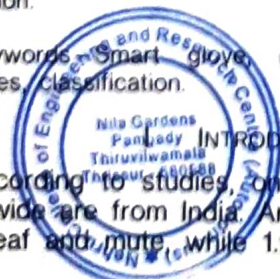
Department of Mechatronics
engineering, Nehru College of
Engineering and Research Centre,
Pampady, India
mohan8086623579@gmail.com

Dr.Bobby N.D

Department of Mechatronics
engineering, Nehru College of
Engineering and Research Centre,
Pampady, India
bobby1055@gmail.com

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INTRODUCTION

According to studies, one in five deaf people worldwide are from India. Around 7 million Indians are deaf and mute, while 1.9 million have speech

impairment, per the 2011 census. Even so, most of the time persons with hearing or speech impairments find it extremely challenging to live a regular life. They start off life with a lot of obstacles to overcome. The main difficulty is communication. They are unable to communicate with those who can speak or hear since no one is taught Indian Sign Language (ISL), which is their native tongue. Only the closest relatives of those who have hearing or speech impairments learn ISL, and even then only superficially. This barrier frequently affects such persons on a variety of levels, including schooling and the ability to perform and comprehend daily tasks. Due to their lack of education, they frequently do not have strong writing and reading skills. According to census data from 2011, 30 percent of deaf and mute people have never attended school, and 63 percent are not employed. Now, what if these individuals wish to travel alone? Want to or are required to live alone? Or do you only need to get some groceries, go shopping, get a haircut, ride a rickshaw, or eat at a restaurant? Simply put, they are unable to accomplish all of this without assistance from a speaker and listener. They experience constant dependence on their parents, siblings, or friends as a result of this. For them, this is incredibly stressful. Therefore, a great deal of effort has been done in the field of sign language identification and translation with the objective of removing this communication barrier in order to assist such people.

Due to birth defects, oral disorders, and accidents, the number of people who are deaf or have trouble speaking has dramatically increased in recent years. When a person with impaired speech tries to communicate with a normal person, the latter finds it difficult to understand and asks the deaf-dumb person to make gestures to indicate what they require. The only requirement is that we comprehend their language if we are to communicate with a dumb person in their own language.

Sign language is the language that the deaf and dumb use to communicate with one another. There is no one origin for sign language. Since the average

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Research Centre (Autonomous)
Nila Gardens, Pampady,
Thiruvilwamala, Thrissur - 686588

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QUADRAPED ROBERT

Adithia krishna P K

Dept of Mechatronics

Nehru College of Engineering and
Research Centre

Pampady Thrissur

Roy R S

Dept of Mechatronics

Nehru College of Engineering and
Research Centre

Pampady Thrissur

Abhijith B S

Dept of Mechatronics

Nehru College of Engineering and
Research Centre

Pampady Thrissur

Nivedh

Assistant professor

Dept of Mechatronics

Nehru College of Engineering and
Research Centre

Pampady Thrissur

Akash B S

Dept of Mechatronics

Nehru College of Engineering and
Research Centre

Pampady Thrissur

Abstract—For the purpose of identifying hazards entering a limited area, this paper suggests an autonomous security dog robot. This type is suitable for both domestic and really effective for organisational purposes. This suggested approach is a hybrid security model since it combines a security system and a surveillance system. This model's construction allows it to perform the functions of a steel lock, a set of surveillance cameras, a security guard, and a pet dog all at once with 100% effectiveness. It's comparable to offering complete protection for a variety of devices using a single model. No matter the size of the region, this model can be applied anywhere where security is a necessity. In both real-time applications and the history of security and surveillance systems, this hybrid paradigm will have a significant impact.

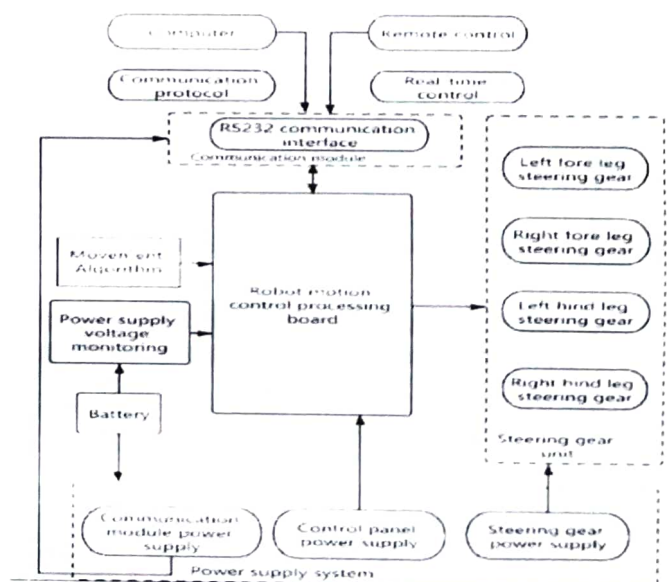
Keywords : Quadraped robot, surveillance, security, servo motor, Arduino.

Introduction ---- Autonomous security robots are the new rulers in the field of advanced security and surveillance. The old techniques like fencing the wall, appointing a security guard with a baton, setting up surveillance cameras, using pet dogs as guard dogs have been ruled out because of their own drawbacks and limitations. This model is proposed, by keeping all the above scenarios in mind. This design swipes all the drawbacks and limitations. We all know that today there is a wide emergence of smart security systems with intelligent sensors, embedded systems, autonomous control mechanisms which can be controlled through mobile application and can be operated from anywhere. This proposed model can level up the field of security and surveillance systems using autonomous robots.

In addition to inverse and direct kinematics problems, it is also necessary to study the problem of singular configurations. These configurations are defined as those in which the Jacobian matrices involved, i.e., those matrices relating the input joint speeds with the output speeds, become rank deficient. They correspond to configurations of the system that are usually undesirable since the number of degrees of freedom of the system changes instantaneously.

SYSTEM REQUIREMENTS

BLOCK DIAGRAM



PROBLEM IDENTIFICATION



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Thiruvilwamala, Thrissur - 680588

AN EIGHT WHEELED PLANETARY ROVER

BOBBY N. D

MIDHUNRAJ P K

AMRITA S NAIR

Head of Department, Department of
Mechatronics Engineering, Nehru
College of Engineering and Research
Centre, Pampady, Kerala

Assistant Professor, Department of
Mechatronics Engineering, Nehru
College of Engineering and Research
Centre, Pampady, Kerala

Student, Department of Mechatronics
Engineering, Nehru College of
Engineering and Research Centre,
Pampady, Kerala
newtonissac540@gmail.com

Abstract— The Mars rover's system architecture involves a complicated interaction of numerous elements. The rover is designed to do a variety of jobs in the harsh Martian surface, from site surveys to sample returns, equipment repair, and astronaut support. The eight-wheeled driving mechanism of the rover, which is biomimetic is its standout feature and exhibits remarkable potential. This paper describes the 8-wheeled drive mechanism of the mars rover. The current rover are developed by Rocker bogie mechanism and it is NASA's favored design. One of the major shortening's of current Rocker bogie rover is that they are slow. We enhance the high climbing capacity of the rover using 8 wheels to improve the mobility system. In this system there were eight links at both sides of the mechanism and balancing the rover in the moving condition. The rover leg ensure that it can traverse over highly rugged terrain and it allows to maintain the center of gravity of the vehicle. This project focuses on the mobility system of the rover. Beyond Mars exploration, the rover's architecture is adaptable. The technology may be customised for a variety of uses, including as the exploration of extraterrestrial worlds, deep ocean trenches, and other locations with a comparable severe topography. This system architecture offers the possibility of exploring a variety of difficult conditions, going beyond the bounds of conventional planetary exploration.

Keywords— Drive mechanism · Mars rover · Rocker-Bogie mechanism

I. INTRODUCTION

The Mars was a symbol of blood and battle, but for so many people at one time, the red earth may contain the secret to a glorious new era for humanity. The earth's degraded crimson face tells a story of devastation in its own unique way. The fourth earth from the sun may have been mistaken for the earth's more modest twin with flowing water on its surface millions of years ago, and may have even supported life. At the moment, the planet is a cold, barren desert with few hints of fluid water. However, after extensive research using orbiters, landers, and meanderers, researchers have discovered that Mars has a dynamic, wind-tossed landscape that may be able to cling onto microbial life under its damaged surface. The truth about the situation will eventually surface, but Mars will continue to inspire human imaginations, glowing red in our sky, and tales. Russia, the European Union, the United States, and India are essentially orbiting or roving around Mars' surface. a six-wheeled vehicle that NASA plans to use to explore Mars' outer regions. In 1996, Sojourner was relocated, and in 1997, it arrived. Additionally, the Spirit and the incident relocated the Martian images in 2003 and reappeared in 2004. In 2011 the Curiosity was moved, and it arrived in 2021. Perseverance, the sixth mars gipsy, was moved in 2020 and arrived in 2021. The rovers were designed to go through the unforgiving martian landscape with a great deal of simplicity. Our objective is to figure out how the meanderer will manoeuvre the eight-wheel, one-of-a-kind propulsion system that represents the ideal of mortal creativity in action. This component enables movement over strong barriers while keeping each of the eight buses in contact with the ground (6). For each wheel, the plan combines free machines. The rocker-bogie anticipatory system has evolved into a shown flexibility activity noted for its exceptional vehicle longevity and handcuffs climbing limit. The frame was successfully flown as a point of Mars Pathfinder's Sojournerwanderer after several innovation and assessment meanderer prosecutions. Because of its long history, the functioning of a rocker- type suspense was an unavoidable decision when the Mars Exploration Rover (MER) Design was initially conceived. The challenge set up by MER was to create a lightweight rocker-dread suspense that would enable adaptability to store within the restricted area accessible and translate into a design that the wanderer could likewise securely employ to go from the Lander and investigate the Martian face (3). You want the process of building a robot to be primarily as simple as is realistically expected. In general, you wouldn't put up with a suspenseful scene, but there are several examples where it is impossible to resist. The term "bogie" refers to connections with a driving wheel at either end. Interferers were frequently used as loafers to spread the mound throughout the landscape in the paths of reinforced force tanks. Naturally, interference was also used on semi-large equipmentage campers. The two surgeries now favour arm dormancies that follow. The rocker-bogie layout lacks end axles and springs for each wheel, allowing the gipsy to go over obstacles like tremors that are twice as big as the wheel's diameter while maintaining all six buses on the ground (5). Similar to any suspense frame, the location of the focal point of gravity limits the slant security.

II. LITERATURE REVIEW

The creation of planetary rovers—mobile robots specifically made to move on a planet surface—is when the rocker bogie suspension system first appeared. Early rovers, such the Lunokhod I, were teleoperated, whereas more contemporary rovers, like FIDO, Discovery, and the recently constructed Curiosity Mars Exploration Rover, are totally autonomous. The rovers had to be extremely durable and dependable since they had to survive dust, powerful winds, corrosion, and significant temperature variations while operating in enigmatic settings. Most rovers are powered by batteries that are recharged by solar panels that are

AUTONOMOUS BATTERY REPLACEMENT SYSTEM FOR UAV

Aardray M S

Dept of mechatronics
Nehru college of engineering and
research centre
Pambady, Thrissur

Jim Jose

Dept of mechatronics
Nehru college of engineering and
research centre
Pampady Thrissur

Aswin Krishna K

Dept of mechatronics
Nehru college of engineering and
research centre
Pambady, Thrissur

Midhunraj P K

Assistant professor
Dept of mechatronics
Nehru college of engineering and
research centre
Pampady Thrissur

Jerin Davis

Dept of mechatronics
Nehru college of engineering and
research centre
Pambady, Thrissur

Abstract— A drone refers to an unmanned aerial vehicle (UAV), lacking a human pilot, crew, or passengers. Presently, drones serve a variety of purposes, including package delivery, photography, disaster recovery efforts, and environmental monitoring such as climate change. Nonetheless, their most well-known and controversial utilization lies in the military sector, where they are employed for reconnaissance, surveillance, and targeted attacks. The proposed system aims to create a self-contained solution for the seamless replacement of drone batteries, enabling uninterrupted and autonomous flight. This innovative system facilitates independent landing, battery exchange, and takeoff, overcoming the challenge of limited drone flight range and it helps for contentious drone flight.

Keywords : unmanned aerial vehicle (UAV), Drones , self-contained solution for the seamless replacement of drone batteries, continuous drone flight

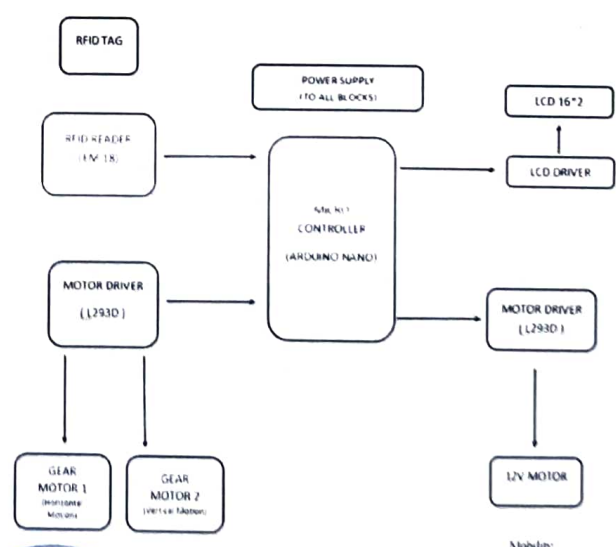
Introduction ---- Drones are a type of unmanned aerial vehicles, it has wide range of applications. Modern drones are used for agricultural surveying, infrastructure inspection, search and rescue, Food and products and countless other applications. Battery management is important for drones, Battery life varies based on usage mode, such as charge timing. It also effects the flight range. Sustained operations are impractical due to limited flight times. By creating an autonomous drone battery switching station, we can finally allow drones to operate continuously in the air. It has a system that enables a drone to land on its own, with the help of an RFID reader it can able to identify the presence of the drone then it gets a new battery, and take off. So, we can able to save the time otherwise it will take long time to recharge the battery completely.

PROBLEM IDENTIFICATION

The main problem in Drone technology is battery life and capacity of the battery. Battery life and capacity of battery varies based on usage mode, such as charge timing. It also effects the flight range. The flight range is the most important problem we face today. Also, the charging time is very high. It badly effects the applications using these drones or UAVs

SYSTEM REQUIREMENTS

BLOCK DIAGRAM



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Thiruvilwamala, Thrissur - 680588

MULTIPURPOSE AGRICULTURE ROBOTIC SYSTEM (MARS)

Mohammed Favas M. N.¹, Muhammad Fayis K. F.², Sam Mathew³, Sarath Chandran M. P.⁴, Saneesh A. S.⁵
^{1,2,3,4} Students, ⁵ Assistant Professor, and project Guide, Department of Mechatronics,
 Nehru College of Engineering and Research Centre,
 Pambady, Thrissur, Kerala

Abstract: More than 40% of the arena's population chooses agriculture as their important interest. In current years, there was boom interest in developing self-sustaining motors such as agriculture robots. Existing agricultural robots carry out primary capabilities together with harvesting, planting, and spreading pesticides. The proposed gadget goals to layout a flexible autonomous agricultural robot automobile that can be helpful for ploughing, harvesting, seeding and irrigation gadget. These robots are used to lessen human intervention, ensure proper irrigation and efficient use of assets. Those robots are particularly beneficial in automatic weeding; use fertilizers based on soil conditions.

Keywords: MARS, autonomous, robotic system, agriculture.

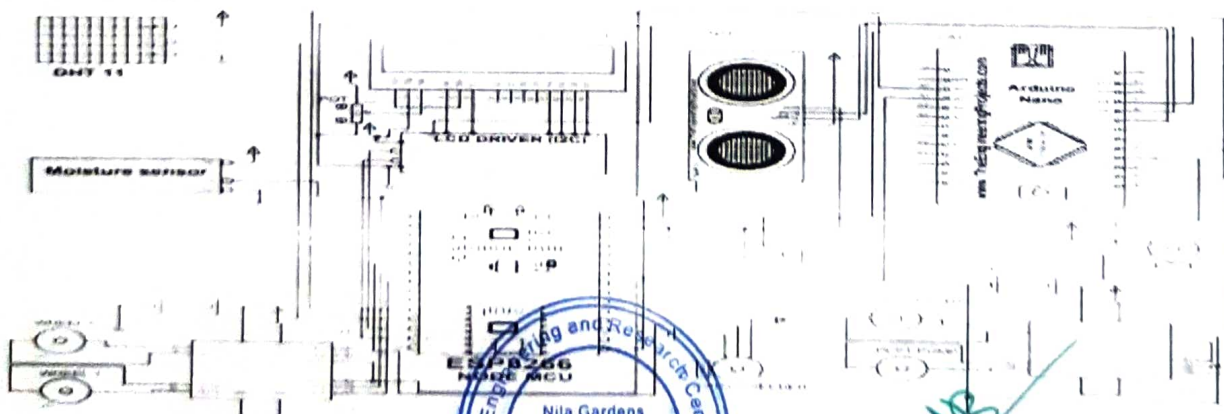
I. INTRODUCTION

Agriculture is the cornerstone of Indian economics. Farmers are the foundation of meals manufacturing. With the resource of bullock carts, tractors, tillers, and different tools, humans historically perform farming. The number one problem dealing with the agricultural enterprise in the modern-day generation are a scarcity of labour, a lack of knowledge of soil checking out, a upward thrust in labour prices, seed and water waste, and a loss of labour availability. A multifunctional agricultural robotic has been created to resolve all of these drawbacks. using robotic generation in agriculture is the primary aim of agricultural robots. Ploughing, sowing, harvesting, irrigating, and fertilising are all duties the rural robotic can perform with performance. Robots are mechanical machines that can carry out a ramification of obligations on their very own with out the want for human assistance.

II. PROBLEM DEFINITION

In India's economy, agriculture plays a tremendous function. Agriculture is the number one supply of earnings in India. The call for manual labour is high and growing salaries are an end result of the decrease of information-primarily based farm labourers. Bullock carts, tractors, tillers, and different equipment are traditionally utilized by humans to border buildings. lack of labour availability, lack of knowledge of farming practises, seed and water waste, and a lack of understanding of agriculture are the primary troubles in the area.

III. SYSTEM REQUIREMENTS





INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

AUTOMATIC POTHOLE FILLING ROBOT

Rejumon R¹, Muhammed Sharoof K², Ruha Joice³, Sarath K Sunil⁴, Vijay K⁵

¹Associate professor, Mechatronics, NCERC, India,

²UG Student, Mechatronics, NCERC, India,

³UG Student, Mechatronics, NCERC, India,

⁴UG Student, Mechatronics, NCERC, India,

⁵UG Student, Mechatronics, NCERC, India,

ABSTRACT:

Potholes can significantly reduce both driving and road efficiency. According to data from the Ministry of Road Transport and Highways (MoRTH), there were a total of 5,626 fatalities from road accidents caused by potholes in 2018, 2019, and 2020, totaling 2,015, 2,140, and 1,471, respectively. As many as 4,775 and 3,564 accidents were caused by potholes in 2019 and 2020, respectively. The creation of effective pothole maintenance methods has been the focus of numerous researchers and transportation specialists. What we need is a efficient, cost friendly and long lasting pothole filling machine which need less human effort. The goal of this project is to design and build a prototype for an automated road maintenance vehicle known as the Automatic pothole filling robot. It can automatically find and repair potholes on road surfaces without human intervention operator support. A simple mechanical method for pothole detecting was developed. It helps to minimize the costs and complexity, which until now have been the main drawback of autonomous road maintenance vehicles. Ultrasonic sensors are used to detect and measure the depth and width of the pothole. The robot will automatically fill the pothole and remove any extra tar based on the data it has collected.

I. INTRODUCTION

In recent years, there has been a sharp increase in the number of privately owned vehicles. Truck weights are substantially higher and are capable of carrying larger payloads. The collapse of railroads along with the weather conditions and improper maintenance undermining our roads makes it even worse. In addition to vehicle suspension damages, potholes can also cause serious accidents and long-term injuries. Another significant factor in the reduction of state money is the need for ongoing pothole repairs. Each year, our country alone spends lakhs of rupees on maintaining pavement. There for the need of pothole filling techniques that are both cost effective and less time consuming with very little human effort is necessary. Therefore using the advanced technologies available, as a solution to this problem an automatic pothole filling robot has been developed.

An automatic pothole filling machine determines the geometry of the holes and fills them with adequate materials. For this study secondary data has been collected. From the website of KSE the monthly stock prices for the sample firms are obtained from Jan 2010 to Dec 2014. And from the website of SBP the data for the macroeconomic variables are collected for the period of five years. The time series monthly data is collected on stock prices for sample firms and relative macroeconomic variables for the period of 5 years. The data collection period is ranging from January 2010 to Dec 2014. Monthly prices of KSE -100 Index is taken from yahoo finance.




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 Nehru College of Engineering and
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 Nila Gardens, Pattipady
 Thiruvilwamala, Thrissur - 680588

MAGNETIC PERPETUAL MOTION MACHINE

Aswin Thomas
Dept of mechatronics
Nehru college of engineering and
research centre
Pambady, Thrissur

Dr. Bobby N D
Assistant professor
Dept of Mechatronics
Nehru college of engineering and
research centre
Pambady Thrissur

Sudheesh S S
Dept of mechatronics
Nehru college of engineering and
research centre
Pambady, Thrissur

Vinod R
Assistant professor
Dept of mechatronics
Nehru college of engineering and
research centre
Pambady Thrissur

Hayam Fazan T M
Dept of mechatronics
Nehru college of engineering and
research centre
Pambady, Thrissur

Abstract—Electrical energy demand is increasing in accordance with rapid growth of the human population. Since fossil fuels is the most widely used energy source, thus it is depleting very fast. Alternative energy source is urgently needed to replace the use of conventional energy sources.

Perpetual Motion Machine (PMM) which can be applied to produce electricity, may be an alternative solution for the problem the world is facing today. The machine is designed to generate power from repulsive forces of permanent magnet without utilizing external sources. Some researches had conducted experiments and Neodymium magnet is most used in the project due to its strong magnetic field. The device is mainly built using a permanent magnet, a rotating wheel and a generator.

This paper reviews some aspects on how A Perpetual Motion Machine (PMM) generates electrical power. The aim of the paper is to provide a summary of the topic and its opportunities in further enhancements for better results. The study found that the concept is very effective, ecofriendly and less space needed. However, a larger scale development of the machine along with proper magnet and gear arrangement is currently needed for a better performance and application.

The response by governments worldwide to the energy crisis have so far been piecemeal and largely ineffectual.

PROBLEM IDENTIFICATION

Many lands are submerged underwater while setting up a hydroelectric power plant and building a dam. It drastically affects aquatic life and wildlife. Methane gas is released when this submerged vegetation rots under anaerobic condition. There are limited sites for setting up geothermal energy and tidal energy power plants. Nuclear power plants produce radioactive wastes and radiation that can be a dangerous hazard leaked accidentally. The efficiency of renewable sources of energy like solar energy is low on a cloudy day. Clean Energy is essential for coming generation as it is our responsibility to maintain climate catastrophe at its bay. We all need energy for our daily activities. We obtain energy from natural resources like fossil fuels. Some of these natural resources are non-renewable and cannot replenish faster as we need them. The burning of fossil fuels causes many environmental issues like global warming and pollution.

BLOCK DIAGRAM



Keywords : Perpetual motion machine, Electricity , Mechanical energy , Magnet , Rotor , Efficient , Clean Energy

- Introduction** --- Clean energy sources are urgently needed. Carbon finance has helped to support hydropower, which remains as one of the most scalable short-medium term clean energy technologies available to many countries.
- The 2021-2022 global energy crisis began in the aftermath of the COVID-19 pandemic in 2021, with much of the globe facing shortages and increased prices in oil, gas and electricity markets. The crisis was caused by a variety of economic factors, labour shortages, disputes, climate change, and was later compounded by the 2022 Russian invasion of Ukraine.

Gas shortages in particular have resulted in an increase in food prices and an increase in the use of coal.

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Nile Gardens, Pambady
Thiruvilwamala, Thrissur - 680588

Page 33

Aswin J
Dept of mechatronics
Nehru college of engineering and
reserch centre
Pambady Thrissur

Dr. Bobby N D
Head of department
Mechatronics
Nehru college of engineering
and research centre
Pampady, Thrissur

**Nehru College of Engineering and
Research Centre (Autonomous)
Nile Gardens, Pampady
Thiruvilwamala, Thrissur - 680588**

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**STUDY OF CONSUMER BEHAVIOR TOWARDS ONLINE ADVERTISEMENT WITH
SPECIAL REFERENCE TO DEMOGRAPHIC FACTORS.****Dr. Krishna Kumar TP**

Former Director, SNMV Institute of Management, Coimbatore

Abstract

The current exploration report accentuations on concentrating on the effect of web advertising on consumer buying behavior, which raises the consumers' expectations towards the item and buying behaviors. The buying behavior is firmly affected by the picture of the item which is worked by the promoters. Publicists are relied upon to move their concentration and burn through millions in web advertising before long than TV, print promotions and another conventional advertising media. Online shopping is a developing pattern in India and the quantities of the two merchants and purchasers are expanding day by day by walloping rates. India's complete online marketing projection is assessed to arrive at the US \$100 billion by 2020. With the fast development in innovation, the web is turning into a significant one stop point for consumers in viewing as the vast majority of their requirements. Be it communication, amusement, data search or shopping, web fills in as a panacea for every one of their necessities. As per the worldwide systems administration monster Cisco, Digital change will take India's web clients from 373 million (28 percent of populace) in 2016 to 829 million (59 percent of the Indian populace) in 2021. This plainly exhibits that India is developing quick and individuals are becoming routine of involving the Internet as the advancement of human culture, the improvement in Communication processes and Digital Convergence open up imaginative open doors and difficulties for Marketing. In this manner, the Internet has pushed forward to assume a huge part in the Consumer Decision Making Process. Numerous consumers are online consistently for their own and official work, yet do they notice the promotions, flags showed on that website page and most significant thing is to actually take a look at what is their review esteem. The current review examined the effect of web advertising on consumer buying behavior by directing an overview.

Key Words: Online Advertising, Marketing communication, Consumer behavior

INTRODUCTION

Online advertising, additionally called online marketing or Internet advertising or web advertising, is a type of marketing and advertising which utilizes the Internet to convey special marketing messages to consumers. The web has is a continuous arising source that will in general extend to an ever increasing extent and is filling dramatically in the two its applications and number of clients because of its interesting qualities of adaptability, intelligence, and personalization. Web as an advertising medium is adaptable and here it stands separated from the conventional advertising mode. It is an exceptionally adaptable mode that permits consumer to make shifts during the direction of the mission as and when expected without bringing about much extra expense. This makes web even more significant in a nation like India where the business situation is profoundly powerful and changes as time passes. Online marketing media permits the consumer to make changes as and when expected to satisfy the most recent needs of the market. The quantity of web clients is on a quick ascent worldwide and the web is being utilized by consumers of all age and types. Web has become one of the significant mechanism for communication, amusement and is for sure during the time spent supplanting conventional diversion, promotion items, and enlightening media's. In like manner, conventional marketing structures like TV, radio, paper, magazines, and so on, are turning into a relic of past times. The greater part of the organizations and associations these days are depending on advanced advertising and marketing

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Nila Gardens, Pampady
Thiruvilwamala, Thrissur - 680588





"Case Study- Product Feature Prioritization Frameworks in Startups building digital Products"

Dr.P.Pon Meenakshi¹, Dr.Suriakala², Ms.Vijayamol.K.T³, Ms.Divya C V⁴

Professor & Head, School of Management, Sri Krishna College of Engineering & Technology,
Coimbatore, Tamilnadu

Associate Professor, Nehru School of Management, Nehru College of Engineering and Research center,
Pampady, Kerala.

Assistant Professor, Nehru Arts & Science College, Coimbatore.

Assistant Professor, Marthoma College of Management and Technology, Asramam Campus,
Perumbavoor.

Abstract:

Digital Product Development Companies, which are startups, need to manage the product development with the right features which is closer to the market expectations. Therefore, its essential for the co-founders or stakeholders to choose the right prioritization framework for prioritizing the features being developed. The focus of the research is to understand the prioritization framework utilization or adoption from the Startups, Factors influencing prioritization framework selection, decision making on selecting the prioritization and relevant case studies.

Keywords: Startup, Prioritization, Frameworks, Product Features, Decision Making, Case Studies

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NeuroQuantology 2022; 20(11):6094-6100

6094

Introduction:

Startups are building digital product[1] also called as Software Product[2, pp. 12–15]. Digital products are also conceptualized as Digitized products, Cyber Physical Systems, Intelligent Products, Smart Objects, Smart Connected Products and Internet of things[3]. It could be also in the forms of Mobile Apps, Web applications, Services delivered digitally, etc., These definitions could go on based on the architectural patterns being adopted upon innovation[3]. When the build these products each one would have Product Lifecycle Management[4], the product would be made of features which are essential ingredients for go to market.

Startups needs to identify the what are the features which are essential for the target

market to find a good product-market fit. It needs to put focused effort on those features which are essential to meet the timeline to bring the market to the product. Before getting into the topic prioritization, it's important to understand the context. The focus of building a product is to be consumed by the end users or consumers. So, Prioritization of the features to be built for the market which will help to stay ahead and stay competitive consistently.

From a product development lifecycle perspective product has to build by the engineering team either based on the given specification or Product Requirements Document. Typically, this kind of document would have requirements outlined. This would be detailed version of abstracted functionality called as "Features". So, it's essential to bring



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Time Spent On Social Media And Its Impact On The Academic Performance By Youngsters

Dr.P.Pon Meenakshi¹, Dr.Suriakala², Ms.Manju M³

Professor & Head, School of Management, Sri Krishna College of Engineering & Technology, Coimbatore, Tamilnadu.

Associate Professor, Nehru School of Management, Nehru College of Engineering and Research center, Pampady, Kerala.

Assistant Professor, Ahalia School of Management, Palakkad, Kerala

ABSTRACT:

Social Media is the simplest terms refer to the internet marketing and digital marketing that promote a product or service. Most social media platforms have built in data analytics tools, which enables companies to track the progress, success and engagement of a advertisement campaigns. Social media marketing including current and potential employees, journalist, bloggers, general public level of a strategic level. Internet marketing offers anybody over a certain age with access to a computer and access to an internet connection, the opportunity to go into business for themselves with little or no start up cost. They could either sell their own products and services in which case they will be doing a business as a merchant. This research revealed that the use of social networking sites in educational institutions and opined that the sites had become accessible via the Internet in the light of usability for teaching and learning..

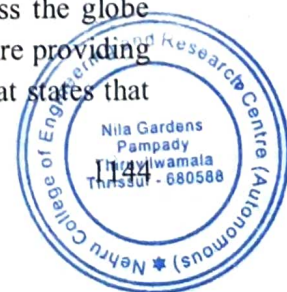
Key words: Network, smart tools, Social Media Marketing

INTRODUCTION:

Positive effects of social media on students' academic life students

Academic life has moved to a different dimension since the introduction of these social media networks and several studies have affirmed that social media plays an important role on students in higher education including the study conducted by Wheeler, Yeomans and Wheeler,(2008); Rifkin, Longnecker, Leach and Ortia,(2009). In their study, they recognized four (4) major advantages of social media usage by students in higher education which included; enhancing relationship, improving learning motivation, offering personalized course material, and developing collaborative abilities. Indeed, social media has contributed greatly to facilitating learning in the 21st century. It is shown that a greater percentage of students including those at the PhD level commonly use social media to ameliorate their studies (Khan, 2010). The answers to the causes of flexible studies today across the globe might not be far-fetched from the great contribution that social media platforms are providing when used judiciously. Even though, there have been other school of thought that states that

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E-Marketing: Emerging Trends along with the Practices in Favour of Sustainable Growth & Development towards Business and Service Sector

Dr.A. Abdul Brosekhan, M.B.A., Ph.D., Associate Professor, Department of Management Studies, Mohamed Sathak Engineering College, Kilakarai, Ramanathapuram District, Tamil Nadu.

Dr.N. Shankar, Professor, Nehru School of Management, Pampady, Thrissur District, Kerala.

Abstract--- E-marketing means using digital technologies to help promote and sell the goods and services. It is not just aware about selling goods over the web. These technologies, like e-mail and websites are a valuable complement to traditional agreed marketing methods whatever the size of the company or the business model. As businesses offer e-marketing and is very online shopping, customers can get market information from their computers or cell phones and buy goods or find produ services without leaving home twenty-four hours a day and seven days a week (24/7). They can read ads on the Web people or from e-mail, get e-coupons, view pictures of goods, compare prices, and make purchases with a few clicks of the 2. The mouse, saving the time and money it would take to shop in person at a brick-and-mortar store. At the same time Artifi e-businesses can reduce costs in distribution channels and physical store space and thus pass the savings on to An customers. To make e-marketing effective and efficient, managers of e-businesses need to know online customer behav behaviour, e-marketing techniques, costs and benefits of e-marketing over traditional marketing, and pitfalls and legal behav issues of e-marketing. E - marketing has become a globally popular trending sector. The goal of e- marketing is to how a apprehensive people and allow them to interact with the product through high-quality digital media. The scope of marke digital marketing in 2022 will be boosted by an increase in use of smartphones, mobile apps and social media and the by get will provide marketers with new ways to interact with their audiences and customers. This research paper offers some from l insights about the emerging trends of E- Marketing. edge c

Keywords--- E - Marketing, Online Shopping, Digital Media, Electronic Communication, Social Media and E - Business Progi & E - Service. Us

Introduction--"An Overview of E-Marketing"

Marketing is at the core of all business activities. Without marketing, organizations cannot sell and without sale exam; there is no revenue and without revenue people cannot run businesses. The world wide web is a very diverse market; conve platform used by most businesses for marketing all types of products and services. E-marketing is an advertising oe-m his di discipline that includes all marketing activities conducted by a business online using an electronic device or the 3. Cha internet. Other names for this type of marketing include internet marketing, online marketing, digital marketing or we Co marketing. E-marketing is a process of planning and executing the conception, distribution, promotion, and pricing that is hat i products and services in a computerized, networked environment, such as the Internet and the World Wide Web, 30% c facilitate exchanges and satisfy customer demands. E-marketing refers to the use of electronic media to reach out to ave c customers in order to promote items or companies. The current state of digital marketing includes banner advertising outsta search engine optimization, and social media marketing. Website marketing services increase website visibility busine optimizing and promoting the website. nakin use th heir a

Objectives of this Research Paper

- To know how companies and consumers would perceive the trend of e- marketing
- To understand the growth potential of e-marketing.



BUSINESS AGILITY – AN INEVITABLE MODEL TO BE THE MARKET LEADER IN THE AI & IOT ENABLED BUSINESS ENVIRONMENT

Dr. Krishna Kumar TP

Professor, Nehru School of Management,
Nehru College of Engineering and Research Centre

Abstract

With agility, you can deal with the new normal in a more realistic and indirect way, allowing you to accomplish the most important goals. This computerized era necessitates a coordinated approach to constructing the methodology that can be altered as needed and focuses on the advanced first attitude by utilizing mechanization and distributed computing. There has been a widespread shift in consumers' expectations and behavior as a result of computerized transformation and the subsequent emergence of new business models.

Among the various computerized advancements in the manufacturing field are advanced investigation, robotization, the Industrial Internet of Things (IIoT), Industry 4.0, AI, artificial intelligence (AI), cloud stages, etc. These new developments may improve the effectiveness of companies' legacy-related efforts. Innovations at the cutting edge promote the development of new, carefully empowered business models for officeholder organizations, as well as the expansion of operational efficiency and the customer experience already underway and operations.

Keywords: Business Agility, Artificial Intelligence, Internet of Things, Business Environment.

1. Introduction

When it comes to company agility, it means being able to quickly respond to market shifts and open important doors with innovative business arrangements. Understanding how to respond and benefit from new developments is critical in this particular situation. Also necessary is the demonstration of a flexible manner of acting that forms the actual foundation for business agility and aligns with the critical proportion of important flexibility. An open-minded approach to experimentation, transformation, learning, and failure should be encouraged given the current climate of vulnerability brought on by the COVID19 pandemic.

Company Agility is the ability to respond quickly to market developments and emerging prospective open doors with innovative business arrangements in the computerized age and to compete and flourish in that age. In this case, it is critical to understand how to respond to and take advantage of new developments. Also essential is a flexible method of acting that illustrates the underlying underpinning of business agility and matches the crucial proportion of key agility. In light of the present COVID19 pandemic, a development mindset should be fostered that allows for assessment, transformation and learning as well as embracing failure as an opportunity for progress.

Recent advances in innovation, notably in the field of flexible network and incorporation, have enabled manufacturing companies to finally wrap and broaden their current arrangements rather





Matrix Organization Analysis Using Grey Relational Analysis

^{*1}Krishna Kumar TP, ²M. Ramachandran, ²Sathiyaraj Chinnasamy, ²Malarvizhi Mani

¹Nehru School of Management @ NCERC, Pamapady, Thiruvilwamala, Thrissur, Kerala, India.

²REST Labs, Kaveripattanam, Krishnagiri, Tamil Nadu, India.

*Corresponding author Email: tpk683@gmail.com

Abstract. Conflict procedures used by task managers at Matrix via mission group engineers Described. Project that managers used a combination of procedures to make certain cooperation and war In companies, conflicts could have an effective impact and management can be effectively Determined. Conflicts have been seen as reactionary and the project supervisor mixed a combination of competitiveness and avoidance of warfare processes Management changed into observed to be useless whilst reliant. These effects are the area for war management concept provided information aid, which become tested and delicate with the aid of sizable laboratory research. Microscopic environments of organic cells Macromolecular meeting in vivo and the resulting exclusion quantity is dominated with the aid of effects. This function is diluted in vitro mobile way of life no. Here, the synthesis of the NM scale radius at the physiological stages of partial career Macromolecular meeting in vitro using macromolecular globules we have been provoked. We calculated the effect of the brought on crowd Immunocyto chemistry, thru nuclear microscopy (AFM) and AFM-enabled nano-indentation Extracellular and intracellular protein structure of human mesenchymal stem cells (MSCs). Extra-cellular Macromolecular meeting in tradition is directly brought on by using supramolecular meeting and cells the deposited extracellular matrix mediates the alignment of proteins, ensuing in Increases the alignment of intracellular act in cytoskeleton. The ensuing cell matrix Metallization similarly affected the adhesion, multiplication, and migration behavior of MSCs. In vivo and in vitro In vitro for MSCs and different cells, by increasing the reliability among products synthesized by cells. Very physiologically relevant in studies and gadgets Macromolecular meeting enables layout. Quote: Zeiger AS, Loe FC, Li R, Raghunath M, Van Vliet KJ (2012) Macromolecular Crowding

1. Introduction

Small leucine-wealthy proteoglycan decor in as the primary regulator of collagen fibrillogenesis has been validated; décor in defects irregularly fashioned collagen fibrils and prenatal marine Weak cloth in connective tissues can lead to behavior. For tissue structure and fabric conduct Weak fabric in connective tissues can cause behavior. For tissue shape and fabric behavior Designed, they vary from gestational age decor to zero or wild kind mice to kind I. Were harvested into collagen gels. The end result is a 3-dimensional collagen metrics well known were raised for four weeks below tension. The collagen metrics planted with cells are high Compression, cell density, final tensile strength, and elastic modulus is better than wild-kind cells. Ultra structurally, excessive concentrations of collagen in matrices implanted with cells Is. Decor in-zero tissue consists of more pillion than manipulate tissue, which is associated with Suggests that proteoglycan compensates for the shortage of decor in. Decor in preferred there became additionally the effect of changing the increased component separated Explored on this observer. Their summary is the addition of matrices planted with wild-type cells and progressed mechanical energy, whilst collagen gel blocking off in cellular-implanted metrics significantly decreased contraction. These effects endorse a preventive dating between decor in and TGF, the in vitro model significantly affected the matrix shape and cloth conduct of the tissues. Personnel choice is: Among the applicants making use of for limited processes within the business enterprise, to do the process better it is the manner of choosing the ones who've the specified qualifications. This is the key to human aid control is one of the phases. With increasing competition in the international market, present day businesses face first rate challenges. The destiny survival of groups is in particular for companies and their personnel depending at the contribution. Of the worker or team of workers together with understanding, competencies, competencies and other abilities Performance performs a key position in an enterprise's achievement. So, an area in the marketplace Performance at a Role in a Company's Success. So, a fruit inside the marketplace is necessary to present significance. There must be a personnel selection the method gives reliable and correct records approximately to the candidates. Some traditional on this manner Techniques are used, mainly, filling out application bureaucracy, preliminary interview, employment Experimental and background investigation (Robertson & Smith, 2001). These traditional techniques are commonly for decision makers come to a conclusion based totally on subjective judgment, which makes the accuracy of the results fantastically questionable. To pick out the most suitable employees to do the constrained paintings, efficient selection Much of mixing subjective judgment and goal analysis to expand attitudes Important. The multidimensional nature of the hassle, the multi-criteria selection-making (MCDM) methods and the ambiguous good judgment Copes better. Many authors pick personnel with certain MCDM methods and ambiguous set concepts Used to cope with the trouble. Liang and Wang (1994) evolved an indistinct MCDM algorithm for team of workers selection.



PRINCIPAL

Nehru College of Engineering and
Research (Autonomous)
Pamapady
Thiruvilwamala, Thrissur - 680588



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Emergency Management Investigation Using COPRAS Method

*¹Krishna Kumar TP, ²M. Ramachandran, ²Kurinjimalar Ramu

¹Nehru School of Management @ NCERC, Pamapady, Thiruvilwamala, Thrissur, Kerala, India.

²REST Labs, Kveripattinam, Krishnagiri, Tamil Nadu, India.

Email: tpk683@gmail.com

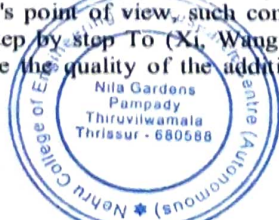
Abstract

The purpose of this study, Joint Emergency Management Related intellectual Analysis of discussions and findings to do. Leadership, decision making, Inter governmental and corporate Relationships and technical applications in CEMM any such features have been explored. Their efforts are federal, state and important for local government in emergency management as a function for the current focus provided the foundation. The damage was unusual when widespread and severe only state and federal governments are great. Support can be expected. Therefore, local governments for the safety and security of the public Urgent to meet their responsibilities creating a management plan to be maintained. Community any natural or threatening and man-made danger Responsive emergency plans and local government to develop skills and with the private sector by working together Local Emergency Management Agency Supports this initiative. Local Responsibility for emergency management usually to the mayor or city manager at the reporting agency or Police, fire or public Existing as security Placed in the fields. The complexity of the problem And inherent uncertainty Considering the nature, This research was conducted by COPRAS An ambiguous multi-scale Accepts as a decision-making technique The risk of complex infrastructure Of the model for evaluation To illustrate performance and effectiveness Case analysis is implemented. To implement the goal, European Union economies, construction Departments, statistical economic data, Entropy system and Of the European construction sectors In terms of priority Valuable products are set. Also, emergency management of employees and their companies determine the needs, for them how to best serve and about what to do. It is important to engage in conversation. So, in this study, this designs for the domain whether the reviews are the best a research project to discover we outline. Of this paper the rest are organized as follows: Social networks and there in the emergency domain Current usage review is done. Literary following this from research and interviews Generated research questions. Next, the research method is described. In this paper we used COPRAS for ranking. The COPRAS method is the most ideal solution Short-distance and Alternative The solution with the longest distance from the solution Determines, but the comparison of these distances Does not consider importance. Reconstruction and staff comforting, workers and medical staff, Government unity of leadership, The involvement and support of army, Application of modern logistics technology, feedback of loss information, Financial ensuring measures, Evaluation on the efficiency Evaluation Parameters in Cause factors, Critical success factor (CSF), Well-planned emergency, Applicable emergency. Use Attention deficit from the result it is seen that feedback of loss information is got the first rank whereas is the Reconstruction and staff comforting is having the lowest rank.

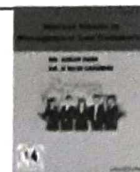
Introduction

Different philosophies and regional inevitably due to requirements Of the organization that manages conflicts that arise Emergency Manager as Chairman To be, and more urgent Management policies, plans and to coordinate projects Helps to implement. Further, Traditional managers are serious in personal development activities be involved and comprehensive Meet the challenges of emergency management Institutional development if desired to support projects. Complex system requirements Notable in completion Traditional that imposes limits Developed by operational companies this is necessary to solve problems May be. An ARC senior official Tell us about Hurricane Andrew Saying, 'These are normal chapters we know that actions are not what we are trying to explain. Services take a long time to get.' Federal Emergency Management Agency (FEMA) Social Relations Maintains functionality. Risk Analysis is what can happen, possible possibilities and the amount of problems that can occur and for emergency planning Ingredients required is to know a little about. A jurisdiction's potential Identifying risks, in each person and property Potential impact to be determined. To provide effective results whether this task is complicated or to be sophisticated No need. However, it is important What is more, it threatens the jurisdiction all dangers are urgent Identified in the plans Are resolved. Creates and operates FEMA Key characteristics of the political system Brief description of, as part of the policy framework Forum for detailed discussion of the system Sets. Contractor selection mostly based on low bids Consists of. However, the standard and choice based on lifetime would be useless. To get the contract Attempting contractors bid they often lower the price. It's so many changes, so bad Quality work, delays or maybe these can result in everything. From the customer's point of view, such contractors are dangerous. An estimate to get the scale and custom structure, to be analyzed in a step by step To (Xi, Wang 2008). The highest number in decades Refined MCDM methods have been created and they are the quality of the additional information required and Size, usage pattern, user-

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Research Centre (Autonomous)
Nehru College of Engineering & Technology
Pamapady
Thiruvilwamala, Thrissur - 680588



Evaluation of Techno-economic Using Decision Making Trial and Evaluation Laboratory (DEMATEL) Method

¹Krishna Kumar TP, ²D R Pallavi, ³M. Ramachandran, ³Chandrasekar Raja

¹Nehru School of Management @ NCERC, Pamapady, Thiruvilwamala, Thrissur, Kerala, India.

²University college- the constituent college of Mangalore university, Mangalore, India.

³REST Labs, Kaveripattinam, Krishnagiri, Tamil Nadu, India.

*Corresponding author Email: tpk683@gmail.com

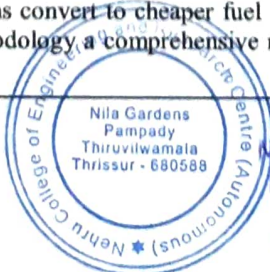
Abstract. Techno economic means feasibility of project requirement and optimized technology means selection. Techno-economic means existing market and technology is an analysis of selection of technology in project design in demand capacity techno-economic max existing. Chamoli, uttarakhand, India electrical and cooking energy to meet the requirements, integrated renewable energy on the development of the system a techno-economic study has been carried out on paper. Locally available renewable energy resources and exploration capacity of area requirements an attempt has been made to assess. In this from analysis Decision making trial and evaluation laboratory (DEMATEL) complex system elements of the cause-and-effect chain a great one for identification considered proper. This is interdependence between factors assessing relationships and through visual structural modeling what matters deals with identifying. Alternative: air conditioner, color television, washing machine, water heater, electric cooker. Evaluation preference: air conditioner, color television, washing machine, water heater, electric cooker. The result it is seen that Air conditioner is got the first rank where as is the Water heater is having the lowest rank. As a result, the air conditioner gets the first rank, while the water heater gets the lowest rank.

1. Introduction

Techno economic studies detailed project reports technology of the project and determine the funds reliability, risks associated with the project to be evaluated and taken calculating immediate actions. Of one project per customer it helps to get a comprehensive assessment. A techno economic study investigates conversion to bio-oil, after that bio oil naphtha and diesel range as fuel improves. Two per day 2000 dry ton scenarios have been developed. The first scenario is for fuel optimization to generate hydrogen on site separates part of the bio-oil, a second scenario relies on commercial hydrogen. Techno-economic or techno-economic analysis (tea for short) is an industrial process, product or analyze the economic performance of the service method of doing. Technical and financial based on the input parameters capital cost, operating cost and to estimate revenue it usually uses software modeling. Cyclone maps and sensitivity analysis visualization tools like graphs using, concise and visual summarize the results in a coherent format saying is a desired effect. This ammonia are two green production processes a techno-economic study has been carried out, with a modern methane ammonia process comparison of cohesion and heat with system level hot steam for recovery note the optimum placement of cycles. Techno-economic in action specific to techno-economic change evolutionary or historical of forms pays more careful attention to development we have strongly argued.

2. Techno-Economic

Between producers and users techno-economic and social interactions weaving complex dynamic networks are doing also, key findings are more will be catalysts of innovation; they are complementary methods for upstream and downstream including demanding and competing alternatives similarities are facilitated. Technical- economic paradigms the cause that brings them about in mechanisms, economics and institutions their impact and economic and their suitability for analysis. Nevertheless, these macro events the microcosm of technological change rooted deep in foundations because of that, the following section is micro and some basics done at meson levels represent theoretical developments. It defines technological revolutions, their organization and accompanying techno-economic full by using paradigm in revitalizing the economy as well examines the role they play [1]. This techno-economic study, faster corn Stover to bio-oil investigating paralysis, followed by bio oil as naphtha and diesel fuel improves. Two per day 2000 dry ton scenarios have been developed. The first scenario is for fuel optimization bio to generate hydrogen on site separates a portion of the oil, a second scenario relies on commercial hydrogen. The techno economic study of fast paralysis and bio-oil in the crossover by upgrade fuels range from naphtha and diesel investigated the cost of production. Two scenarios are created bio- production of hydrogen from oil based, the other is merchant based on the purchase of hydrogen has the hydrogen production scenario, to improve hydrogen is needed, its bio-oil of twist is remote uses hydrogen from source [2]. Existing hydrogen production sites and techno-economical and sensitivity analysis future hydrogen an hour to increase economic aspects needed. This is future hydrogen production in high-impact project designs convert to cheaper fuel new to reduce overall production costs creating attitudes. Durer et al based on the proposed methodology, a comprehensive review of the literature was carried out. (2018) published





Understanding of E-Learning Programs using WPM MCDM Method

^{*1}Krishna Kumar TP, ²M. Ramachandran, ²Chandrasekar Raja, ²Ashwini Murugan

¹Nehru School of Management @ NCERC, Pamapady, Thiruvilwamala, Thrissur, Kerala, India.

²REST Labs, Kaveripattinam, Krishnagiri, Tamil Nadu, India

*Corresponding author Email: tpk683@gmail.com

Abstract. The Evolution of the Internet All Industry has affected business operations and the development of e-learning has accelerated. Cost of designer courses and learners, Wu, due to time or flexibility, e-learning is an alternative training method by corporations Accepted. E-learning ability assessment is important, and assessment criteria vary. E-learning ability assessment A great deal of relation Attempt has been made; however, a Common size estimate of the model is subjective to simultaneous criteria to the ambiguity of feeling Considers the relationship between. This paper proposed a new novel hybrid that Refers to MCDM-type independent relationships. Longevity, I.e. for 100 years on a much larger scale for bridges fixed traffic Current progress towards needs. To achieve this goal, Long duration of bridge performance Realistic predictions In Bridge Engineering play an important role. In this study, turbulent traffic, Great pressure to carry flows of concrete bridges Long-term deviation, and Dissociation-induced Damage development are being explored. Concrete viscoelastic Behavior and concrete Tensile cracks and plastic softeners taking into account the combined effects Taken, the performance of the bridge an integrated system for evaluating the model has been developed. (WPM-Weighted Product Method).In this method from analysis Colors of WebPages are the first rank, Connection of WebPages is the fifth rank.

1. Introduction

Construction, maintenance, and cost Due to the benefits of many sections of pressure concrete bridges are formed as partners in Transportation around the world Networks are widespread Designed, and incorporated. For these important links in transport systems, bridges Safety, and serviceability throughout their lives Maintenance is of great social, economic, and environmental importance Powerful. This article runs simultaneously on the Internet, interconnected Runs up to the last mile of connected and wireless infrastructure networks Provides insights into the performance of applications. Upgrading previously developed tools, IEEE 802.11g WLAN Tests on the network Wireless connection layer, network layer, and traffic layer, and measure performance across the application layer. Using LEFT so far for Hadron's physics we have drawn a picture of Rosie. However, not everything is right, which is the current Reason for the investigation. Since the 1980s, covariate fertilization theory, like the computational observations on the structure of the LEFT using methods of disturbance theory is considered to be invariant. In some cases, LFD has this feature many authors have shown that, and a few years ago some general statements for a similar effect are found in quantum field theory the current matrix is the calculation of the element. Blood usually clots when exposed to foreign interfaces such as traumatic native tissue or artificial implantation. This phenomenon is the result of a complex series of actions involving the interface and the flow-mediated transport of blood proteins. The exact role of these contributing factors is often subject to conflicting speculations. The field of neonatal neurology, especially its focus on the preterm infant, had its beginnings in neurological studies. This led to our understanding of the pathology and nature of neonatal brain injury. Newborn brain injury can have serious and different effects on subsequent brain development; this study is more than just simple tissue loss to diagnose having neurological effects and promotes the notion that it may be important. The brain injury of a premature baby is the best explanation for this notion.

2. E-Learning

Meaningful cross-examination for research Researchers when making comparisons facing difficulties is unusual Not all. With various characteristics Because of the different contexts, Research related to the field of distance learning will be even harder to use. Research articles on how to define a learning environment we implemented mixed-method analysis to find out In addition, we have 43 people Inspected and different types of delivery of random terms for patterns we found the application. Distance learning E-learning and online learning: The learning environment the results reveal the presence of emotions. One of the key factors in education is learning. Let's be in education. We teach learners. Students learn their own Far from the instructors, therefore their Difficulties such as regular mental and physical readiness Besides, have different kinds of difficulties And there are barriers, they are for learning May quench their curiosity. Courses, Seminars, Workshops, Online learning websites, Chat Sessions / Discussion Groups, And e-learning products that include The process of designing and improving, Personnel resources, hardware, and Personnel resources, hardware and Careful consideration of software specifications and applications, standards Including a mix. Producing e-learning products Developers usually produce





A Market Segmentation Assessment Weighted Scoring for Using WSM Method An Study for Different Market

^{*1}Krishna Kumar TP, ²Vimala Saravanan, ²M. Ramachandran, ²Manjula Selvam

¹Nehru School of Management @ NCERC, Pamapady, Thiruvilwamala, Thrissur, Kerala, India.

²REST Labs, Kaveripattinam, Krishnagiri, Tamil Nadu, India.

*Corresponding author Email: tpk683@gmail.com

Abstract. Market segmentation evaluation and selection is one of the important marketing issues for all companies. This study is for selecting the market segment and can be used as a model for future studies. Segmentation change factors are common in five main areas: segmentation factor, Competitive, Financial and economic factors, and Technological and socio-political factors are taken as evaluation parameters. WSM methodology for market segmentation evaluation and selection. This article will summarize and present a new approach. In MCDM methods, WSM alone cannot be used for multidimensional problems. Multidimensional means all dimensions have different units. Besides using WSM, other methods can solve a one-dimensional problem. However, they were originally developed to solve multidimensional problems, and it is for solving one-dimensional problems a special method makes the WSM method. Finally result from the manufacturing process technology required is in 1st rank and contribution margins are in the last rank.

1. Introduction

Targeting involves several steps; Hence the attractiveness of each market segment First the evaluation is done and then a category is selected. Therefore, market segmentation for target market selection in many companies. Market Segmentation Process In the market Identify customers A division into subgroups is considered and a subgroup is unique A target market can be selected that can be reached with the marketing mix. After the market segmentation process is carried out, companies evaluate their segments and by evaluating identified market segments Identify the target market. Marketing strategy since many elements follow the market segmentation problem is introduced as an important management decision. Customer preferences, organizational objectives, and resource constraints Market segments for simultaneous satisfaction and a system of methods for identifying and selecting product portfolios. This model development is between criteria of competitive evaluations and Helps analyze trade-offs. Based on these criteria, the model solver automatically allocates resources to the selected segments. This process integrates mathematical modeling methods and management wisdom for segmentation and designing a total marketing plan. Appropriately based on segment assessment choosing a market segment is very complicated for many companies. Departmental assessment and examination results are state-of-the-art; considering various criteria in this decision-making process. Hence market segmentation evaluation decision-making an MCDM problem can be considered. Generally the market segment evaluation and selection (MSE/MSS) problem something is possible the criteria include several possible alternatives that need to be evaluated. Such as transportation, location selection, Tourism Management, Supply Chain Management, Asset Management, and Financial Management MCDM approach to engineering and management are Very useful in many fields. MCDM approaches in engineering and management is Very useful in many fields. On a review of MCDM applications Recommended for a recent research paper.

2. Market Segment Evaluation

In the literature, on market segments Evaluation and selection Target market selection is introduced as a problem, because the target market selection customer needs to be based on the analysis, determining criteria must be carefully evaluated and weighed. Three criteria for evaluating market attractiveness include profitability, variability, and accessibility. Lager and Perdue, in terms of profitability, access, and access to market segment a systematic approach was studied. Besides, Simkin and Tipp's profit, Market growth, and market size for target market selection are introduced as the most important factors. Market Segmentation Performance and to determine the profit, such as identification, relevance, accessibility, consistency, responsiveness, and action ability It should be noted that some criteria are often presented. Much of the relevant literature focuses on the key aspects of making this assessment and of segment attractiveness and market segment selection Very few studies have been conducted on evaluation. The concentration of Alternatives A1, Laws and Government Institutional Regulations A2, Types of Competitors A3, Contribution Limits A4, Manufacturing Process Technology Requirement A5, Complexity A6, Annual Growth Rate A7, and ameliorating criteria factors A8. Segmentation change factors are common in five main areas: a segmentation factor, Competitive, Financial and economic factors, Technological and socio-political factors are taken as evaluation parameters.





Analysis of Reverse Logistics System using COPRAS MCDM Method

***¹Krishna Kumar TP, ²M. Ramachandran, ²Kurinjimalar Ramu, ²Ashwini Murugan**

¹Nehru School of Management @ NCERC, Pamapady, Thiruvilwamala, Thrissur, Keral, India.

²REST Labs, Kaveripattinam, Krishnagiri, Tamil Nadu, India.

*Corresponding author Email: tpk683@gmail.com

Abstract. Reverse logistics, which is product recovery, Due to product returns or inventory management or revenue stream; creates a closed loop supply chain. Close-loop supply chain success means manufacturers and depends on the actions of the customers. Now, due to environmental protection laws, Easy to disassemble, reuse and recycle Products must be manufactured by manufacturers. On the other hand, many customers, By delivering goods to collection points Support environmental protection. According to the findings, the total cost for reverse logistics is huge. Total reverse logistics cost and collection points To reduce the high usage rate, Ideal for collection points in reverse logistics Choosing locations is very important. To design a decision-making model for that, Cost/time, legislative factors, environmental impact, Based on criteria such as quality, market etc Quantitative and qualitative assessment is required. Appropriate based on these criteria Performance must be considered to determine reversal. Manufacturing option is in this domain Depends on expert opinion. In this paper, based on COPRAS set theory A multi-criteria decision-making (MCDM) model is proposed. Remanufacturing, Reselling, Repairing, Cannibalization, Refurbishing is alternatives and Market factor (C1), Quality factor (C2), Legislative impact (C3), Environmental impact(C4), Cost/time factor (C4) is taken for evaluations parameters. As a result the Remanufacturing is in 1st rank and Refurbishing are last rank

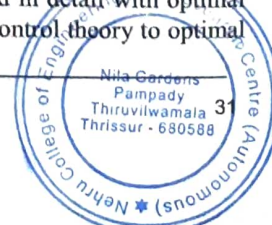
Key words: Reverse logistics (RL), manufacturing organizations, Manufacturing businesses, MCDM

1. Introduction

Reverse logistics (RL) is intended to capture value from the final destination or materials properly defined as a disposal process it is the process of returning to normal. Goods from their point of origin Movement to their final destination is at the heart of logistics systems. An RL system (RLS) integrates the supply chain, It reproduces the flow of materials or parts, Re-designed to manage repair or removal and efficient use of resources. Today the product turnover is approx has become common across all product categories, in some industries the prices are as much as 20% higher. Hence, for product return handling beyond the functional level developing a comprehensive and cost-effective decision-making system a tough challenge. Hence, well-developed reverse logistics and the management plan will be a key strategic asset. Presence of multiple criteria(Management and Technology) and involvement of multiple decision makers The results can be extended from single to multi-dimensional, This adds to the complexity. By grinding through a mathematical model or algorithm it is clear that the selection problem cannot be solved. This kind of complexity and to support unstructured test problems, of choice and priority Multi-criteria decision-making problems we need new approaches that can be manipulated. The results of this selection of recycling alternatives will prioritize companies; correspondingly the inversion will help to improve the production facilities. Inverse manufacturing alternative selection decision framework is based on a flexible and scalable options decision framework this paper attempts to unify by Formulation of Fuzzy Decision Making and Reverse Logistics (RL). Based on the results of this systematic decision analysis, Analysis allows decision makers to rank alternatives. As the rate of return increases, Reverse logistics planning and infrastructure design becomes more essential. Financial management and EPA are recycled and risky Future material flow of goods and necessary In the number of facilities they have Very caring. Points, storage sites, extraction/recycling plants In a reverse logistics system and includes the final transshipment/stored goods market. Total cost by selling reclaimed materials It also aims to reduce revenue. Flow safety controls in the model, Facility capacity constraints, and new facilities Includes numerical limits and non-negativity constraints. COPRAS (Complex Proportion Estimation) is the most used One of the multiple criteria decision making (MCDM) methods, This is possible by Determining the ratio of the best solution and the best ratio Provides the best alternative in a set of alternatives. The technique is used to solve decision-making problems used by various researchers.

2. Reverse Logistics System

Reverse logistics is from the market to manufacture the returned goods, also a term for remanufacturing reusable materials. Freshly made (manufactured) and One should be satisfied with the remanufactured products. There is no difference between manufactured and recycled materials. So too for manufactured goods Remanufactured products are no different. If used materials are economical, this is a good opportunity to avoid burdening the environment with waste or conserve minerals. A product reverse logistics systems that have been determined in the past year were investigated in detail with optimal control theory. Optimal control at the right time Classifies the optimal path. Application of modern control theory to optimal





Financing practices of Micro and Small Entrepreneurs using WSM MCDM Method

^{*1}Krishna Kumar TP, ²M. Ramachandran, ²Chinnasami Sivaji, ²Chandrasakar Raja

¹Nehru School of Management @ NCERC, Pamapady, Thiruvilwamala, Thrissur, Kerala, India.

²REST Labs, Kaveripattinam, Krishnagiri, Tamil Nadu, India.

*Corresponding author Email: tpk683@gmail.com

Abstract. A small or micro enterprise is usually a one-person show. A partnership is held by a firm or corporation. Even in small units, operations are mainly carried out by shareholders or carried out by one of the directors. In practice, others are sleeping partners or directors, essentially helping out financing. A company is classified if the paid up capital is less than or equal to 20,000 Birr As micro. Similarly, a company has its paid-up capital when less than or equal to Birr 500,000 considered small. However, it is the size of jobs or number of employees in MSE. Does not provide information about Key Differences between Small Business and Small Business are scale and size. A small business is a type of small a business employing less than 10 persons, small Businesses with up to 500 employees including Haksever has fewer than 500 employees Define and characterizes a small business with shows following characteristics Management is independent; usually the manager is also the owner. Working Stress Design Method Reinforced A concrete design method is used Concrete is elastic, whereas steel and concrete are elastic in nature, in which the relationship between loads and stresses is linear. Working pressure method (WSM) This traditional design is perfect.

Key words: capital investment, Entrepreneurial skills, Small Scale Industries, MCDM

1. Introduction

A business operating on a small scale with less capital investment, less number of labor and operating fewer machines is called a small business. Small scale industries or small business is a category of industries that produce goods and services on a small scale. Are efficient, because they are employable and generate low income and provide income-generating opportunities to groups. Creative freedom and personal satisfaction. As a business owner, in a field you really enjoy can work by using your skills to implement your ideas and Knowledge of working directly with clients by watching your business succeed you can get personal satisfaction. Politico-legal, workplaces, technology, infrastructure, Marketing, Finance and Credit, Leadership, and Entrepreneurship Entrepreneurial skills, raw material and foreign products and in the correlation analysis for the performance of MSEs The most important variables used are Simply put, a micro-entrepreneur He is a small business founder. This is super small Companies usually start with minimum investment and having fewer than ten employees is defined as businesses. Small businesses create jobs and the economy of the country in small geographical areas Drive growth. They make the market more competitive make it contain. For example, a local farmer can provide cheap goods because he ships to spend money on transportation don't have to. Success can be determined by achieving milestones and goals for your business. The seemingly smallest of goals can be an entrepreneur's greatest achievement. A true entrepreneur is not satisfied with just accomplishing one goal. In the weighted sum approach, we scale our set of objectives into a single objective by multiplying each of our objectives by the weight provided by the user. This method is very widespread One of the approaches used is When performing the weighted sum approach A question that comes to mind is what weights should be assigned to each objective. In decision theory evaluates multiple alternatives based on multiple outcomes. Small Scale Industries (SSI) is industries that produce, manufacture and provide services on a small or marginal scale. These industries make a one-time investment in machinery, plant and equipment, but it is Rs. 10 crores and annual turnover not exceeding Rs. 50 crores. Enterprises with investment Businesses with turnover between Rs 1 crore to Rs 10 crore and above Rs 5 crore but less than Rs 50 crore are called small. Finally, investment up to Rs.1 crore and turnover below Rs.5 crores Organizations are defined as micro enterprises. Alternative: Entrepreneur 1, Entrepreneur 2, Entrepreneur 3, Entrepreneur 4 and Entrepreneur 5. Evaluation option: C1, C2, C3, C4, C5. From the result it is seen that entrepreneur 5 and is got the first rank whereas is the entrepreneur 3 got is having the lowest rank. The value of the dataset for Range of Micro and Small Entrepreneurs in WSM (Weighted sum model) method shows that it results in entrepreneur 5 and top ranking.

2. Micro and Small Entrepreneurs

As the Chinese economy develops into a new normal, narrow and small companies play an increasingly important role. Traditional corporate methods of evaluating loans rarely capture the nuances of micro and small entrepreneurs. Small entrepreneurs rarely consider the nuances. It is recognized some alternatives and influential indicators are therefore, a multi-criteria decision-making (MCDM) problem credit rating process for entrepreneurs. The Fuzzy Information Set (FBFS) is best expressed as a four-branch fuzzy, which is a function and false, which is an unknown cash flow Entrepreneurial features small and micro enterprises are rarely listed current credit ratings [1]. Financial Constraints for Women Entrepreneurs This



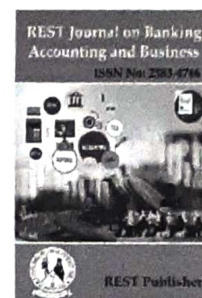
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Developing Business Services Using IBM SPSS Statistics

^{*1}Krishna Kumar TP, ²M. Ramachandran, ²Vidhya Prasanth, ²Chandrasekar Raja

¹Nehru School of Management @ NCERC, Pamapady, Thiruvilwamala, Thrissur, Keral, India.

²REST Labs, Kaveripattinam, Krishnagiri, Tamil Nadu, India.

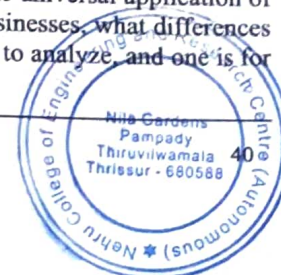
*Corresponding Author Email: tpk683@gmail.com

Abstract: Developing Business Services. This study examines business development services for entrepreneurs, which should be offered in various phases. Non-financial services and products are defined as business services. "Business services" is a common term used to describe supportive but firm objects and non-productive work. Information technology (IT) is an important supporting service in many businesses, such as shipping and finance. A good business service aligns with the company's IT assets, employees, and customers' requirements, supports business goals, and facilitates company profitability. The IT sector provides business documenting the value of infrastructure processes, IT service audit, IT service inventory creation or renewal, and/or delivery to improve communication, including an employee self-service portal. More information about this source text is required for additional translation; please send feedback using the side panels. Business services are a support business but produce a solid product. Information technology (IT) is an important business support service in shipping, procurement, and various businesses like finance. Business development is about promoting development in your company to increase revenue strategies and opportunities through the process of implementation. Pursuing opportunities, identifying new opportunities, and converting more customers, including commercial services, are activities that help businesses but do not provide tangible substance. For example, information technology in shipping, procurement, and various businesses like finance supports these services. To help your business grow, you need to pursue opportunities and develop strategies to increase revenue. This involves conducting extensive market research, raising visibility and awareness, promoting thought leadership, conducting outreach, generating quality leads, providing exemplary customer service, and developing sales content from success stories. SPSS statistics is a data management, advanced analytics, multivariate analytics, business intelligence, and criminal investigation developed by IBM for a statistical software package. A long time, spa Inc. was created by IBM, which purchased it in 2009. The brand name for the most recent versions is IBM SPSS statistics. The Cronbach's alpha reliability result showed that the overall Cronbach's alpha value for the model is .490, indicating 50% reliability. From the literature review, the above cronbach's alpha value of 46% can be considered to analyze the model.

Keywords: SPSS statistics, promote thought leadership, conduct outreach, quality leads.

1. INTRODUCTION

Despite the established advantages, very few service managers in manufacturing companies are encouraged to invest resources in expanding the business. Qualitative and quantitative research, a combination of approaches, basically explains that managerial motivation to expand the business through services in manufacturing companies is a natural process, typical of manufacturing companies. Managers must pass some of the behavioral processes [1]. Recent empirical findings regarding the performance effects of service business model innovations, serviceization, and product innovations are mixed. Respect of formation and complementarity based on demand using the lenses of vision, two major service businesses performance impact of models explored: product-specific model and customer-specific model, with product innovations jointly implemented [2]. The relationship between service business model innovation and product innovation and the long-term performance benefits and sacrifice of short-term performance in conjunction with the results indicate [3]. Despite growing into solution providers, various manufacturing companies wholesale any research is their service not specifying orientations. On organizational service, climate-creating literature, this study organizational parameters and service business orientations explore which are related to product sales and manufacturing to explain the service level of companies [4]. Most research to date on why and how service companies internationalize or different aspects of internationalization focus on methods. In contrast, we will examine globalization drivers and the universal application of the strategy is varied, how the types of services are applicable, and production compared to businesses, what differences there may be. By doing so, we connect two different structures, one is a global strategy created to analyze, and one is for

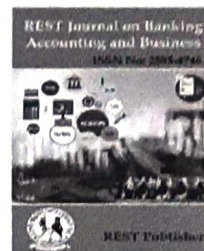




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Using this DEMATEL Corporate social responsibility CSR

^{*1}Krishna Kumar TP, ²M. Ramachandran, ²Kurinjimalar Ramu, ²Ashwini Murugan

¹Nehru School of Management @ NCERC, Pamapady, Thiruvilwamala, Thrissur, Kerala, India.

²REST Labs, Kaveripattinam, Krishnagiri, Tamil Nadu, India.

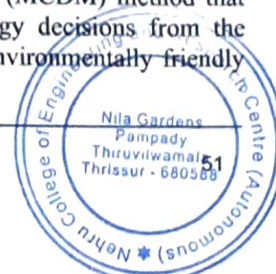
*Corresponding Author Email: tpk683@gmail.com

Abstract: When discussing Corporate Social Responsibility (CSR) in developing nations, academics and policymakers frequently ignore the perspectives of local producers. This paper fills a void in the literature by explicitly adopting a phenomenological approach and mapping the justifications offered by regional manufacturers to CSR programs in the West. To investigate this topic, data from two qualitative studies on CSR programs in Sialkot, Pakistan's soccer ball industry were used. Previous research has presented technologies related to managing a green aircraft fleet, including retrofits, fleet renewal, and alternative biofuels, as well as opportunities to carry out retrofits and value emissions. An alternative integer program model has also been developed to optimize fleet replacement strategies within budgets. The Intergovernmental Panel on Climate Change has noted the ineffectiveness of airplane operations. Since 2005, IATA's Green Teams have been working with airlines to reduce this inefficiency. Improved operational practices are expected to reduce emissions by 2020. Thus, more efficient operations can reduce CO₂ emissions and conserve fuel. Any financial benefits from an international plan to cut airplane emissions should be set aside for environmental causes, and these profits must be partially reinvested. Only a few of the additional measures being taken to lower the emissions profile of the global aviation industry include supporting the development and use of more fuel-efficient aircraft and low-carbon, sustainable jet fuels. The Program in Science and Human Affairs at the Battelle Memorial Institute in Geneva was established between 1972 and 1976 to conduct research and address complex and interrelated problem groups using the DEMATEL (Decision-making Testing and Evaluation Laboratory) system. DEMATEL is one of the decision-making tools that employs several criteria to extract the complex structure of a problem. The DEMATEL method is widely used to identify the cause-and-effect relationships among different elements of a complex problem. The objective of DEMATEL is to scale from a complex system and the relationship between causal dimensions it is to model the understandable structure of that system. When measuring complexity, the cause-and-effect relationship of the criteria can be clearly seen. From the result it is seen that Technology (TE) the first rank where as is the infrastructure (IN) is having the lowest rank. Resulting in Technology (TE) ranked first, There Infrastructure (IN) has low rank.

Keywords: CSR, DEMATEL, Corporate Social Responsibility, technology.

1. INTRODUCTION

Academic and policy discussions on corporate social responsibility (CSR) in developing countries often overlook the viewpoints of regional producers. This research aims to fill the gap in the literature by using a phenomenological method to link the interpretations provided by regional firms to CSR programs in the West [1]. The article uses data from two qualitative research projects on CSR initiatives in the football business of Sialkot, Pakistan, to provocatively explore this topic. According to the article, many Sialkot soccer ball makers view CSR as a component of a larger historical mission of Western imperialism in developing nations [2]. They lose the legitimacy of their beliefs about what constitutes socially responsible behavior and what constitutes economic resources taken from regional producers [3]. The most significant contribution to the literature on Western imperialism, CSR, and CSR and development is CSR, which lays the path for a different interpretation of CSR that contests the managerialist majority of CSR's counter-discourse [4]. This alternate interpretation of CSR as Western imperialism, according to the article, could have important ramifications for current and future change management research and practice [5]. A technique called "green air naval management" can enhance environmental protection without accelerating climate change. When managing the aviation industry's fleet of aircraft, it is important to consider both environmental issues and the concept of Corporate Social Responsibility (CSR) [6]. Building a green aircraft fleet involves complex connections between technology, operations, infrastructure, and economic performance [7]. Therefore, this study recommends a multi-criteria decision-making (MCDM) method that integrates analytical network processes, zero-one goal programming, and management strategy decisions from the DEMATEL decision testing and evaluation laboratory [8]. Our analysis shows that a fleet of environmentally friendly



Crude Oil Price Influence on the Performance of Selected Stocks from Different Sectors – An Empirical Analysis

Muhamed Rafi

Assistant Professor, MES Engineering college, Kuttipuram, MBA Department

Dr. Jabir Moosa

Associate Professor, MES Engineering college, Kuttipuram, MBA Department.

Dr. Krishna Kumar.T. P

Professor, Nehru School of Management, Pampadi, Thrissur

Deepak K

Assistant Professor, MES Engineering college, Kuttipuram, MBA Department.

Abstract

In the growing economic scenario, crude oil prices influence on the growth of the nation. Most of the manufacturing industries performance is highly dependent on crude oil. Since manufacturing industry is highly dependent on crude oil, the increase in the oil price will impact the industry in an adverse manner. As the crude oil price is increasing day by day over the past years, the urge to understand the relationship between crude oil price and the economy has also increased. As there are fluctuations in the Indian economy, it leads to fluctuations in the Indian stock market as well. Because, the Indian stock market is highly volatile to the changing situations like inflation, Interest rates, Global events, politics, etc. Russia is well known for its crude oil. As the war between Russia and Ukraine starts, the impact have been seen in the crude oil price. In this scenario, the impact of crude oil price and the stock market have greater relevance. By referring to the historical data, there is an inverse effect on the crude oil price and the stock market is visible. Tyres, lubricants, logistics, refineries, airlines, paints, etc. are highly dependent on the oil prices. Some industries are affected positively and others are affected negatively due to the fluctuations in the price. The research has been made from the point of the investor, and the details regarding the stock prices have been collected and analysed for this purpose.

Keywords: *Crude oil, Inflation, Stock market.*

1. INTRODUCTION

The crude oil price has a great impact on the world. They are affected by different components in the economy like inflation, interest rates, politics, etc. In the past two years, the crude oil price is highly volatile. By looking at the result, we can see the change in the Indian market as well. Because of a lead-lag relationship, the crude oil price is considered the barometer for the economy. So, there must

be a relationship between crude oil price and the Indian stock market. Oil price shock will affect the stock market returns or prices through their effect on expected earnings. Change in oil price is considered a macroeconomic factor for the evaluation of future cash flows. If the oil price increases, the production cost of industrial oil-consuming countries also increases.

PRINCIPAL
Nehru College of Engineering and
Research Centre (Autonomous)
Nila Gardens, Pampady
Thruvilwamata, Thrissur - 680588





A catalyst for Customer Experience and Operational Efficiency: A Study with reference to Digital Transformation

Prof. Dr. Krishna Kumar TP¹, Venkatesh.M², Dr Veeramani G³, Dr.R. Sethumadhavan⁴, Dr. Navnath Narawade⁵, Dr. S. Gomathi⁶,

¹Professor & HOD, Master of Business Administration (MBA), Nehru School of Management @ Nehru College of Engineering and Research Centre, Pampady, Thiruvilwamala, Thrissur, Kerala, India - 680588

²Assistant Professor, Department of Management Studies, P.S.R. Engineering College, Sivakasi, TamilNadu

³Associate Professor, School Of Management, Vels Institute of Science, Technology & Advanced Studies (VISTAS), Pallavaram Chennai- 600117.

⁴Assistant Professor, Department of MBA, Dayananda Sagar College of Engineering, Kumaraswamy Layout, Bangalore - 560 111.

⁵Professor in Electronics and Telecommunication Engineering, Parvatibai Genba Moze College of Engineering, Wagholi, Pune.

⁶HoD, Department of Business Administration, St. Thomas College of Arts And Science, Koyambedu Chennai- 600107.

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KEYWORDS

Prioritizing
Cybersecurity,
Data Integrity,
Scalable Security,
Technology and CRM

ABSTRACT:

In the digital era, customer expectations have evolved dramatically. Consumers now demand seamless, personalized, and convenient interactions with businesses. To meet these expectations, organizations leverage digital technologies to improve the customer experience. This includes creating user-friendly websites and mobile apps, implementing chatbots for instant support, and using AI-driven personalization to tailor offerings to individual preferences. A positive customer experience fosters loyalty, brand advocacy, and customer retention. Digital transformation aims to streamline internal operations to reduce costs, enhance productivity, and drive growth. This involves automating repetitive and manual tasks, optimizing supply chain and inventory management, and implementing data-driven decision-making processes. Operational efficiency can lead to increased profitability and agility, allowing organizations to respond to market changes more effectively. Balancing these two priorities is essential. A purely customer-centric approach may lead to inefficiencies and higher costs, while a sole focus on operational efficiency might overlook the customer experience. Digital transformation should be approached holistically, with customer experience and operational efficiency seen as mutually reinforcing. Organizations that successfully balance these priorities can not only remain competitive but also drive sustainable growth and profitability in the digital era.

Introduction

There has been an increase in the frequency of discussions among scholars and professionals from many industries on the importance of digitalization and the process of digital transformation (DT) [5]. The scientific community is currently seeking a comprehensive understanding of the conceptual framework of digital transformation and its interconnectedness with various aspects of business management, organisational dynamics, sustainability, open innovation, and related concepts [1]. Conversely, the business world primarily

emphasizes the practical implications and advantages associated with the implementation of digital transformation strategies. The increasing prevalence of digital technology has led to significant transformations in the characteristics of organisations and their engagements with their clientele. The organisation is now engaged in a phase of process and operational reform, with a reassessment and redefinition of the role of human agents in the value creation process. The identification of characteristics that contribute to the success of digital transformation is crucial, since the



Channeling of Electric Signals Using Human Area Network: RedTacton

¹Dr. Sudheer S Marar, ²Adarsh R Nair

¹Professor and HOD, ²MCA Scholar

¹Department of MCA,

¹Nehru College of Engineering and Research Centre, Pambady, India

Abstract : In our most recent articles, we covered a variety of Bluetooth and infrared wireless technologies. But because technology has progressed so much, these innovations have become overrated. Currently, scientists are working to create Human Area Networking, a novel method for signal transmission. Such a technology will use the human body's surface to send and receive signals at extremely high speeds, as the name suggests. We will now talk about a similar technology called RedTacton Technology, which is presently in development. We are aware, thanks to scientific research, that our body constantly generates tiny electric charges. RedTacton technology uses the electric field that is subsequently generated to send and receive signals using duplex communication. In comparison to other signal transmission technologies like wireless and infrared, this method is entirely unique. Thus, a new network protocol dubbed HAN [Human Area Network] is being configured

IndexTerms – RedTacton, Features, Features.

I. INTRODUCTION

RedTacton is a technology that uses the human body as a communication medium for transmitting data. It is a new type of human area network (HAN) technology that enables communication between electronic devices by touching, gripping, or walking on them. Developed by Nippon Telegraph and Telephone (NTT) Corporation, RedTacton is designed to replace traditional wired and wireless communication technologies.

RedTacton uses weak electric fields generated by the human body to transmit data between devices. When a user touches an electronic device that is equipped with RedTacton, the weak electric field induces a modulation in the body's electric field. This modulation carries the data, which is then received by a sensor in the other device. The data transfer rate of RedTacton is up to 10 Mbps, which is faster than traditional wireless technologies.

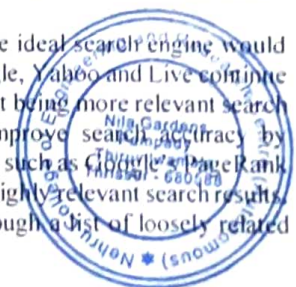
One of the key advantages of RedTacton is its security. Since the data is transmitted through the human body, it is virtually impossible to intercept or eavesdrop on the communication. Additionally, RedTacton can be used in environments where radio waves are restricted, such as hospitals or airplanes.

Red Tacton has numerous potential applications, such as in healthcare, where it can be used to monitor a patient's vital signs without the need for invasive sensors. It can also be used in security applications, where it can replace traditional access control systems by using the unique electric field signature of each individual to grant access to secure areas.

II. LITERATURE SURVEY

J. Arun Prakash, explains by connecting these devices, you can eliminate redundant functional I/O while also enabling new benefits and services. Nippon Telegraph and Telephone Company unveiled Red Tacton. A ground-breaking technology called RedTacton utilizes the skin's surface as a secure, high-speed network transmission path. Therefore, in this article, we describe Red Tacton's novel functional features and immense potential as a Human Area networking technology. I've discussed RedTacton's characteristics, applications, benefits, and drawbacks in this essay. Wide Area Networks (WAN), Local Area Networks (LAN), and Human Area Networks (HAN) are the three levels of connectivity for connecting to personal information, media, and communication devices in the much smaller context of routine everyday activities.

Sugandha Gupta, Yashu Ahuja, "Review of Red Tacton: Evolving Authorizations". It describes, the ideal search engine would be able to match the search queries to the exact context and return results within that context. While Google, Yahoo and Live continue to hold sway in search, here are the engines that take a semantics (meaning) based approach, the end result being more relevant search results which are based on the semantics and meaning of the query. Semantic search seeks to improve search accuracy by understanding searcher intent and the contextual meaning of terms. Rather than using ranking algorithms such as Google's PageRank to predict relevancy, Semantic Search uses semantics, or the science of meaning in language, to produce highly relevant search results. In most cases, the goal is to deliver the information queried by a user rather than have a user sort through a list of loosely related keyword results.





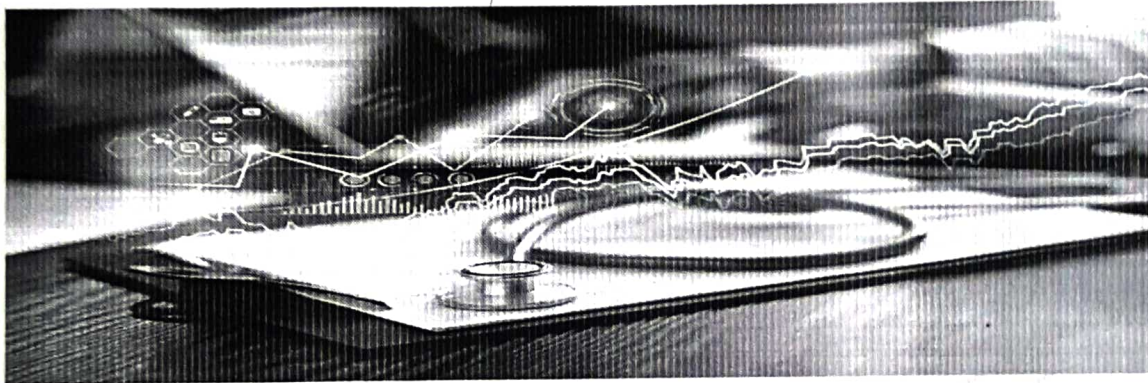
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IMPORTANCE OF DATA PRIVACY IN HEALTHCARE

Ashish L, Assistant Professor, Nehru College of Engineering and Research Centre.
Radhideve, Department of MCA, Nehru College of Engineering and Research Center.

Abstract:



Trust is one of the cornerstones of the healthcare system. Patients must have faith that the individuals and institutions giving their care have their best interests in mind. When visiting a doctor, people frequently divulge information about themselves that they might not otherwise. They must have faith that their healthcare provider won't reveal that information to anyone else, including pharmaceutical companies, interested family members, or other healthcare professionals, without their explicit permission.

Trust between consumers and medical professionals is extremely important. Patients are more likely to seek the treatment they require or follow their doctor's advice when they have confidence that their information will be kept private. Following medical guidance can help prevent the spread of some diseases and alleviate the burden on the healthcare system as a whole.

Keywords:

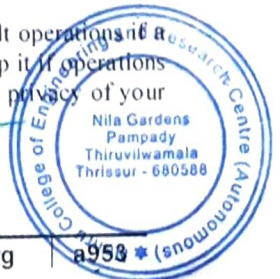
Data privacy, Health data, Medical Sector, Pharmaceutical, Security, Artificial intelligence

1. INTRODUCTION

For many reasons, data protection in healthcare is essential. Building confidence benefits the healthcare system as a whole, which is facilitated by maintaining the security and confidentiality of patient information. Data on patients is further shielded from malicious parties by maintaining anonymity. Breakdown can and does happen. The Office for Civil Rights at the U.S. Department of Health and Human Services keeps tabs on and looks into the annual data breaches.

Health plans and healthcare providers are just two of the covered organisations that are impacted by data breaches. They manifest as theft, unauthorised access to or disclosure of email or medical data, network server hacks, and email hacks. Bad actors might need access to patient data for a variety of purposes, such as selling the information for a profit or extorting the people who will be impacted.

Data security is crucial in the healthcare industry because it may be necessary for the organisation to briefly halt operations if a health plan or provider experiences a breach. Patients may need to wait longer for the care they need or may skip it if operations are postponed. There are additional reasons for your healthcare company to take every precaution to protect the privacy of your patient's health information in addition to ensuring that patients continue to have access to healthcare.



Progress Towards Green Technologies for A Sustainable Future

Sumi M¹, Vishnu Pren Nair²

¹Assistant Professor, Nehru College of Engineering and Research Centre

²Department of MCA, Nehru College of Engineering and Research Centre

Abstract: Green technology refers to any technology that promotes environmental sustainability and reduces the negative impact of human activities on the natural world. Green technology encompasses a wide range of fields, from energy production and transportation to waste management and agriculture. The primary goal of green technology is to create a more sustainable future by reducing pollution, conserving resources, and mitigating climate change. Examples of green technology include solar panels, wind turbines, electric vehicles, and sustainable building materials. Green technology is becoming increasingly important as society faces growing environmental challenges, and it offers promising solutions for a cleaner, healthier, and more sustainable world.

Index Terms: Green Technologies, Sustainable Future, Eco-Friendly Design, Future of Green Technologies.

I. INTRODUCTION

Green technology, also known as clean technology or sustainable technology, refers to the development and use of environmentally-friendly products, processes, and systems that promote the preservation and conservation of natural resources, reduce pollution and waste, and mitigate the negative impacts of climate change. The world is facing a growing environmental crisis, and the use of green technology has become a critical component in the efforts to build a more sustainable and resilient future. From renewable energy sources to energy-efficient buildings, green technology is transforming the way we live, work, and interact with the natural world[1].

It is not only essential for safeguarding our planet's health but also provides tremendous economic opportunities for businesses and communities that embrace sustainable practices. This paper will explore the importance and benefits of green

technology and examine some of the most promising innovations that are leading the way in the green revolution.

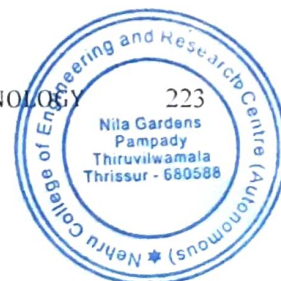
Through this paper we will know about green technologies in detail. We will also discuss various types of green technology and try to understand its importance in our world. As the awareness towards environment conservation is rapidly increasing, green technologies is the next best option to adopt.



Figure.1 Green Technology

What is Green Technology?

Green technology, also known as clean technology or environmental technology, refers to any technology that is designed to reduce or eliminate the negative impact of human activities on the environment. It includes products, services, and processes that are created using environmentally friendly methods and materials, and which help to conserve natural resources and reduce pollution[1]. Examples of green technology include renewable energy sources like solar and wind power, energy-efficient buildings and appliances, sustainable agriculture and forestry practices, water conservation and purification technologies, and waste management and recycling systems. The goal of green technology is to create a more sustainable and environmentally friendly future by reducing greenhouse gas emissions, conserving resources, and



5G IN IOT TECHNOLOGY

Pramod K, Assistant Professor, Nehru College Of Engineering and Research Centre.
pramodke77@gmail.com

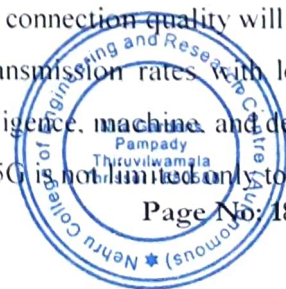
Arunima O, Department Of MCA, Nehru College Of Engineering and Research Center.
arunimaokkath2000@gmail.com

Abstract: The fifth generation of mobile, cellular technologies, and networks, or 5G, forecasts a significant shift in mobility. Therefore, even though it wasn't specifically "designed" for the Internet of Things (IoT), it aids Industrial IoT, which is a key factor in the expansion of IoT. Many components, like as carrier aggregation and massive MIMO, need to be placed in the current system in order to adopt 5G in IoT and reap its benefits in the real world (M-MIMO), Centralized Radio Access Networks (CRAN), D2D Communications, etc. The network architectures previously hardware-based, will now have to manage exponentially growing traffic, and deployment/induction of new nodes. For that, we have to introduce new and emerging technologies such as Network Function Virtualization (NFV), Software-Defined Wireless Sensor Networking (SD-WSN), Cognitive radio (CR), etc. The higher data rates possible in 5G-IoT make it possible for the implementation of Artificial Intelligence (AI) algorithms for various user applications such as Big Data Processing Enhancement, Smart Transportation Systems, and expansion on healthcare, etc. The eventual aim of IoT is to introduce the plug and play technology providing the end-user, with ease of operation, remote access control, and reconfigurability. Finally, the paper discusses challenges in the implementation of 5G-IoT due to high data rates requiring both cloud-based platforms and IoT devices-based edge computing.

Index Terms - Massive-MIMO, Heterogeneous Networks, Centralized Radio Access Network Coordinated Multipoint Processing, Software-Defined Wireless Sensor Networking, Network Function Virtualization, Cognitive radio.

I. INTRODUCTION

5G enables faster, more stable, and more secure connectivity that is advancing everything from self-driving vehicles, to smart grids for renewable energy, to AI-enabled robots on factory floors. IoT is an ecosystem where networks can serve billions of connected devices, with the right trade-offs between speed, latency, and cost. This new technology provides an increase in the relative movement speed. In other words, the connection quality will be much more stable with a maximum speed of 500 kilometers per hour. High data transmission rates with low latency from the 5G-IoT nodes are vital for the cloud-based application of artificial intelligence, machine, and deep learning algorithms for efficient real-time data processing and prediction. The spread of 5G is not limited only to



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BLUE BRAIN ARTIFICIAL INTELLIGENCE TECHNOLOGY IN HUMAN BRAIN PROJECT

Sumi M, Assistant Professor, Nehru College of Engineering and Research Centre.

Vishnu S, Department of MCA, Nehru College of Engineering and Research Centre.

Abstract: The Blue Brain project is the first thorough attempt to reverse-engineer the mammalian brain, with the goal of understanding brain function and malfunction through meticulous supercomputer-based reconstructions and simulations. The project's goal is to create thorough digital brain reconstructions that can be utilised to understand how the brain works. As a result, we are better able to comprehend how people process their emotions and thoughts and gain a better knowledge of the brain's capacity for making decisions. Scientists are working to develop an artificial brain that is capable of thought, response, decision-making, and memory storage. Uploading a human brain to a machine is the major objective, so that man can think and make decisions effortlessly. The virtual brain will carry out the man's actions after the death of the body. Hence, even when a person passes away, their knowledge, intelligence, personalities, feelings, and memories that can be used to advance human society will still be preserved. Technology is advancing more quickly than anything else.[1][2]

Index Terms –Blue Brain, Brain mapping, Objectives, Implementation, Future Perspective of blue brain, Uploading to human brain

1. INTRODUCTION

The human brain is God's most priceless creation. The man's brain has earned him the title of intelligent. The person can respond when the brain translates the information carried by the impulses. Nevertheless, when a person's body is destroyed after death, we lose the knowledge contained in their brain. Such information might have aided in the growth of human society.

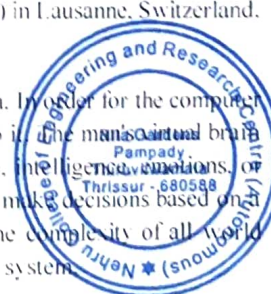
The Blue Brain project is the first extensive effort to reverse-engineer the mammalian brain with the goal of understanding brain function and malfunction using intricate supercomputer-based reconstructions and simulations. The project intends to create thorough digital brain reconstructions that can be utilised to investigate the nature of the brain. As a result, we gain a better grasp of how people process their emotions and thoughts as well as more insight into the brain's capacity for making decisions.

1.1 BLUE BRAIN

The IBM Blue Gene supercomputer is used by the blue brain project (BPP) to run simulations. The "Blue Brain" initiative is thus titled. In May 2005, Henry Markram established the project at the École Polytechnique Fédérale de Lausanne (EPFL) in Lausanne, Switzerland. The research centre EPFL focuses on engineering and the natural sciences.

Research is now being done to develop an artificial brain that can think, react, make decisions, and store data. In order for the computer to think and make judgements without a human body present, the major goal is to upload a human brain into it. The man's artificial brain will continue to function even after death, that even after the passing of We won't lose a person's knowledge, intelligence, emotions, or memories, and we can use this information in a variety of ways, such as to finish off unfinished business or make decisions based on a person's expertise. Recursive links make up the intricate system that is the human brain. That surpasses the complexity of all modern electronics. With 100 billion neurons (nerve cells) and 100 trillion synapses, the human brain is a multi-level system.

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ARTIFICIAL INTELLIGENCE APPLICATIONS FOR MOBILE VR

¹Mr.Ashish. L, ²Raseena.K.K

¹Assistant professor, ²MCA Scholar

¹ Department of MCA

¹Nehru College of Engineering and Research Centre, Pampady, India

Abstract: The possible uses of artificial intelligence (AI) in mobile virtual reality (VR) are discussed in this abstract. There are many ways these technologies can be integrated to create more interactive, immersive, and personalized experiences, especially with the growing popularity of mobile VR and technological developments in AI. Users' VR experiences can be improved by utilizing AI tools including natural language processing (NLP), voice recognition, gesture detection, computer vision, and chatbots. Users may be able to interact with virtual settings and things more naturally thanks to these technologies. They may also be able to customize their experiences according to their preferences and actions, and AI-powered chatbots may provide recommendations and guidance. Therefore, mobile VR with AI integration has the potential to dramatically enhance the VR experience by making it more interactive, engaging, and user-specific. Users may use their voices to engage with mobile VR environments thanks to NLP, making it simpler to navigate and manage their VR experiences. Gesture recognition is a further use of AI in mobile VR. This technology lets users engage more easily with virtual objects and settings by letting the system recognize and understand their hand motions. Moreover, AI can be utilized to customize each user's VR experience. AI can customize the VR experience to a user's requirements and interests by examining user behavior and preferences. Another use of AI in mobile VR is computer vision. Using computer vision, the system can instantly overlay real-world settings and objects onto the virtual one, allowing it to recognize them. Last but not least, chatbots powered by AI can be included in mobile VR experiences, allowing users to interact with virtual characters and get tailored advice and suggestions based on their interests and preferences.

Index Terms - AI applications, natural language processing (NLP), voice recognition, gesture recognition, personalization, computer vision, and chatbots.

I. INTRODUCTION

With the use of AI algorithms, mobile technology is being developed. A genuine or made-up world is simulated when people interact with computers in virtual reality. The users interact and modify that reality. Virtual reality systems have developed as a game-changing technology to boost the performance of existing computer graphics techniques and solve the insurmountable issues related to interactions between people and computers.

By the application of AI in various ways, a more immersive and engaging experience for users can be produced for VR. NLP and voice recognition are two ways that artificial intelligence (AI) is used in mobile VR. By the use of NLP, users may interact with mobile VR environments by speaking, making it simpler to move around and manage their VR experiences. The overall VR experience can be enhanced with voice recognition technology, which allows users to interact with virtual characters more naturally and intuitively.

Recognizing gestures is another way AI is used in mobile VR. Through the use of this technology, users can engage more organically with virtual objects and settings by having the system identify and understand their hand motions. Allowing users to move their bodies inside the virtual environment, can enhance the VR experience's intuitiveness and immersion.

Also, consumers' VR experiences can be customized using AI. AI can customize the VR experience to a user's requirements and interests by examining user behavior and preferences. This can be done by altering the virtual items' appearances or a game's level of difficulty to make it more interesting and suited to the user's preferences.

Computer vision is another way that AI is used in mobile VR. The technology can quickly map real-world environments and items onto virtual ones using computer vision. The virtual environment allows users to view real-world objects and locations, which enhances and realistically enhances their experience.

The integration of AI-powered chatbots into mobile VR experiences allows users to interact with virtual avatars and receive tailored advice and suggestions based on their interests and preferences. By enabling more natural and intuitive interactions between users and virtual characters, this technology can enhance the immersion and engagement of the VR experience.



NICE: Network Intrusion Detection and Countermeasure selection in Virtual Network Systems

Mr.Ashish L. Assistant Professor, Nehru College of Engineering and Research Centre,
ashish.mca@ncerc.ac.in

Mridula.p, MCA student, Dept.of Computer Application Nehru College of Engineering and
Research Centre.Mridulamani2000@gmail.com

ABSTRACT

This article presents a different approach to network intrusion detection that relies on describing brief details of typical, irregular network packet clusters. We provide the ability to enable demanding sequencing through a combination of static and dynamic sequencing checks, creating robust network intrusion detection. Unlike most previous network intrusion detection methods, our method can support new network conventions effortlessly because the data identified using the conventions is not hard-coded into the system. Instead, we include the appropriate sequencing definitions in detail and describe these types of intrusion patterns. Network Intrusion Detection and Countermeasures is a multi-stage, distributed network intrusion detection and prevention framework in virtual network environments that captures and inspects suspicious cloud traffic without disrupting user applications and cloud services. The proposed solution uses a new network control method called SDN, where network functions can be programmed through soft switches and the OpenFlow protocol. NICE is a multi-stage distributed network intrusion detection and prevention framework in virtual network environments that captures and inspects suspicious cloud traffic without disrupting user applications and cloud services. It prevents zombie VMs by using a reconfigurable virtual network approach to detect and thwart attempts to compromise VMs. Compared to agent-based network intrusion detection solutions, it optimizes implementation on cloud servers to minimize resource consumption and consume less computation time.

Keywords: pattern, match, intrusion detection system pattern group pattern index target port

1. INTRODUCTION

Intrusion Detection is a method of observing events occurring on your network and breaking them down to indicate a possible incident, breach, or new threat to your security devices. Intrusion prediction is the method of detecting intrusion and subsequently stopping the corresponding events [1]. A common corporate network has multiple gateways to

From Touch to Contactless: A Journey into Biometric Authentication

Pramod K¹, Arundhathi B²

¹Associate Professor MCA, Nehru College of Engineering and Research Centre, Thrissur, India

²Student MCA, Nehru College of Engineering and Research Centre, Thrissur, India

Abstract: Biometrics can be defined as a technique used to recognize and record a person's unique traits by an electrical device. Contactless biometric technology offers the use of touch less authentication technology, which provides a safer mode based on hygiene and convenience. Now, contactless biometric are particularly quickly growing in popularity due to the global pandemic. It's for health and safety reasons, there emerged an urgent demand for biometric identification through contactless sensors. In order to adapt successfully to the new normal, it is essential to understand how much better the non-contact form is and how to apply it properly in the context of the pandemic crisis. Contactless biometrics verifies identity according to a user's facial, voice, eye print, ear, finger vein rather than their fingerprint. Not only this method perceived to be more hygienic, but it is also argued to be more accurate, since dry skin, scars or environmental conditions are not a factor.

Keywords: Facial recognition, iris recognition, voice recognition, liveness detection, machine learning algorithms, anti-spoofing measures, biometric data, and privacy concerns.

I. INTRODUCTION

Using biometrics for authentication, access control, and fraud for estallment can hardly be

considered unique or extraordinary currently. Also, tracing back the history of biometrics, one can conclude that similar systems, which used unique natural characteristics to authenticate the identity of a person, might be dated as early as 500BC. Those were the most primitive forms, but that also was the starting point from which they've been continually evolving to eventually enter the biometric boomer a during the alternate half of the 20th century. Biometric measures also have developed from characteristic to make up a wide variety of forms non-contact biometric identification systems. One of the factors that separate biometric technology is its intrusiveness. Intrusiveness means how important will a stoner be engaged while relating himself or herself. Grounded on intrusiveness, two major orders of biometric authentication come forward contact biometric authentication and contactless biometric authentication. Now, contactless biometric authentication is particularly snappily growing in fashionability due to the global epidemic. It's for health and safety reasons, there surfaced an critical demand for biometric identification through contactless detectors. In order to acclimatize successfully to the new normal, it's essential to understand how much better the non-contact form is and how to apply it duly in the environment of the epidemic extremity.

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IoT Applications In Healthcare: An Overview on Recent Trends and Prospects

¹Mr. Ashish L., ²Praveena K R

¹Assistant Professor, ²MCA Scholar

¹Department of MCA,

¹Nehru College of Engineering and Research Centre, Pambady, India

Abstract : The Internet of Things (IoT) is significant in today's world of expanding population. In automated transportation, smart homes, smart cities, agriculture, and healthcare, it was applied. The Internet of Things (IoT) has several uses in the healthcare industry, including smart wearable or embedded sensors, geriatric remote monitoring, medical device networking, and more generally building a network infrastructure for the industry. The Internet of Things (IoT) can create a persistent environment for analyzing patient health and safety together with enhancing medical care. By redefining the realm of devices and human interaction in delivering quality healthcare, IoT is disrupting the healthcare sector. This article intends to study the upcoming trends in healthcare with the help of IoT.

IndexTerms – Internet of Things(IoT), HealthCare Systems, Internet of Medical Things(IoMT), mobile health, smart hospitals.

1. INTRODUCTION

IoT's first demonstration is to transparently connect intelligent objects to the Internet. This results in the transfer of data between everything and provides users with the information in a much more secure manner. With the help of the Internet of Things, all of these physical objects with embedded technologies can be connected coherently, allowing them to communicate, sense, and interact with their surroundings as well as with one another. By 2020, according to Cisco Systems' prediction, there will be 50 billion Intertubes devices, and it is expected that many physical things, such as sensor actuators, would be distributed with individual addresses and the capacity to transmit data, spanning from routine everyday activities to confidential medical information. The availability of healthcare is vital to life.

Unfortunately, the current healthcare systems are under a great deal of stress due to the constantly aging society and the associated growth in chronic diseases, and there is a large need for resources like hospital beds, doctors, and nurses. A solution is required to ease the strain on healthcare systems while guaranteeing the provision of high-quality care to those in need. IoT provides a solution to the problems in healthcare. The challenges include the need for physicians to be by patients at all times and the experiences, as a result of entering patient information for a large number of patients. The basic purpose is to make healthcare available to everyone, everywhere. Healthcare is one of the most fascinating IoT application areas since it offers us the chance to use different medical applications like telemedicine, fitness classes, chronic diseases, and senior care. The Internet of Things (IoT) has great promise for expediting and improving the delivery of healthcare by proactively predicting health issues and diagnosing, treating, and monitoring patients both within and outside of hospitals.

Government officials and decision-makers around the world are putting technology-based healthcare delivery plans into action, and this is especially true in light of the recent COVID-19 pandemic[1]. Understanding how established and emerging IoT technologies may help health systems provide safe and effective treatment is now becoming more and more crucial[1]. The significance of IoT-based Medicaid is increased to hypothesize how IoT might enhance the availability of preemptive public-health services and transform our existing improving access to healthcare into something more proactive, ongoing, and integrated system. The development of numerous technologies is required for end-to-end health data connectivity, which must allow for robust and positioned interaction between a victim and a medical professional.

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Future of CHATGPT: An Exploratory Study on Recents Trends

MS Divya P¹, Shibin Shanty²

¹Associate Professor, Nehru College of Engineering and Research Centre, Thrissur, India

²Student, Nehru College of Engineering and Research Centre, Thrissur, India

Abstract—ChatGPT is the most advanced chat room in the world to date. Unlike other chatbots, it can generate impressive prose in seconds and has generated many hypes and doomsday predictions about higher student grades and many other things. ChatGPT is a state-of-the-art language model (a variant of the OpenAI Generative Pretrained Transformer (GPT) language model) designed to generate text that is indistinguishable from human text. It can interact with users in a seemingly natural and intuitive way. It is able to comprehend and produce natural results. A vast amount of text data was used to train the ChatGPT system. Using deep learning, which allows it to understand the nuances of language and provide informative and engaging responses. ChatGPT can assist with various topics and is constantly learning and updating its knowledge base. As an AI-based conversational agent, ChatGPT has the potential to revolutionize the way humans interact with technology, making it more accessible and user-friendly..

Index Terms— Chatgpt, Open ai, Generative pretrained transformer.

I. INTRODUCTION

OpenAI trained ChatGPT, a sizable language model. I am designed to understand and create natural language answers to many questions and topics. I can answer factual questions, give explanations, create creative text and talk to users. ChatGPT is a language model developed by OpenAI designed to generate and understand human language. As an AI, ChatGPT is trained on vast amounts of text from a variety of sources, allowing it to provide answers and insights on many different topics. In this essay, we explore the importance of ChatGPT and its potential impact on various industries. One of the main advantages of ChatGPT is its ability to communicate in multiple languages. With increasing globalization and the growing need for cross-cultural communication, ChatGPT can help overcome language barriers and improve communication between people from

different parts of the world. This feature has significant implications for companies looking to expand into international markets or individuals looking to connect with people from different backgrounds. Another area where ChatGPT has the potential to make a significant impact is in the field of education. As a language model, ChatGPT can provide students with instant access to information on a variety of topics. This technology can help students improve their research skills and deepen their understanding of various topics. In addition, ChatGPT can help students who struggle with language barriers and help them communicate more effectively with their teachers and classmates. In addition, ChatGPT has the potential to revolutionize the customer service industry. ChatGPT's ability to provide accurate and useful information on a variety of topics can help businesses reduce customer wait times, improve service quality, and increase customer satisfaction. By leveraging ChatGPT, companies can provide 24/7 customer support and reduce the workload of employed customer service agents, allowing them to focus on more complex issues.

Despite the many benefits of ChatGPT, we are also concerned about its potential impact on society. Some experts fear that this technology could be used to spread misinformation or for malicious purposes. In addition, we are concerned about possible job losses due to the widespread adoption of ChatGPT in various industries. In short, it can be said that ChatGPT is a language model developed by OpenAI that has the potential to significantly affect various industries. ChatGPT's ability to produce and understand human language has many practical applications, from improving cross-cultural communication to revolutionizing customer service. However, as with any new technology, it is important to carefully



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NO-CODE AI: UNLOCKING THE POTENTIAL OF AUTOMATION AND MACHINE

¹DR. SUDHEER S MARAR, ²ABINRAJ MR

¹Professor, ²MCA Scholar

¹Department of MCA,

¹Nehru College of Engineering and Research Centre (NCERC), Thrissur, India

Abstract : No-code AI is a relatively new concept that has emerged in the field of artificial intelligence. It is a way of creating machine learning models without having to write any code. With no-code AI tools, anyone can build and deploy machine learning models using visual interfaces, drag-and-drop tools, and pre-built templates.

The use of no-code AI has democratized the access to AI technology, making it accessible to non-technical users who do not have programming skills. This has opened up new possibilities for businesses and individuals to use AI to solve real-world problems and automate repetitive tasks.

One of the main advantages of no-code AI is its speed and ease of use. Without the need to write code, users can quickly prototype and iterate on machine learning models, making the development process more efficient. Additionally, no-code AI tools often include pre-built integrations with popular data sources, making it easy to import and analyse data.

However, no-code AI also has some limitations. For example, it may not be suitable for complex machine learning problems or for applications that require a high degree of customization. Additionally, users may still need to have some understanding of machine learning concepts and best practices in order to build effective models.

Overall, no-code AI represents a significant advancement in the field of AI, allowing more people to leverage the power of machine learning to drive innovation and improve their workflows.

Index Terms - No-code AI, Machine learning, Visual interfaces, Drag-and-drop tools, pre-built templates

Democratization of AI, Automation, Prototyping Efficiency Data analysis, Customization, Best practices, Machine learning concepts, Innovation, Workflow improvement.

I. INTRODUCTION

Artificial intelligence (AI) has become an increasingly important technology in our daily lives, transforming industries and changing the way we work and live. AI has gained a lot of attention in recent years. However, building and deploying AI solutions has traditionally required specialized skills and knowledge, making it inaccessible to many businesses and individuals. This is where no-code AI comes in. AI can be useful to anyone in almost any profession, from doctors and lawyers to marketers, teachers, and project managers. Many of these people probably don't have the technical skills needed to write code or the free time to learn it. [1]

No-code AI is a revolutionary approach to building machine learning models that enables users to create and deploy AI solutions without any programming skills. With no-code AI, anyone can leverage the power of machine learning to automate repetitive tasks, analyse data, and make predictions, all without having to write a single line of code.

The concept of no-code AI has democratized access to AI technology, allowing businesses and individuals to develop and deploy AI solutions quickly and efficiently. It has also opened up new opportunities for innovation and problem-solving, as more people can now leverage the power of AI to tackle real-world challenges.

In this seminar, we will explore the world of no-code AI, including its benefits, limitations, and best practices. We will also look at some of the tools and platforms available for building and deploying no-code AI solutions, and explore case studies of successful no-code AI applications. By the end of this seminar, you will have a solid understanding of no-code AI and its potential for transforming the way we work and live.

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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

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COMMUNICATION FOR THE PHYSICALLY DISABLED USING EYE GAZE TECHNOLOGY

¹Deepa A, ²Athul M

¹Associate Professor, ²Student

¹MCA Department

¹Nehru College of Engineering and Research Centre, Pampady, Thrissur, Kerala, India

Abstract: It's probable that two factors contribute in some measure to the yearly increase in the population of impaired individuals. Some people suffer terrible catastrophes, whereas some people are born with it. It's possible that these paralysed people can't speak since speech is so important to our survival. Although they cannot speak or use their hands to communicate, they may be able to control their eye movements and have good vision. Hence, we propose an affordable eye motion-based eye gazing communication system. The Eye Gaze project aims to use a human's eye gaze through a computer interface. The phrase "eye gaze communication" describes using a computer system that tracks a person's eye movement. The method is eye tracking.

Index Terms - Eye gaze, Oculography, Iris detection, GSM module

I. INTRODUCTION

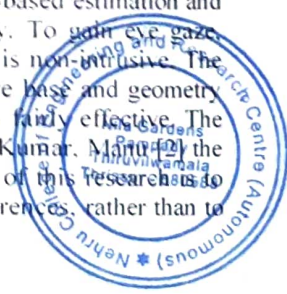
A living thing's ability to communicate is one of its most crucial abilities. Life gets more challenging without communication. It's possible that people with paralysis and motor neuron illness can't communicate like us. When paralyzed patients lack sensation, they are unable to move their limbs in any way. They consequently lose the ability to speak, which makes it difficult for them to explain their basic requirements and necessities and makes them dependent on others for all of their needs. The only voluntary motion a disabled person can control is eye movement. There are an estimated 150,000 people with severe disabilities who can easily control only their eye muscles. In this situation, an eye tracking device might offer a different choice for those with severe disabilities who are still only able to move their eyes. We can create a system that monitors a disabled person's eye movement for communication purposes.

So, in order to facilitate communication, we suggest a low-cost eye gaze communication system. Using a variety of image processing techniques, the position of the iris is used to track the movement of the eyeball. After eye tracking is established, numerous eye movements that are useful for communication can be integrated in a graphical user interface. Normally, eyes are utilized for observation rather than control. Moments in the eye happen naturally and quite quickly. By moving their eyes, users of eye gaze communication systems can control the system through eye gaze tracking.

II. LITERATURE SURVEY

The range of techniques for estimating and eye movement monitoring were explored by Kyung- Nam et al [1]. These methods include eye lid tracking, occluded circular edge matching, and longest line scanning. Computer vision and image processing techniques are utilized to measure eye gazing. There are two methods for estimating eye gaze: geometry-based estimation and adaptive-based estimation. Geometric estimate is superior to estimation based on an adaptive strategy. To gain eye gaze, determine the relationship between the face model and the camera picture point. The tracking method is non-intrusive. The 3x3, 4x5, and 8x10 screen resolution eye gaze tracking systems estimate gazing point using an adaptive base and geometry base estimation method. However at 8x10 screen resolution, eye gaze tracking techniques appear to be fairly effective. The non-intrusive tracking and measurement of eye movements based on vision was studied by the author. Kumar. Manu et al the author covered a range of methods for using eye movement data in everyday tasks. The primary goal of this research is to provide flexible alternatives that users can utilize in accordance with their physical capabilities or preferences, rather than to replace the present methodologies. Also, this author defends the use of eye contact in interactions.

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A Detailed Analysis of Electric Vehicle Technology Advancements and Future Prospects

Sumi M, Swathilakshmi P R,

¹Assistant Professor, Nehru College of Engineering and Research Centre

²Department of MCA, Nehru College of Engineering and Research Centre

Abstract: The development of electric vehicles has surged in several nations in an effort to lessen reliance on oil and environmental damage[1]. A solution to the energy crisis and environmental problems is the adoption of EVs, particularly battery electric vehicles. This study offers a thorough analysis of the technical advancement of EVs and new technologies for use in the future. EV charging infrastructure, electric motors, batteries, charging technology, and electric motor control are all briefly discussed. As an additional contribution, this study also emphasises the technological difficulties and cutting-edge technologies for the future advancement of EV safety, dependability, and efficiency.

Index Term: Battery technology of Evs; batteries; charging technology; electrical motor and control; charging infrastructure;

I. INTRODUCTION

Energy and environmental problems have been brought on by the growing number of internal combustion automobiles that use non-renewable conventional fuels. To lessen their reliance on oil and the air pollution that conventional automobiles produce, many nations have adopted new energy vehicles (NEVs) as alternatives to conventional vehicles. China, the biggest vehicle market in the world, is dedicated to developing NEVs in order to lower oil imports and consumption. Germany wants to cut CO₂ emissions in Europe by putting one million electric vehicles (EVs) into use by 2020[2]. France and the UK similarly want to stop selling conventional cars domestically by 2040. Many nations gave incentives and unique tax policies to encourage the use of NEVs, such as plug-in vehicle subsidies in the UK and the clean vehicle rebate.

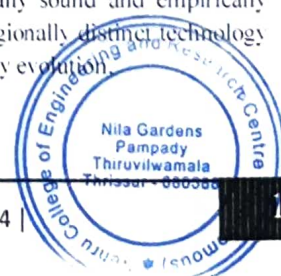
EVs have been around for more than a century as a post-industrial revolution emergent technology. Tom Parker invented the first usable electric vehicle in 1884. The electric car built in Germany in 1899 by Ferdinand Porsche is another well-known example of an early electric vehicle. Electric cars at the period were silent, simple to operate, and did not release any offensive-smelling pollutants, unlike steam and gasoline engines. In the 1920s, when 28% of all vehicles built in the U.S. were electric, EV manufacturers saw some degree of success before Henry Ford created the Model T with a revolutionary mass production method.

II. OBJECTIVES

The study looks at the factors that influence how EVs and related regulations proliferate. While new technologies, like EVs, compete with the established sector in their early stages, policies are crucial to their proliferation. In order for EVs to compete with ICEVs, policy support is initially necessary (Lieven, 2015; Rietmann and Lieven, 2019). The advantages of lock-ins, unaccounted-for externalities, and preconceptions favour ICEVs [8] over innovative technology. The disparities in the national distribution of EVs can be attributed to the early governmental assistance, namely financial incentives (Münzel et al., 2019; Santos and Davies, 2019), that was made available.

What explains the variance in the timing of EV take off (as a result of EV policy support) across nations is examined in the research along with why some countries implement EV policies early and others lag behind. In addition to being a study for policymaking, this is a study of policymaking.

The study intends to provide insights into whether or not nations will reach take off, which countries will, when, and why. It also wants to contribute to the understanding of the explanatory variables of EV take off across countries, first, among other things, as a policy support outcome. By examining the explanatory factors, the focus of the investigation into technology adoption can be changed to emphasise the circumstances necessary for take off (Kauffman et al., 2012). Conceptually sound and empirically supported responses to these concerns are crucial in order to build global transition paths that reflect regionally distinct technology transitions. A better way to provide guidance to policymakers is to identify some of the obstacles to policy evolution.



AN ENSEMBLE EXTREME LEARNING MACHINE TECHNIQUE USED FOR WEBSITE QUALITY EVALUATION

Dr.Vineetha K.R ,Associate professor, Nehru College Of Engineering And Research Centre,vpvprakash@gmail.com

Madhu H , MCA Student Scholar, , Nehru College Of Engineering And Research Centre,madhu532000@gmail.com

ABSTRACT

There are a lot of information quality problems because of the rapid growth of information exchange and lack of standards. The quality of the software affects website quality. Quality of software helped develop the website. The application of new discipline quality is a major challenge. There is an increase in the web technology, so there is a need for factors access to which is associated with the success of website increase as well. Many of the existing website evaluation methods and criteria for evaluating website quality are unable to sufficiently access the performance and the quality of a website, and most of them focus on accessibility. The work proposed an intelligent algorithm based on Extreme Machine Learning for evaluating website quality with respect to the service type which it offers. It is possible to evaluate a website by typing URL into a text box

KEYWORDS : Machine learning, Quality Measurement

I.INTRODUCTION

The dissemination and exchange of information among user groups is facilitated by websites, which are an essential component of our day-to-day lives. The pictures, text, video, and sound that are expected to sell, illuminate, and convince an adjustment of conviction, mentality, or perspective will be coordinated into this traded data, which will take different structures, dialects, and types. Even though the website has grown, quality assessment is still a difficult area of research. The quality of a website should meet the user's expectations and satisfy the customer's level of satisfaction when they interact with it. Because of this, the current research, which primarily focuses on website quality metrics, is important. Since the 1990s, a set of metrics has been proposed for evaluating the qualities of a website. The big question is, "Why are most websites still of poor quality and have poor features that cause user dissatisfaction?" despite the fact that website quality has significantly improved in recent years. To meet the requirements for website quality evaluation, new website quality metrics with more applicable measurement criteria and approaches can be created using the new features. The purpose of this work is to look into the definition of quality criteria for websites and find a way to evaluate websites from the user's perspective, focusing particularly on the creation of useful website quality metrics that identify each quality characteristic, sub-characteristic, and measurable measure. For the purpose of intelligent classification and evaluation of webpage quality, the Extreme Learning Method (ELM) is utilized. Extreme Learning Machine (ELM) has recently caught the attention of numerous researchers working on various applications. ELM is an improvement to the standard feed forward neural network that is a single layer feed forward neural network. The more effective training algorithm known as improved MLP (Multi-Layer Perceptron) learning is utilized in this work. While ELM's generalization is comparable to that of SVM, the advantage of ELM is evident in its shorter training time and compact model size (i.e., computer memory to store the trained model). By comparing the results to those of SVM, the performance of ELM (with or without prior duplication) in various aspects was evaluated in this study.



Skinput Bio-Acoustic Sensing Technology: A New Era of Interaction with Electronic Devices

Dr. Vineetha K R¹, Krishna K²

¹Associate Professor, Department of MCA, Nehru College of Engineering and Research Centre, Thrissur

²Student Scholar of MCA, Nehru College of Engineering and Research Centre, Thrissur

Abstract: Skinput technology is a revolutionary new method of input that allows users to interact with electronic devices through touch input on their skin. This innovative technology uses bio-acoustic sensing to interpret acoustic signals that are generated by tapping or sliding fingers on the skin, and then maps those signals to various device inputs. By using this method, users can interact with devices such as smartphones, tablets, and computers without the need for a physical input device. Skinput technology has the potential to revolutionize the way we interact with technology, particularly for those with physical impairments, as it enables them to operate devices with greater ease and accuracy. With its promise of increased efficiency and ease of use, skinput technology is poised to become a game-changer in the field of human-computer interaction.

Keywords: Bio-Acoustics, Pico-Projector, proprioception

I. INTRODUCTION

Now, it's simple to wear devices with tremendous computational power and capabilities. However, their diminutive stature usually results in limited small screens, buttons, and jog wheels, for example) and so reduces their usefulness and functionality. Take into account alternate strategies that improve interactions with small mobile systems because it is impossible to simply make buttons and screens bigger without losing the main advantage of compact size. The environment's surface area can be opportunistically appropriated for interactive uses. explains a method that, for instance, enables a small mobile device to transform the tables on which it rests into a gestural finger input canvas. Tables are not always present, though, and users are unlikely to wish to use them in a mobile environment. Our skin, which is always with us and has never been previously considered as an input canvas, is one such surface.

We have about two square metres of exterior surface area, and most of it is easily reachable by our hands (e.g., arms, upper legs, chest), making it desirable to use the human body as an input device. Also, proprioception, or our perception of how our bodies are arranged in three dimensions, enables us to accurately interact with our bodies without the use of our eyes. For instance, we can easily clap our hands together, touch the tip of our nose, and flick each of our fingers without the use of a mirror. Only a few external input devices can boast this precise, eyes-free input feature.

II. LITERATURE SURVEY

Skin put technology is a new area of study that has attracted a lot of attention recently. Chris Harrison and Desney Tan from Microsoft Research first proposed the idea of using the skin as an input mechanism in 2010. Since then, a number of research have investigated the viability and potential uses of skin put technology.

Harrison et al. (2010) carried out one of the early investigations in this area in which they examined the precision of skin put technology for identifying finger taps and finger swipes on the skin. The findings of their testing showed that skin put technology could identify finger taps and finger swipes on the arm and palm with an accuracy of over 90%.

Thereafter, a number of additional research looked into the potential uses of skinput technology in a range of industries, including healthcare, gaming, and entertainment. For instance, Jiang et al. (2014) studied the use of skin put technology for gesture recognition in virtual reality environments, while Gupta et al. (2012) proposed the use of skinput technology for operating robotic prosthetic limbs. Also, a number of initiatives have been made to raise the accuracy and dependability of skin put technology.

Overall, the body of research points to the potential for skin put technology to change the way we engage with electronic gadgets. Skin put technology presents a promising new path for human-computer connection, even though there are still obstacles to be overcome, such as the requirement for greater precision and dependability.





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SMS SPAM DETECTION USING MACHINE LEARNING THROUGH TEXT MINING

¹ Pramod K, ² Anoop B K

¹ Associate Professor, ² Student

¹ Department of MCA

¹ Nehru College of Engineering and Research Centre, Pambady, India

Abstract : The use of Short Message Service (SMS) has significantly increased alongside the rise in mobile phone usage. However, the development of cell phone clients and the lower costs of text messages have led to a dramatic increase in SMS spam messages and unethical activities. Even though in many parts of the world, the versatile informing channel is now considered as "spotless" and trusted, recent reports clearly show that the volume of spam messages is increasing daily. People are using spam messages for phishing, fraudulent activities, and unlawful and unethical behaviors. Sending harmful URLs through spam emails, which can damage our system and possibly get into your system. Spammers can easily establish fake profiles and email accounts, and in their spam emails, they appear to be a real person. They then target people who are unaware of these scams. Despite all the technological advancements, we still encounter spam messages. SMS spam filtering is a relatively new task to address such an issue. It brings up numerous concerns and quick solutions for SMS spam filtering. However, it presents its own specific issues and challenges. By adding messages to the whole available SMS dataset, this article intends to address the problem of screening brief messages as Ham or Spam for SMS users. The paper examines different machine learning classifiers on a large corpus of SMS messages for individuals. This study also evaluates the accuracy, and prediction time of the different machine learning algorithms for identifying which machine learning algorithm is best for SMS spam detection.

IndexTerms - Spam SMS, Text Mining, Machine Learning Algorithms for SMS Spam Detection, Accuracy and Performance of Machine Learning Algorithms for SMS Spam Detection.

1. INTRODUCTION

Short Messaging Service (SMS) is primarily used for informal communication, such as advertising new goods and services, but it is also occasionally used for formal communication, such as proof of an order placed on an online store or information about a bank transaction. Technology advancements have significantly decreased the expense of sending an SMS. This has turned out to be a blessing for some people and a curse for others. People are abusing the Text feature to advertise goods, services, deals, and other things. This threat is spreading quickly. People lose out on actual informative messages, like bank transactions, as a consequence. Sometimes a lack of understanding of Texts can be harmful because it may have been overlooked that some fraudulent transactions had taken place. The mass delivery of unwanted messages, primarily of a business nature but also containing offensive content, has become a major problem for SMS service for Internet service providers (ISP), businesses, and individual customers in the last ten years due to the spam phenomenon's constant growth. SMS frameworks that use spam experience overburdens in transfer speed and server storage capacity, increasing annual costs for alliances by more than several billions of dollars. Furthermore, phishing spam messages pose a real risk to end users' security because they try to get them to divulge personal information like passwords and account numbers using fake messages that appear to be coming from reliable online organizations, like financial institutions. Although it is widely accepted that changing Internet norms can be the primary effective solution to the spam problem, it is understood that this cannot be done in a short amount of time. Up until now, numerous arrangements of a conventional, authoritative (such as the CAN-SPAM act in the United States), and innovative character have been suggested in this regard. The last particularly entails the use of programming channels set up at ISP email servers or on the customer side, with the aim of identifying and naturally erasing, or appropriately handling, spam messages. Despite their drawbacks, server-side spam channels are thought to be crucial to reducing the spam problem (Geer, 2004; Holmes, 2005). For instance, they can promptly delete genuine messages that were mistakenly labelled as spam and don't remove transfer speed over burdens necessarily associated at the recipient side. At first, anti-spam networks mainly focused on catchphrases found in email body and subject lines. However, spammers successfully adapt modifications to the characteristics of their messages to avoid channels, which forces the evolution of spam channels towards more complex methods. Spammers' traps can be split into two categories. At the cellular level, they take advantage of mail server flaws (like open transfers) to avoid originator authentication and insert false data or errors into headers. Spammers use content darkening techniques at the substance level to avoid automated detection of typical spam catchphrases, such

Comprehensive autonomous checkout system/ Smart store solution

¹Dr.Deepa A., ²Dhanush U.

¹Associate professor, Department of MCA, Nehru College of Engineering and Research Centre, Thrissur, Kerala, India.

²Student Scholar, Department of MCA, Nehru College of Engineering and Research Centre, Thrissur, Kerala, India.
Email - ¹achatdeepajayan@gmail.com, ²iamdhanu12@gmail.com.

Abstract: An autonomous checkout/smart store solution refers to a system that enables customers to purchase items without the need for a cashier. This is achieved through a combination of technologies such as computer vision, machine learning, sensors, and mobile apps. The customer scans the items they wish to purchase using a mobile device, and the system automatically calculates the total cost and facilitates payment. The goal of such a solution is to improve the shopping experience for customers, reduce wait times, and increase efficiency for retailers. This type of solution can benefit retailers by reducing operational costs, improving the customer experience, and providing valuable insights into customer behaviour and preferences. It can also benefit customers by providing a convenient and efficient shopping experience, reducing wait times, and allowing them to track their purchases and manage their accounts.

Key Words: Smart store, autonomous checkout, Just walk out technology, Amazon Go.

1. INTRODUCTION:

Comprehensive autonomous checkout system is a rapidly emerging trend in the retail industry that aims to streamline and enhance the shopping experience for customers. The technology that we are dealing about is known as Walk Out technology. Walk out technology, also known as "just walk out" technology, is a revolutionary concept in the retail industry that allows customers to enter a store, pick up the items they want, and leave the store without having to wait in line to check out. The technology uses a combination of cameras, sensors, and algorithms to automatically track which items the customer has taken from the shelves and charge them accordingly.

This technology was first introduced by Amazon with their Amazon Go stores and has since been adopted by other retailers such as Walmart and Kroger. The benefits of this technology include reducing the need for cashiers and improving the customer experience by reducing wait times. However, there are also concerns around privacy and data security that need to be addressed. Walk out technology is an exciting development in the retail industry, and it will be interesting to see how it continues to evolve and impact the shopping experience in the future. Walk out technology is made possible by a combination of advanced technologies. In Amazon Go stores, for example, the technology uses computer vision, deep learning algorithms, and sensor fusion to track the customer's movements throughout the store. The cameras and sensors are strategically placed to detect when an item is picked up or put back on the shelf. The technology also keeps track of the customer's identity through the Amazon Go app, which the customer uses to enter the store.

As the customer leaves the store, the technology calculates the total cost of the items picked up and charges the customer's account accordingly. This eliminates the need for cashiers, reduces checkout time, and allows customers to shop at their own pace.

2. LITERATURE SURVEY:

There have been several academic and industry studies on autonomous checkout and smart store solutions. These studies focus on the technology, feasibility, challenges etc. of implementing a smart store:

2.1 "Frictionless Retail: Reimagining the In-Store Experience" by Accenture: This report provides an overview of the benefits of autonomous checkout systems, as well as case studies of retailers who have implemented such systems. The report highlights the role of technology in creating a frictionless retail experience. From self-checkout machines to RFID tags and smart shelves, technology can help retailers streamline the shopping experience and reduce wait times.



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

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AN OVERVIEW ON MARINE DEBRIS CLASSIFICATION

¹ Ashish L., ² Mohamed Sanhar S

¹ Assistant Professor, ² MCA Scholar

¹ Department of MCA,

¹ Nehru College of Engineering and Research Centre, Pampady, India

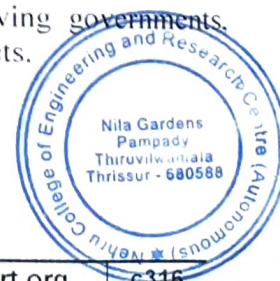
Abstract: Marine debris is guy-made rubbish dumped into the sea or ocean. He pollutes the aquatic surroundings and may be very dangerous to marine inhabitants. Getting rid of marine debris from the ocean is essential to dispose of pollution and maintain aquatic lifestyles. You want a dependable, computerized device that detects unwanted plastic and different debris in actual time. on this examine, we proposed a deep studying structure for detecting and classifying pieces of marine particles. Histogram equalization technology combined with the median filter out is used to enhance picture evaluation and get rid of noise. The test () is done on a complex ahead View Marine clutter (FLS) photo dataset. This information set consists of 10 forms of rubbish. The proposed gadget no longer only detects particles but also classifies it into 10 classes. To overcome the facts scarcity hassle, faster-RCNN is used with ResNet-50 structure switch learning. Faster-RCNN is one of the popular object detection architectures that uses each a regional inspiration community (RPN) and a detector. The method proposed by means of appreciably improves the current results. After reviews of the proposed methodology, we finished a remember (96%) and a mean overlap of bounding bins (3. seventy-eight). visible and qualitative evaluation of the proposed technique Demonstrates the effectiveness of the proposed technique.

Index Terms - Marine litter category, Function vectors, Transfer mastering, Computer imaginative and prescient.

I. INTRODUCTION

Marine debris refers to any man-made objects or waste that enters the ocean or other water bodies and poses a threat to marine life, wildlife, and human health. It includes a wide range of materials such as plastics, metals, glass, rubber, fishing gear, and other types of litter. The issue of marine debris is becoming increasingly concerning due to its negative impact on the environment and the creatures that inhabit the oceans. Marine debris can cause harm to marine life through entanglement, ingestion, and habitat destruction. It can also cause economic damage to coastal communities that depend on tourism and fisheries. The sources of marine debris can be diverse, ranging from land based activities like littering and poor waste management practices, to ocean-based activities like shipping, fishing, and oil and gas exploration. Some debris can also come from natural disasters like storms and tsunamis. Efforts to address marine debris involve a range of strategies, including reducing waste generation, improving waste management practices, and increasing public awareness and education. The issue of marine debris requires a multi-stakeholder approach, involving governments, industries, communities, and individuals to work together to prevent and mitigate its impacts.

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HAPTIC TECHNOLOGY: THE FUTURE OF ENGAGEMENT, TACTILE SENSATIONS TO STIMULATE THE SENSE OF TOUCH IN A USER EXPERIENCE

Sumi M, Assistant Professor, Nehru College of Engineering and Research Centre.

sumimurali118@gmail.com

Vismaya Vijay V, Department of MCA, Nehru College of Engineering and Research Centre.

sree73265@gmail.com

ABSTRACT

Technology that uses touch or tactile feedback is known as haptic technology. It gives consumers a more immersive and realistic experience by enabling them to interact with digital devices using their sense of touch. Many gadgets, such as smartphones, game consoles, and wearable technologies, have haptic feedback. There are several different types of haptic technology, such as vibration, pressure, and temperature changes. For instance, when a user receives a notice or touches a button, a smartphone may vibrate. When a player is hit by an object or suffers damage in a game, a gaming controller might give feedback. In virtual and augmented reality settings, where users must feel as though they are engaging with the real world, haptic technology is especially helpful. Haptic technology can increase the user's sense of immersion and make the experience seem more genuine by offering tactile input. A haptic vest is an illustration of haptic technology; it may give wearers the feeling of touch on various body areas. Potential uses for this kind of technology include gaming, instruction in medicine, and remote communication. In general, haptic technology is a fascinating area that could completely change how we interact with digital devices and virtual worlds.

Index Term: Haptic Technology, Sense of Touch, Tactile feedback, Haptic perception, Haptic devices

I. INTRODUCTION

Haptic technology (also known as haptics) uses the user's sense of touch to deliver forces, vibrations, and motion. Haptics is the study of perception and control based on touch. The word "haptic" has its roots in the Greek word "haptesthai". Since it is currently being used in some fields, haptic

A Study On Fuzzing Techniques and The Adaptability of Machine Learning Approach

Dr. Deepa A, Associate professor, Department of MCA, Nehru college of Engineering and Research Centre, Thrissur, India, achatdeepajayan@gmail.com

Basil Jiji, Student Scholar MCA, Nehru College of Engineering and Research Centre, Thrissur, India, basilgg24@gmail.com

Abstract: Over the past several decades, fuzzing has significantly enhanced software development and testing. Applications of fuzzing have been the subject of recent research. ML provides practical techniques to solve difficulties in the fuzzing process. This review examines the most recent work on fuzzing and ML. This review addresses effective ML fuzzing applications, briefly examines difficulties encountered, and encourages more study to address fuzzing bottlenecks.

Keywords —Deep Neural Network, Fuzzing, Mutation Operator, Machine Learning, Testcase, Vulnerability

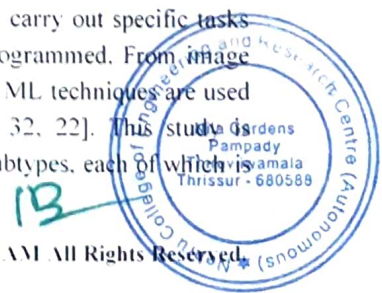
I. INTRODUCTION

Fuzzing is a technique used to test a programme for errors and vulnerabilities by feeding it a large number of generated inputs, both valid and invalid. Fuzzing is a technique used in order to find bugs and vulnerabilities. Fuzzing is a technique in which a large number of generated inputs both valid and invalid are fed into a programme. A large portion of this process is automated by fuzzers, which collect initial programme knowledge and report on any intriguing programme states found. Frequently, a human user analyses these output programme states in addition to providing initial programme knowledge. Historically, "interesting programme states" were software crashes that exposed vulnerabilities and flaws in the programme, but more sophisticated programme monitoring techniques now enable the detection of additional interesting states. A fuzzer's objective is to produce inputs that make the programme execute programme paths in order to find those that result in intriguing programme states. As a result, coverage the variety of programme paths explored is frequently used to evaluate fuzzers. A Naive fuzzer is one that creates input that is entirely random and feeds it to a software. Although naive fuzzers are relatively simple to create, they are not likely to quickly achieve interesting programme states. Modern fuzzers can be divided into three main categories: mutation-based, generation-based, and evolutionary. Blindly altering or changing the input given to the programme is what mutation-based fuzzers do. The majority of the time, mutation-based fuzzers are unable to make intelligent mutation selections because they are unaware of the expected input format or specifications. Peach is a fuzzer that has the ability to perform both

generation-based and mutation-based fuzzing. The expected input format or protocol is obtained by generation-based fuzzers through specifications. On the basis of these requirements, generation-based fuzzers produce inputs. Peach and Sulley, a Python fuzzing framework, are examples of generation-based fuzzers that can produce inputs for file transfer protocols, network protocols, and file formats. The most recent kind of fuzzers, evolutionary fuzzers, improve on mutation-based fuzzers by favouring some inputs over others for mutation. In particular, evolutionary fuzzers try to assess what each input makes the programme do and modify their behaviour in response to that assessment. Modern evolutionary fuzzers actually rank inputs using a fitness function (often coverage) and pick the top-ranked inputs to mutate. Honggfuzz, AFL, and libFuzzer are a few examples of evolutionary fuzzers.

II. LITERATURE SURVEY

Over the past three decades, fuzzers, or automated tools to perform fuzzing, have been crucial in quality assurance, system administration, and vulnerability assessment [19, 20, 41, 23]. In this survey, this examine how some contemporary fuzzers incorporate various forms of machine learning. Modern fuzzers now incorporate techniques from other disciplines (ML). Due to their widespread use, this concentrates specifically on fuzzers used for vulnerability assessment. Computer models can be trained using machine learning to carry out specific tasks without having to be explicitly programmed. From image processing to sequence modelling, ML techniques are used to solve a variety of issues [25, 32, 22]. This study is concentrated on three main ML subtypes, each of which is best suited for a particular task.





SILENT SOUND TECHNOLOGY: A REMEDY FOR DISRUPTIVE COMMUNICATION

¹ Mr. Ashish L, ² Nasreen Parayil

¹ Assistant Professor, ² Student Scholar

¹ Department of MCA,

¹ Nehru College of Engineering and Research Center, Pambady, India

Abstract : In a crowded area noise pollution is a major problem and it is very difficult for people to communicate in that environment because one has to shout or talk very loudly and this can be very exhausting. With the technology called Silent sound technology we can overcome this situation. In such an environment this technology will help people communicate. This technology works by noticing every movement of the lips and then converts them into sound, i.e., it converts the electrical pulses into sound signals and then transfers it to the person who it is intended for. This technology is quite helpful for those who doesn't want to bother others by talking loudly and disturb others. So, without making any sound it will convert the movements of the mouth and send the message. And another advantage of this technology is that since the electrical pulse is universal it helps to communicate with anyone across the world. This technology has a wide range of applications, from providing audio for entertainment or communication purposes to providing notifications in public spaces. It can also be used to provide sound for medical or therapeutic purposes.

IndexTerms - Silent Sound Technology, Electromyography, Image Processing.

I. INTRODUCTION

Noise pollution has been a great threat these days and people find it quite hard to communicate through mobile phone in these environment as it can be quite exhausting because the receiver might be unable to hear what the person on the other end is trying to say and the person may need to talk very loudly. This can be very energy consuming. Also, people who has lost their voice or doesn't like to speak very loudly find it very hard to communicate in noisy environment. Silent sound technology, also known as ultrasonic sound technology or ultrasound, is a communication method that uses inaudible sound waves to transmit information. These sound waves are typically in the range of 20,000 Hz or higher, which is above the upper limit of human hearing. Silent sound technology has many applications, including in security systems, animal training, medical imaging, and even in communication between humans and animals. One of the most promising applications of this technology is in the field of assistive technology for people with disabilities, particularly those who are deaf or hard of hearing. The technology works by using a transmitter to send the ultrasonic sound waves, which are received by a receiver and then converted into audible sound or other types of signals. Silent sound technology can be used for one-way or two-way communication, depending on the application. Overall, silent sound technology has the potential to be a powerful tool for communication and information transfer in a wide range of settings, and the ongoing research in this area continues to explore new and innovative applications this technology.

II. LITERATURE SURVEY

Silent sound technology has been the subject of numerous research studies and publications over the past few decades. Here are some key findings from a literature survey on this technology:

A detailed overview about silent sound technology was provided in the paper 'Silent Sound Technology - An End to Noisy Communication' by Shehjar Safaya and Kameshwar Sharma. They discuss how the silent sound technology will help in a situation when it is very noisy and people who has lost their voice or doesn't want to waste their energy to convey message. So, the silent sound technology has been introduced to put an end to the noise pollution. They discuss about how the silent sound technology works by reading the lip movement and then converting it into the message. They also discuss about the methods used in silent sound technology and also where the silent sound technology is commonly used. And from that we can see how silent sound technology is helpful in many situations. They also discuss the restrictions faced by the silent sound technology like how languages with different tones are hard to translate and how emotions cannot be detected.

In the paper 'Deep learning and its application in silent sound technology' by Vibhu Varshney, Deeksha Singh and Ayush Tiwari discusses the application of deep learning in silent sound technology. We know machine learning is used everywhere and its applications has become very large. And in this paper, we can see how machine learning and one of its subset deep learning which specifically deals with training the artificial neural networks that has deep architectures. They give us an introduction to the machine learning then about the need for deep learning and they have proposed how deep learning can be applied to the silent sound technology and can help silent sound technology to work well.

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FUTURE SCOPE OF AUGMENTED REALITY IN EDUCATION

¹Mr.Ashish. L, ²Rushda Nasreen. P

¹Assistant professor, ²MCA Scholar

¹ Department of MCA

¹Nehru College of Engineering and Research Centre, Pambady, India

Abstract: Augmented reality has now advanced to the point where real-time simulations are required and considered. Augmented reality will play a key role in most industries in the years ahead, including defense, education, healthcare, manufacturing sectors, training and remote assistance, navigation, and entertainment, to name a few. As technology advances, Augmented Reality (AR) is becoming increasingly popular and has started to revolutionize the education industry. Augmented Reality is the integration of virtual and real-world environments, resulting in a more interactive and immersive experience for students. This technology has enormous potential to transform education and help students learn in new and exciting ways. This brand-new whole paper encapsulates the wide meaning of augmented reality into a detailed study of how it will be a keystone of the new education system and how it can be employed in other areas as well. The key focus of the whole paper is a discussion of recent studies on the current status of the field, with the goal of inspiring learners to enhance mixed reality experiences and conduct additional research in support of interactive learning environments.

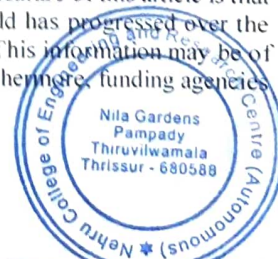
Index Terms - Augmented Reality (AR), Augmented Reality in Education, Learning, Bibliometric, Trends

I. INTRODUCTION

Augmented Reality (AR) is growing increasingly popular as technology progresses and has begun to disrupt the education business. The merging of virtual and real-world surroundings creates a more dynamic and immersive experience for students. This technology has the ability to alter education and assist students in learning in new and exciting ways. This study discusses the future potential of Augmented Reality in education. Initially, it addresses the advantages of adopting augmented reality in education, such as increasing students' learning, improving imagery, and providing tailored learning. Second, it looks at contemporary uses of augmented reality in education, such as virtual field excursions, interactive textbooks, and simulations. Lastly, it investigates the potential applications of augmented reality in education, such as personal learning environments, 3D modeling, and gamification. Furthermore, this paper insights into the limitations of using AR in education, such as the high cost of the technology and the requirement for specialized expertise. It also addresses the ethical challenges raised by the use of augmented reality in education, such as privacy and security concerns. Finally, it makes several solutions for overcoming these barriers, such as forming collaborations between educational institutions and tech firms and giving professional training.

Augmented reality has the potential to improve education by making learning more interesting, immersive, and individualized. While there are obstacles and ethical considerations that must be addressed, the benefits of augmented reality in education cannot be overstated. The future of education is bright, and Augmented Reality will surely play an important role in shaping it. Bibliometric analyses differ from systematic reviews and meta-analyses in that they are more objective and dependable since they involve a structured investigation of a huge body of information based on statistical analysis. Many different sorts of papers can be investigated and comprehensively analyzed using bibliometric analysis to draw reliable conclusions about the dynamics of research on the topic. A bibliometric analysis may aid other researchers seeking trending themes in the field, as well as politicians who make judgments on funding opportunities and prepare for the application of technologies in education. Additionally, bibliometric analysis is critical for mapping the state of the art in a specific topic. The key feature of this article is that it presents a general panorama of research on AR in education, demonstrating how research in this field has progressed over the previous 25 years and identifying the authors who have contributed the most as well as trending issues. This information may be of particular relevance to researchers, allowing them to focus on the most pressing issues in their field. Furthermore, funding agencies can identify crucial regions for grants and other financial opportunities.

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DESIGN AND DEVELOPMENT OF A WEARABLE IOT-BASED DEVICE FOR CHILDREN'S SECURITY

¹Ms.Divya P, ²Sooraj M

¹ Assistant professor, ² MCA Scholar

¹ Department of MCA,

¹ Nehru College of Engineering and Research Centre, Thrissur, India

Abstract: Technology that links the physical and virtual worlds is constantly developing.

One of them, wireless technology, enables the connection of many devices over a larger area without the use of cables or wires. Large data may be simply stored and processed using a cloud computing platform. The device is A child safety gadget combined with cloud and wireless technology, giving it access to both technologies' benefits. The created system is a prototype that uses temperature and heart rate sensors to keep track of the health of the kids. Using an accelerometer and an ultrasonic sensor, it determines if the child's position has changed excessively and feels any obstacles

IndexTerms - Child, Health, Temperature, Heartbeat, Accelerometer, Ultrasonic, Buzzer, GSM, Camera.

I. INTRODUCTION

The Internet of Things (IoT) is a technology that enables a group of systems and devices to connect to various sensors over the internet. It encompasses technologies like smart cities, smart automation, and smartphones. The impetus for this method comes from the escalating urgency of protecting children. The main goal of the method is to aid in the reunion of a lost kid with their parents with the aid of those closest to the youngster. The prototype system that was created can issue an alarm in case of abnormal circumstances. For the kids, the device is provided in the form of a glove. The glove functions as a wearable gadget with all the components integrated inside. The ultrasonic sensor aids in obstacle detection within a specific range. The accelerometer is used to determine whether the child's position has changed. Heartbeat and temperature sensors aid in keeping track of the child's health. When the parameters are detected as abnormal, the alert messages are delivered to saved emergency contacts.

II. RELATED WORK

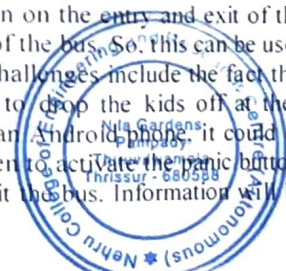
Existing System

Some of the current systems employ Bluetooth as their communication technology. There is a system that can be worn and was designed like a band. A few additional systems employ various sensors in accordance with their needs, such as barometers for height measurement. The Mimo, Sproutling, and iSwingband are comparable wearable gadgets.

III. LITERATURE SURVEY

3.1 Vehicle Tracking System for Children's Safety Using RFID, GPS, and GSM

Using RFID and GSM technology, this system aids in vehicle monitoring by providing information on the entry and exit of the student from the bus. The suggested solution offers the possibility to efficiently track the exact location of the bus. So, this can be used in smaller schools. These systems aid in lowering the number of kidnappings that occur. Some of the challenges include the fact that the entire system is built onto a tiny chip and that the school buses can't be traced if it's too late to drop the kids off at their destinations. Given that it is tied to the child's body and that neither the child nor the parent may own an Android phone, it could be harmful to the child. Also, using a phone in class is definitely forbidden, so the child does not know when to activate the panic button. Using RFID and GSM technology, this system assists in keeping tabs on the kids as they board and exit the bus. Information will be sent to the school if the child is missed on the bus.



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OUTBREAK DETECTION AND PREVENTION TECHNIQUE OF SQL INJECTION ATTACKING USING MACHINE LEARNING

¹Dr.Vineetha KR, ²Jeena Thomas

¹Associate professor, ²MCA Scholar

¹ Department of MCA,

¹Nehru College of Engineering and Research Centre, Pampady, India

Abstract : Online application assaults are becoming increasingly common and severe. The large amount of data accessible on the internet motivates hackers to initiate novel attacks. Extensive study on web application security has been done in this area. Structured Query Language Injection is the most hazardous online application exploit (SQLI). This attack poses a significant risk to online apps. Several studies have been carried out in order to reduce this assault, either by avoiding it at an early stage or spotting it when it happens. We give an overview of the SQL injection attack as well as a classification of the freshly suggested detection and prevention methods in this article. This paper discusses the methodology and analysis of using machine learning techniques for SQL injection attack detection and prevention. The report covers techniques such as feature selection, model training, and evaluation, and presents various evaluation metrics such as true positive rate, false positive rate, accuracy, precision, recall, F1 score, training, and testing time. The report also emphasizes the importance of using machine learning techniques in combination with other techniques to maximize the effectiveness of the overall strategy. Additionally, the report highlights the need to regularly update and test the machine learning techniques for SQL injection attack detection and prevention represents a promising approach to improving the security of web applications that use SQL databases. The development and use of effective machine learning techniques will become increasingly important for protecting against SQL injection attacks in the future.

IndexTerms - SQL injection, Cyber security, Machine learning, Feature selection, Precision, Recall

I. INTRODUCTION

The majority of the apps we use on a daily basis are web-based. Organizations choose to make their applications available via the Internet in order to receive more publicity. Being exposed to the Internet raises the security risks associated with different types of online transactions. All of the information submitted by users during these interactions on web apps or websites is saved in a database. Linked databases can be talked with using SQL, or Structured Query Language. 13





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CURRENT PITFALL AND EYESHOT ON POTENTIAL DEVELOPEMNETAL PATHWAYS OF SMART TEXTILE

¹ Dr Sudheer S Marar, ² Airish Baby
¹ Professor and HOD, ² MCA Student Scholar,
¹ Department of MCA,

¹ Nehru College of Engineering and Research Centre, Pambady, India

Abstract: In every area of technology, product development has advanced significantly in the twenty-first century. Textiles are keeping up with this kind of progress. The responses that can be sensed and intelligently analysed by smart textiles include electrical, thermal, mechanical, chemical, magnetic, and responses from other sources. Three subcategories of intelligence exist, including passive smart textiles, active smart textiles, and very smart textiles. There are essentially five distinct tasks in smart textiles: sensors, data processing, actuators, storage, and communication. Nonetheless, it must be consistent with the purpose of clothes, including comfort, toughness, resistance to standard textile upkeep procedures, and so forth. It is now widely employed in a variety of industries, including those that involve healthcare and safety apparel, firefighting gear, intelligence gear, military gear, e-textiles, bio-medical applications, sports gear, protective gear, and space exploration. Thus, it is sometimes referred to as next-generation apparel.

IndexTerms - Textiles, Clothing, Smart textiles, Interactive textiles, Sensors

I. INTRODUCTION

Technology now has an impact on more aspects of the textile business than only the setting in which apparel is designed and produced. Technology is now incorporated into textiles itself.

Your clothes, socks, and gloves will all be electronic in the future. Wearable electronics won't resemble even the smallest electronic device you have now in a few years. Such gadgets will not only be incorporated into textile substrates, but an electronics device or system may even turn the fabric into itself (see for instance: Nanotechnology e-textiles for bio-monitoring and wearable electronics). Think about biomedical monitoring features or novel man-machine interfaces, not to mention game controllers, when considering these e-textiles' innovative capacity to sense, act, store, emit, and move while utilising an already-existing low-cost textile production infrastructure.

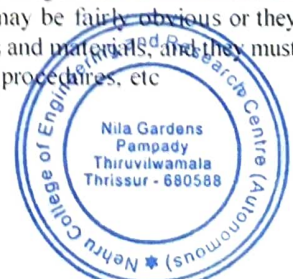
Strong sensors and electronics are integrated into the weave of smart fabrics. These parts are transparent to the eye, stretchy, breathable, and even washable. They don't appear to be little computers that you are carrying around, in contrast to popular wearables like smartwatches and fitness bracelets. They may take frequent readings and are convenient to wear, working continuously in the background. Even trendy smart attire is available. The development of nanotechnology is one of the main elements influencing the expanding electronic textiles market. nanomaterials with intrinsic conductivity, such as metallic nanowires, carbon nanotubes, or graphene.

Fabrics can be incorporated with ultrathin, flexible, transparent sensors, actuators, electronics, and power generation or storage thanks to nanotechnology, following the same trend as other Internet of Things (IoT) devices. Self-powered electronic textiles (e-textiles), which include smart fitness wear, smart fashion, data gloves, and other human-machine interfaces, will usher in a new era of wearable electronics as these electronic components get smaller and almost invisible.

II. FUNCTIONALITY

An intelligent suit essentially has five different functions: sensors, data processing, actuators, storage, and communication. Although not all intelligent suits will have every function, they all have a distinct job. The functions may be fairly obvious or they may be a natural characteristic of the substance or structure. They are all in need of the proper structures and materials, and they must all be compatible with the purpose of clothing—comfortable, robust, resistant to typical textile upkeep procedures, etc

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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

ANTI- HIV USING NANOROBOTS

¹Pramod K, ²Anuraj N

¹ Associate Professor, ²Student

¹MCA Department,

¹Nehru College of Engineering and Research Centre, Pampady, Trissur, Kerala, India

Abstract: Nanorobots hold great promise in the treatment of HIV, offering the potential for more targeted and effective drug delivery and even gene editing. While there are no approved systems for the treatment of HIV using nanorobots yet, several promising studies have been conducted that demonstrate the feasibility of this approach. Nanorobots can be engineered to recognize specific markers on the surface of HIV-infected cells and deliver drugs directly to these cells, reducing the viral load in the patient's body and slowing the progression of the disease. Additionally, nanorobots can carry gene editing tools that could be used to remove the virus from infected cells. However, further research is needed to optimize these systems and evaluate their safety and efficacy in animal models and clinical trials. If successful, nanorobots could offer a game-changing approach to the treatment of HIV, providing more targeted and effective treatment options for patients.

Index Terms - Nanotechnology, HIV, WBC, Nanorobots, CD4 protein.

I. INTRODUCTION

1.1 Nanorobots

There are several areas of robotic technology today. One of its subcategories is nanorobotics. In this area of robotics, teams of biotech and robotics experts are creating intricate, miniature robots. The ability to mimic human behavior is made possible by the components' nanoscale nature. Nano-robotics has made it possible to construct the various complex parts that make up robots.

A few authors started making predictions about the possible physical forms that future medical nanorobots might take in the 1980s and 1990s. A few people produced artistic renderings of their devices. Only the broadest analyses of the potential missions and capabilities have been made up to this point. Adriano Cavalcanti, a pioneer in nanorobot technology, created a model based on nanobioelectronics for the practical hardware architecture of nanorobots, which was used for applications in environmental monitoring, brain aneurysm, diabetes, cancer, cardiology, and AIDS.

1.2 HIV

HIV (Human Immunodeficiency Virus) is the name of the virus that causes the illness known as AIDS (Acquired Immunodeficiency Syndrome). When a person has AIDS, their body's unique defence mechanism against all infectious pathogens is no longer effective. Human Immunodeficiency Virus is referred to as HIV. HIV, like all viruses, is unable to develop or procreate on its own. It has to infect the cells of a living thing in order to reproduce.

HIV occurs as roughly spherical particles outside of human cells (sometimes called virions). Each particle's surface is covered in numerous tiny spikes. The diameter of an HIV particle ranges from 100 to 150 billionths of a metre. It is roughly equivalent to 0.1 microns. HIV particles are much too small to be seen under a standard microscope, unlike most microbes.

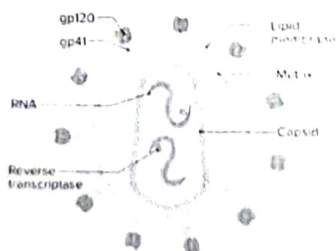


Fig-1: Structure of HIV Virus



Exploring the Future of Medical Data Storage with Holographic Technology

Dr. Deepa A¹, Gopika.Nadarajan²

¹Associate Professor,MCA, Nehru College of Engineering and Research Centre,Thrissur, India

²Student,MCA, Nehru College of Engineering and Research Centre, Thrissur, India

Abstract:The paper provides an overview of the potential applications of holographic storage in the medical field. It covers the history of holography, the comparison of holographic storage and traditional data storage methods, recording and reading of holography, holography vs. photography, applications of holography, and other applications. It also reviews the principles of holography and its application to 3D holographic projection technology, and discusses the potential applications of holographic projection technology in various fields such as entertainment, advertising, education, and medicine. Holographic memory is a data storage technology that uses light to store and retrieve data in three-dimensional holographic images. It has potential applications in healthcare, such as storing large medical images, patient records, and data backups securely. It could also be used in drug development and research, as it can store and analyze vast amounts of genomic and proteomic data quickly and accurately.

Keywords:Holography, Data Storage, Medical Imaging, Robotics, Virtual Reality, Aerospace Engineering, Telemedicine, 3D Holographic Projection Technology, Entertainment, Advertising, Education, Drug Development, Genomic Data, Proteomic Data.

I. INTRODUCTION

Holographic memory is a type of data storage technology that uses lasers to encode data on a three-dimensional (3D) photosensitive medium. Using a single laser beam to illuminate the medium and reconstruct the interference pattern, the data can be retrieved. Despite the fact that this technology is still in its infancy, it has the potential to be significantly quicker and more effective than conventional storage methods. A cutting-edge technology called holographic memory has the potential to revolutionize the medical industry. By storing high resolution 3D information in a small piece of material, holographic memory allows for efficient, accurate data storage and retrieval. This technology can be used to store and retrieve medical images, patient records, and other data with greater accuracy and precision. In addition, holographic memory can be used to create 3D models of medical structures and organs, allowing for more detailed and accurate diagnoses. Finally, holographic memory can be used to archive medical research, making it easier for medical professionals to access and analyze data. With its myriad of potential applications, holographic memory is sure to be an invaluable asset in the field of medicine.

i. Holography

Holographic data storage has the potential to revolutionize the medical field by providing a high-capacity, high-speed, and reliable method for storing and accessing medical data. It offers the ability to store large amounts of medical data, such as images, patient records, and diagnostic information, in a compact and durable form. Holography uses a laser to split a light beam into two parts. A reference beam and an object beam. The object beam is directed at the object to be recorded and the reference beam is directed at the photographic plate or film. The two beams are then combined to create an interference pattern on a photographic plate or film to obtain the information needed to reconstruct his three-dimensional image of the object. To view the hologram, a laser beam is directed at the recorded interference pattern. This bends light and creates a virtual image of objects that appear to float in space. Unlike traditional photography, which is flat, holograms present a complete 360- degree view of an





Exploring Smart- Quill Technology: Chirography Remembrance in addition to Impression Corroboration

Ms. Divya P¹, Shan Ali Hassan²

¹Assistant professor, ²MCA Scholar, Department of MCA, Nehru College of Engineering and Research Centre, Pambady, India

Abstract: There are a variety of pens on the market, but none of them do anything other than write. The extraordinary development of a pen that can do more than just write is the focus of this paper. The Smart Quill is a pen-based computer. Even though this pen takes the place of the keyboard in the workplace, handwritten note-takers will find it extremely useful. The current method of computation has begun to favor small computers. Because of this, companies that make computers now use tools that are similar to computers. The handheld computers can only be reduced to a certain point before they become unusable. Screens require stable indicator control to read text smoothly, and keyboards have become so tiny that you need fingers the size of needles to operate them.

Index Terms: Smart Quill, Transcription, Digital Inkwell.

I. INTRODUCTION

We are going to talk about a pen in this paper that can take the words you write with it and turn them into computer text. "It would be neat to put all of a handheld-PDA type computer in a pen" is an idea. It is said to have been the biggest change in handwriting since the pen was invented. To record what they write, users do not need to use a special pad. This pen can be used to write on any platform, including a tablet, screen, or even the air. Although the Smart Quill has an ink-sealed unit so that users can see what they write, it is not entirely space-age. No matter what device is used, Smart Quill's sensors use the earth's solemnity system to track movement.

"It's the pen for the new millennium," she declares. Williams brought her prototype to the British Telecommunications Research Lab, where she was hired right away and given money and support for her project from the institution. Nigel Ballard, a prominent mobile computer industry consultant, gave her the go-ahead to do so. The world-class research labs run by BT (formerly British Telecom) in Martlesham, eastern England, created the prototype, which is called Smart Quill. It is said to have influenced handwriting in the most significant way since the invention of the pen.

Users of the prototype pen do not need to write on a special pad in order to record what they write, unlike other electronic pens currently on the market.

The user could write on air, paper, a tablet, a screen, or any other surface. The Smart Quill, on the other hand, is more than just a spaceship: Additionally, it includes an ink cartridge so that users can view their writing. Smart Quill has sensors that use the earth's gravity system to record movement, regardless of the platform. The pen is used to record the data that the user enters. You can also upload your knowledge to your PC using the "digital inkwell," and the files you might want to view on the pen are also downloaded to Smart Quill.

The pen has a screen on the barrel and is slightly larger than a standard fountain pen. By pressing a button, users can enter data into these applications. His or her own handwriting can be used to enter the information. Client can involve any stage for composing like paper, screen, tablet or even air.

The information that is stored in the pen can also be read on a tiny three-line screen. The pen can be tilted to scroll down the screen. After the pen is connected to an electronic docking station, text messages are sent to a desktop computer, printer, modem, or mobile phone for electronic file transfer.

II. LITERATURE SURVEY

Along with British telecommunications, Lyndsay Williams of Cambridge University invented the smart quill. The sensors in the smart quill use gravity to record movement regardless of the platform.



Design And Implementation of Secure Qr Payment Based on Visual Cryptography

Dr. Vineetha K R¹, Habeeba Sinu²

¹Associate Professor, Department of MCA , Nehru College of Engineering and Research centre

²MCA Scholar, Department of MCA , Nehru College of Engineering and Research centre

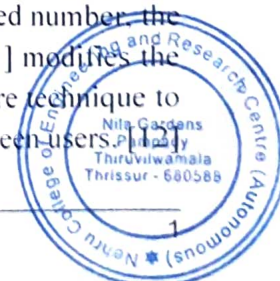
Abstract:

In this paper, the design and implementation of a secure payment system based on QR codes will be covered. In recent years, QR codes have been widely used due to their capacity to speed up payments and provide customers with the highest comfort. Yet, as convenient as QR-based online payment systems may seem, they are vulnerable to a variety of attacks. Transaction processing needs to be adequately secure in order to protect the privacy and accuracy of each payment operation. The online payment system must also guarantee the legitimacy of each transaction for both the sender and the recipient. This article offers security for the proposed QR-based system using visual cryptography. The recommended solution consists of a mobile application and a payment gateway server that employs visual cryptography. Customers who use the application may conduct financial transactions in a secure environment thanks to its clear and user-friendly layout.

Keywords: online payment system, QR codes, visual cryptography

INTRODUCTION

In several businesses, online payment solutions are expanding quickly. The digitalization of the payment system transaction process has led to the emergence of several apps that make use of this revolutionary technology. Indeed, the development of online payment, from credit cards to NFC-based payment, has a far more promising future. Yet as technology advances, so do the dangers of not safeguarding it. Security is a big concern for both consumers and company owners, according to research on many online payment system deployments. Typically, theft, fraud, and impersonation are threats to payment transactions. These security flaws put the system's availability, confidentiality, and integrity at risk. Therefore, overcoming security is essential to the success of any online payment system. In a QR code, a two-dimensional matrix barcode, large amounts of data may be encoded and saved [1, 2, 3]. Due to their speed and simplicity, QR codes have found significant usage in a number of crucial sectors, including health, education, and finance [4, 5, 6, 7, 8]. There are a number of secure QR-based online payment options available [9–15]. Each of the several payment alternatives offered by [9] offers differing levels of security and quickness. These models include the Operator Centric Model and the Peer-to-Peer Model. To boost security, these methods use public and private keys in each transaction. The online payment mechanism mentioned in [10] uses public and private keys during user registration. The keys are generated using a random seed number, the users' ID, and the Mobile Equipment Identity (IMEI). The approach recommended in [11] modifies the method [10] by switching out the SHA-256 algorithm for the elliptic curve digital signature technique to protect the authenticity of the certificates generated and the transaction messages sent between users.





JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)

An International Scholarly Open Access, Peer-reviewed, Refereed Journal

Online Assistance for Farming

¹Pramod K, ²Anju Babu

¹Associate Professor, ²MCA Scholar

¹Department of MCA,

¹Nehru College of Engineering and Research Centre, Pambady, India

Abstract : Our agricultural assistant web services help both novice and seasoned farmers find solutions to common issues they encounter in the field. A farmer can communicate with other farmers across India to learn more about a specific crop that is well-liked in other states. Online farming support can help novice farmers decide which farming techniques they wish to try, such as organic farming, terrace farming, tissue farming, tissue culture, etc. If they have any questions about the crop or farming, they can also ask an expert. Using this online system, they will also have the choice to sell their gathered crop for the highest possible price. Only authorized users should be able to access some specific modules because of how the system should be built. Only the administrators should make changes to the records. The goal of this project is to integrate its components into everyday life so that consumers can purchase their food directly from farms, so ensuring that the farmers receive all of the profits. Due to the supply chain for agricultural products that we follow in India, things are too indirect for the farmers as a result of which they continue to be in poverty while the intermediaries profit, finally making them affluent.

IndexTerms - Farmers, Types of farming, Farm Machiner, Factory farming, Dealer

I. INTRODUCTION

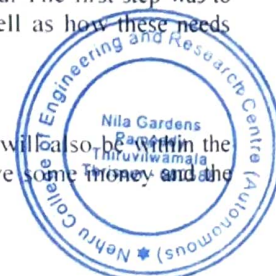
Farmers in a region typically know little to nothing about farming and are just familiar with the crops they have been growing for a long time. The Farming Assistant website aspires to be a one-stop resource that will unite farmers across the nation to share expertise and support one another, as well as give news on agriculture to keep farmers informed of changes in their industry. With this project, our goal is to create a website that can help farmers find solutions to common issues they encounter in the field. Farmers of all experience levels can use this website to obtain help with farming-related issues. A farmer can communicate with other farmers across India to learn more about a specific crop that is well-liked in other states. The rules for farmers specify the types of farming they should practise, such as organic farming, terrace farming, tissue farming, tissue culture, etc. They also specify the crops to be grown, the cultivation techniques to utilise, the farming requirements, and other things. With the help of experienced farmers, this online web application will improve farmers' understanding on how to practise agriculture in various seasons while also facilitating the new farmers' ability to learn more about farming or clear their worries. Producing reports teaches other farmers how to farm more effectively. The clinic's competent support makes agriculture possible. In this segment, landlords and terrace farmers interact using this module. Using blogs, we may tag and share our farming experiences. The farmers skill is described in the skills, a grower who specialised in particular farming areas, such as a grower of vegetables, fruits, or paddy fields, supplying details on how to use fertilisers and machinery more effectively. Upload farmer experiences in the same quantity as blogs. It might motivate people to practise farming in the simplest way possible.

1.1 DEFINITION

The tools given by precision farming and other information technologies have not yet made their way into the mainstream of agricultural management, despite the fact that the majority of people can see the advantages of utilizing a more exact method to manage crops with additional information. The systems' increased complexity hinders simple adoption and casts doubt on assessments of the financial benefits. By enhancing the decision-making process with better Management Information Systems, improved data interchange standards, and transparent management practices, these problems can be handled. The first step was to identify the existing and future needs for data, information, and knowledge management on farms, as well as how these needs would change through time and affect farm data, information, and knowledge management systems.

1.2 PROBLEM ON HAND

Given that the farmer will be dealing with the customer directly, the prices of the products he offers will also be within the means of the customer. This will benefit both the farmer and the customer, as the latter will be able to save some money and the



AN INVESTIGATION INTO THE FUTURE OF AGILE MOTION – SNAKE ROBOT

Ahsana Fathima E¹, Sudheer S Marar²

¹Student scholar, Nehru College of Engineering and Research Center, Pamapady, India.

²Professor & HOD, Department of MCA.

Abstract—By comparing uploaded images to a database of missing children, this paper suggests using deep learning to find Indian children who have gone missing. A Convolutional Neural Network (CNN) is trained to recognize faces using a pre-trained VGG face deep architecture. The technology enables users to contribute images of youngsters who appear suspicious along with landmarks and other information, and it also enables law enforcement or other authorities to view information about children who have gone missing. The best match is chosen by the algorithm, which automatically compares the provided photograph with the database's registered photos of missing children.

Index Terms—Agile motion, sensor performance, slithering locomotion, snake robot.

I. INTRODUCTION

'SnakeBot' is also known as snake robot. Snake robots are advanced types of robotic technology that have been increasingly popular in recent years. They are designed to imitate the movements of snakes and can navigate various environments with flexibility and agility. The capacity of snake robots to maneuver through confined spaces, scale walls, and traverse challenging terrain has made them increasingly desirable. Snakes, exhibit excellent mobility in various terrains and can move through narrow passages and climb on rough ground. This natural ability has inspired the development of snake-like robots with high degrees of freedom and the ability to move without active wheels or legs. Such robots have a wide range of applications,

including search and rescue missions in earthquake areas, surveillance and maintenance of complex and dangerous structures, an inspection of sewer systems or aiding firefighters in cities, and minimally invasive surgeries and medical procedures in healthcare. Moreover, snake robots with one end fixed to a base can serve as robot manipulators to reach hard-to-get-to places.

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II. LITERATURE SURVEY

Several studies have been conducted on the design, control, and use of snake robots over a long period. We will examine some of the most significant research projects.



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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

A CHAMELEON PROCESSOR-DIRECTED METHOD FOR CONCEALING CONFIGURATION LATENCY

¹Divya P, ²Soorya S Namboodiri,

¹Assistant Professor, ²MCA Scholar

¹ Department of MCA

¹Nehru College of Engineering and Research Center, Pambady, India

Abstract: Currently, too many architectural boundaries are crossed in chip design. Nobody has found out how to make a chip fit every need for the ideal consumer product. But I think we're getting there. A new type of chip can now adapt to any programming requirement by wiping its existing hardware design and creating new hardware that is ideal for running the required software. Reconfigurable processors is the term used to describe these semiconductors. These new chips can instantly rewire themselves to build the precise hardware required to execute a piece of software at the highest speed. The name of this new chip is CHAMELEON CHIP.

Index Terms - Global Overview, General Simulation Flow, Test Case Generation.

I. INTRODUCTION

Chameleon is a program of next-generation microprocessors developed by SGS-THOMSON Microelectronics. It is based on a modular, core-based 64-bit superscalar architecture. The first microprocessor generation is targeted at the consumer computing market. It implements multi-media features, as well as common microprocessor capabilities. For such highly complex microprocessor developments, functional verification is estimated to take between 30 and 50% of the design resources. Imperfections in the verification process not only affect time to market but also lead to costly mask revisions. The goal of silicon design functional verification is to gain a high level of confidence that the silicon implementation satisfies the specification of behavior. To achieve the verification of such a highly complex chip, and to ensure quality improvement throughout the design process, different technologies are used: simulation, acceleration, emulation, test generation, formal verification, and ASIC prototyping. Priority is given to the objective of reaching a high level of confidence in the first stages of the design. In fact when the physical design starts, the RTL (Register Transfer Level) specification has already been verified by running billions of machine cycles and making use of as much as possible of formal verification techniques. Each step of the physical design is checked versus the RTL specification.

This paper explains the functional verification methodology used for the design of Chameleon processors. It consists of 2 major points:

- verify that the VHDL specification is conformant to architecture and microarchitecture specifications.
- verify that actual layout is conformant to the VHDL specification.

The first issue is addressed in Sections 2 (Description levels), 3 (Simulation-based verification) and 4 (Sequential verification). Verification of the VHDL reference specification uses both simulation-based (including acceleration and emulation) and formal verification-based techniques. The second issue is addressed in Section 5 (Circuit verification): transistor abstraction and combinational formal proof are the primary mechanisms used for circuit-level verification.



Fig.1: Chameleon Chip





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An International Scholarly Open Access, Peer-reviewed, Refereed Journal

MODERN HIGHLY ENHANCED DNA BASED STEGANOGRAPHY APPROACH TOWARDS INFORMATION SECURITY

¹Ms. Sumi M, ²Subitha P

¹Assistant Professor, ²MCA Scholar

¹Department of MCA

¹Nehru College of Engineering and Research Centre, Pampady, India

Abstract: The world today is concerned with the security of digital data that is being transmitted. Digital data security is achieved through a variety of techniques. Cryptography and steganography are the two most popular techniques used in the field of cyber security, in which mathematics and logic are applied to design strong encryption methods. The characteristics of biological sequences make them suitable for use in digital data security procedures. DNA computing has been identified as a possible technology in the fields of Cryptography, Steganography and Authentication. DNA computing is a relatively new form of computing that, instead of using silicon-based technology, utilizes the abilities of the DNA molecule and biochemistry. It is making use of DNA characteristics for extremely parallel computation. DNA cryptography make use of DNA molecules as information carriers. DNA provides the most reliable personal identification. In order to construct concealed messages and avoid hacking, DNA steganography methodology was developed to create hidden messages in variable areas (single nucleotide polymorphisms) of the genome. This paper offers a brief explanation of the DNA-based data security method.

IndexTerms - Digital data security, cryptography, Steganography, authentication, DNA computing, silicon-based technology, biochemistry, DNA Cryptography, DNA steganography

I. INTRODUCTION

In the present era of e-business and e-commerce, information security is becoming increasingly crucial, requiring a high level of security and more powerful data protection methods to secure the confidentiality, integrity, and availability of shared information as well as of transmitted data. The potential of thieves getting private data and the transfer capabilities worries data transmission professionals a lot. Steganography and cryptography are the two techniques that are most frequently utilized in the field of cyber security because they integrate logic and mathematics to produce effective encryption systems. Due to the increasing use of the internet, the significance of these fields has substantially expanded in the current period.

A promising method for authentication, steganography, and cryptography is DNA computing. A relatively recent form of computer called DNA computing uses the DNA molecule and biology as opposed to silicon-based technologies. For massively parallel computation, DNA's unique properties are used. Parallel search has the potential to solve enormous issues if the proper architecture and DNA are used.

DNA molecules that have the ability to store, process, and transmit data are utilized as information carriers in the emerging subject of DNA cryptography. In order to make the signals concealed in different areas of the genome, DNA steganography methodology was developed (single nucleotide polymorphisms). Deoxyribonucleic acid (DNA) offers the most reliable personal identification method out of all the biometric technologies now in use [1]. These DNA concepts ensure non-vulnerable data transmission and provide new hope for unbreakable algorithms.

1.1 CRYPTOGRAPHY

Data encryption and decryption over open networks are two topics covered by cryptography. Confidential information is secured and protected via cryptography, a procedure that scrambles and transforms the information into an unreadable format. Before being sent to the recipients, the sender's secret message is encrypted in cryptography using a secret key and an encryption method. The recipients decrypt the message using the secret key and the proper decryption technique. An unauthorized user won't be able to extract the secret message without the secret key. Cryptography and cryptanalysis work together. Analysis and attempts to compromise the security systems put forth by the cryptography field are the objectives of cryptanalysis. In other words, the degree to which a cryptographic system is susceptible to cryptanalysis determines its level of strength. Several technologies (such RSA, ECC, etc.) have been developed to achieve a high level of security. Electrical engineering, computer science, and mathematics are all used in modern cryptography. Designing cryptographic algorithms around computational hardness presumptions that are thought to be challenging for an adversary to crack [2] is a very scientific approach.



Self-Defending Networks

Pramod K¹, Aswathy Venu²

¹Assistant Professor, Nehru College Of Engineering and Research Centre

²Department Of MCA, Nehru College Of Engineering and Research Center

Abstract: As the nature of the threat in networks evolves daily, it is vitally important that defense techniques evolve as well. Earlier threats from both internal and external sources were gradual and can be easily tracked and destroyed. But now Internet worms are spread all over the world, so it is essential for protection systems and the network itself to respond immediately to threats. The basis of community self-defense is the importance of countering threats in the community. Every device found in a community plays a vital role in keeping the community safe. This guarantees the security of statistics and protects the community from internal and external threats. It identifies and responds to threats, isolates infected servers and structures, and then reconfigures the network in response to the attack. Self-Defending Networks are proactive and automated computer networks that are designed to detect, prevent, and respond to security threats. They use advanced technologies like machine learning, artificial intelligence, and behavioral analysis to monitor network traffic, identify potential security breaches, and take action to prevent them. By deploying SDNs, organizations can achieve a higher level of security for their networks and protect their assets from a wide range of cyber threats.

Keywords: Self Defending Network (SDN), End-Point Protection, Network Security, Incidence Response.

I. INTRODUCTION

With the number of computer networks growing day by day, it is also important to make them more secure and reliable. Security concerns increase as more and more data traverses networks, requiring more complex and reliable protection for networks. Therefore, it is very important to ensure the security of both software and hardware components in the network. For a more secure network, a proper analysis of all types of threats that may occur in the network must be performed, followed by proper network design. This white paper discusses the need for artificial intelligence in network security to make networks intelligent. This white paper also introduces the next-generation smart network, a Self-Defending Network (SDN), a network that analyzes all known and unknown threats that may come across the network. This self-defense network provides protection against internal as well as external threats. Minimize data threats with the network capable of handling large amounts of data and information very quickly.

II. LITERATURE SURVEY

Anshuman Kumar, Abhilash Kamtam and UC Patkar make a research on "Self Defending Approach Of A Network" and describe that Because the nature of network threats changes every day, it is important that protection methods evolve as well. Previously, threats from both internal and external sources were slow and easy to track and eliminate. But now that Internet worms are spreading globally, it's important that security systems and the networks themselves respond promptly to threats. The foundation of network self-defense is critical to responding to threats on the network. Each device on the network plays an important role in network security. This ensures data security and protects the network from internal and external threats. Detect and respond to threats, isolate infected servers and systems, and reconfigure networks in response to attacks.

Duane De Capite make a research on "Self Defending Networks: The Next Generation Of Network Security" this research provides a overall view on protect your community with self-regulating network protection solutions that combat each internal and external threats. provides an overview of the safety components used to design proactive network security helps community safety professionals recognize what the present day gear and techniques can do and how they interact affords distinct records on how to use integrated control to growth safety consists of a layout guide with step-by using-step implementation instructions Self-defending Networks: the next era of network security enables networking professionals apprehend how to deploy an end-to-end, integrated community security answer. It presents a clear view of the various components that may be used at some stage in the network to now not most effective reveal visitors however to allow the network itself to grow to be more proactive in preventing and mitigating network assaults. This security primer presents particular perception into the whole range of Cisco protection answers, showing what each detail is capable of doing and how all the portions work together to shape an quit-to-quit Self-protecting network, at the same time as other books generally tend to awareness on character safety components, presenting in-intensity configuration hints for





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SANDBOX: THE FUTURE OF METAVERSE, A SECURED TESTING FRAMEWORK FOR APPLICATIONS

¹Sumi M, ²Sreejith K M,

¹Assistant professor, ²MCA Scholar

¹Department of MCA

¹Nehru College of Engineering and Research Centre, Pambady, India

Abstract: The sandbox technology aims to produce a secure and virtualized sandbox terrain at the position of separate operations. The sandbox is considered to have a minimum impact on the semantics as well as the program which is executed at a time and provides an effective sandbox configuration. The malwares which are called as contagions, worms and bolts have an anti-analysis functions to confirm the connectivity of certain hosts which detects the virtualized surroundings. To avoid the impacts from the Internet, the anatomized surroundings should be dissociated from the Internet but they must be suitable to make malwares believe that they're connected to the real Internet.[1],[2]

Index Terms - Sandbox, System Sandbox, Operating System Security, Browser security, Network security.

I. INTRODUCTION

Sandbox technology is used to avoid a security trouble which runs as separate programs in computer systems. Sandbox is especially used to execute the law which isn't tested or it may be conceivably unverified without harming the host machine or the operating system. A set of guest programs are set for the fragment to run in a tightly controlled set of coffers. Sandbox in a testing terrain is that the untested canons can be changed and product terrain can be experimented as out righted which includes modification control and web development.

Although malwares have been around since the early days of computers, the complication and invention of malware has increased over the times. The rearmost ransomware has drawn attention to the troubles of vicious software, which can beget detriment to private druggies as well as pots, public services governments, and security institutions. To help this, vicious exertion must be detected as early as possible, before it conducts its dangerous acts which is a tedious task especially when dealing with new and unknown malware able of nearly emulating entire end-stoner operating surroundings, a sandbox safely executes suspicious law so its affair exertion can be observed.

II. OBJECTIVES

Detecting vicious software without executing it's called static analysis. The discovery patterns used in static analysis include string autographs, attributes of attacks etc. The executable has to be unpacked and deciphered before doing static analysis. But static analysis is as good as their database at which it matches the attack pattern. But there's a space constraints at which we can not use huge databases. Traditional attacks are well known and easy to descry but now a days as hackers becomes too smart they construct new advanced pitfalls which are veritably delicate to descry. So, assaying the geste of a vicious law while it's being executed in a controlled or isolated terrain is called dynamic analysis. It opens the malware's real geste which is more flexible to static analysis. still, it's both time ferocious and resource consuming, therefore increases the scalability issues.[3]

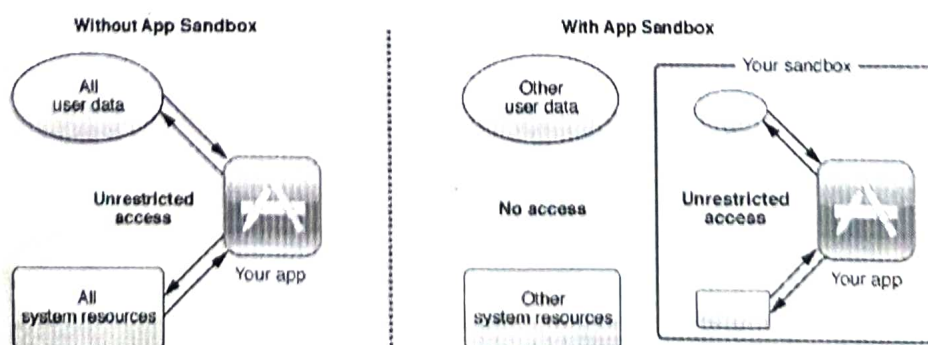


fig 1: resource access with and without sandbox





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An International Open Access, Peer-reviewed, Refereed Journal

The Expanded Frame In Smart Dust Iot As A Dynamic Plain Prediction Technique

¹Ms.Divya P, ²Sahal P S,

¹Assistant Professor, ²MCA Scholar

¹Department of MCA,

¹Nehru College of Engineering and Research Centre, Pambady, India

Abstract : The extraordinary powers of the small dust-sized gadget known as Smart Dust. With a volume of only a few millimeters and at a cheap cost, smart dust combines sensing, processing, wireless communication, and autonomous power supply. It is suggested that these gadgets be so tiny and light that they can float around like regular dust particles. Because of these characteristics, Smart Dust can be used to observe real-world phenomena without significantly altering the original process. We hope that Smart Dust will eventually be as little as a pack of dust, although its current feasible size is around a 5mm cube. Isolated sensors of smart dust are often referred to as motes because of their microscopic size. MEMS, which stands for micro-electro-mechanical sensors, is another name for these gadgets.

IndexTerms - Smart Dust, IoT, MEMS, Testbed, Rectenna.

I. INTRODUCTION

The new technology "Smart Dust" is composed of "Motes," which are small, wireless sensors. These gadgets would eventually become intelligent enough to communicate with other sensors and small enough to fit on a pin head. The Smart Dust project at Berkeley investigates the restrictions on the size and power requirements of autonomous sensor nodes. To make the nodes as economical and simple to deploy as feasible, size minimization is crucial. The study team is convinced that they can fit the necessary sensing, communication, and processing hardware, along with a power supply, in a volume no larger than a few cubic millimeters and still achieve excellent performance in terms of sensor functionality and communications capability. They are known as "Smart Dust" and are millimeterscale nodes. Future Smart Dust prototypes could very well be so tiny that they float in the air on the currents, sensing and corresponding for hours or even days. Just a few cubic millimeters in volume, Smart Dust sensors are networked computer nodes. A whole sensor network node, comprising a power source, processor, sensors, and communications components, is what the smart dust project aspires to achieve in a single cubic millimeter. Given that a cubic millimeter battery can store 1J and can be supported by a solar cell or vibrational energy source, intelligent dust motes could function for years. Building a millimeter-scale sensing and communication platform for a widely dispersed sensor network is the aim of the Smart Dust project. It will have sensors, processing power, bi-directional wireless communications, and a power source, and it will be about the size of a grain of sand. Micro-electromechanical systems (MEMS) and circuit designs are used to cast certain functions into specific silicon in smart dust.

13



RESEARCH ARTICLE

OPEN ACCESS

Digital Data Storage on DNA

Dr. Vineetha K.R Associate professor, Nehru college of engineering and research centre

Melvin Vincy, MCA student scholar, Department of MCA, Nehru college of engineering and research centre

ABSTRACT

Humans have always loved having access to as much knowledge as they can in the least amount of time and space. Next Generation Computers and High-Speed Internet as a result have become more popular in recent years. We have seen incredible developments, such as the switch from large hard drives to portable flash drives, which has made managing personal data storage much easier. Yet, the current data storage technology falls far short of being able to manage huge data in an effective manner. An appropriate media is urgently required for information retrieval and archival reasons. Since it resembles the sequential code of 0s and 1s in a computer, deoxyribonucleic acid (DNA) is seen as a viable medium for such uses. Throughout the last ten years, this discipline (DNA Computing) has grown to be a research focus due to significant advancements. "A penny-sized gadget could contain the entire information as the entire Internet," a statement that sounds like it is straight out of science fiction. Four grams of DNA can hold all the knowledge that the world generates in a year, according to the research's studied data. Here, the subject of "Data Storage in DNA" is discussed from the earliest studies to the most recent ones, along with its methods, benefits, and disadvantages. It is also discussed why DNA storage is necessary and how it may eventually cause a paradigm change in computing

KEYWORDS: DNA data storage, Digital data

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I. INTRODUCTION

As more and more data is produced every day, the demand for data storage devices is rising daily. At the moment, data is stored on gadgets like flash drives, portable hard drives, and optical discs. Yet, the environment is polluted by silicon and other non-biodegradable materials used in data storage. As a result, more modern equipment is required for data storage and archival procedures. The current data storage technology will not be sufficient to store data in the future as data is increasing daily. Lack of storage space can cause even potentially vital information to be lost. Due to improper backup mechanisms, many people lose crucial data every day when they accidentally delete files. It may be challenging to recover data if liquids harm the drive's electronic components. There are numerous methods for data backup. To store data, one can use cloud services. Yet, a constant internet connection is required in order to access data that is stored in a distant cloud. So, it is impossible to access the data that is saved in the cloud without a working internet connection. Data can also be kept on an external drive. But data loss is also a problem with external drives. During the past ten years, scientists and researchers have worked to create a reliable method of storing data on a medium that is dense, reliable,

and everlasting. They are adhering to DNA, the store material that nature uses. The small size and high density of DNA make it an ideal storage medium for a variety of purposes. 455 exabytes of data may be stored in just 1 gm of dried DNA. Hence, it is possible to conveniently store Genetic data. When compared to conventional storage, working with DNA requires very little power and also the storage error rates are far lower than the average storage gadget. DNA is a substance that is incredibly durable and has a lengthy shelf life. Even thousands of years later, it is possible to extract the information contained in DNA. You can obtain as many copies as necessary by employing polymerase chain reaction techniques. Although large virtual DNA molecules are used to store the data, short DNA strands that have been synthesized are used to encode the data. Short strands make data manipulation simple. Information contained in DNA can be read concurrently and at random. Moreover, data is compressed without any loss using compression techniques. Adenine, which will be denoted as A, Cytosine, Guanine, and Thymine are the four nucleotides of DNA employed in the model.



Unlocking The Power of The Underrated Digital Smell Technology

Dr. Deepa A¹, Fathima Thahasim U²

¹Associate Professor, Nehru College of Engineering and Research Centre, Thrissur, India

²Student, Nehru College of Engineering and Research Centre, Thrissur, India

Abstract—Digital Smell Technology is a rapidly developing field of technology that seeks to bring the sense of smell into the digital world. It is aimed at creating a platform for the digital transmission of smells through a computer, smartphone, or other device. The technology has the potential to revolutionize social and commercial interactions by allowing people to experience smells from around the world. It could also be used to enhance virtual reality experiences, providing an even more immersive experience. This paper outlines the potential applications of digital smell technology and the research that is being conducted to make these applications a reality.

Index Terms—Scentography, iSmell, Digital Smell, Virtual Reality.

I. INTRODUCTION

Digital smell technology is a relatively new field of research that seeks to create and replicate the sense of smell in a digital form. Until now, online communication relied on two of our senses: sight and hearing. Sooner the sense of smell will also be evolved. Digital smell technology also called olfactory technology is the main application of electronic-nose which is an engineering discipline dealing with olfactory representation. Through the use of this technology it can detect, send, transmit and receive scent via the internet. A novel technology is being developed to virtually detect odors. That is to bring alive the experience of sensing with more realistic effects along with visuals in digital media like movies, video games, motion pictures, virtual reality (VR) etc. Virtual reality concepts include digital smell, virtual theatre, electronics hand gloves, multipoint surround sound system, 3D goggles.

When used in communications, scent becomes a new information channel by taking multimedia to the next level. Imagine smelling perfume online before purchasing it, sending scented E-cards via scent-

enabled websites, and experiencing the burning smell of rubber or plastic in your favorite TV show or game.

The sensing component of this technology employs olfactometers and electronic noses. The combination of hardware and software creates the technique of Digital smell. The smell will be produced by the hardware part and software will evaluate the smell and generate specific signals for each smell. And the hardware device like speaker is connected to the computer system. Scentography is the process of creating and storing odors by chemically and electronically recreating a smell.

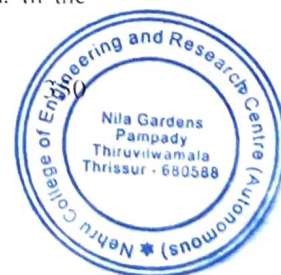
In future, the smell or scents is becoming a communication mode for more realistic effects and this Digital smell technology is directing the way to smell things using a device that connects to your PC or mobile phones.

This paper studies the Digital revolution of smell technology. Furthermore, this article also brings the mechanisms inside the digitality of the fragrances. Potential applications of digital smell technology could include virtual reality gaming, scent-based advertising, and remote medical diagnosis.

II. HISTORY

The history of Digital smell technology dates back to the 1950s when the first electronic nose was developed. Hans Laube invented the Smell-O-Vision, a system releasing odor during the film projection to smell the real instance happening in the movie, which had a competition with AromaRama invented by Charles Weiss that emitted scents through air conditioner in theatres.

In the 1980s, researchers developed the first Digital Scent Synthesizers which could create smells from digital information. These early devices were limited in the types of smells that could be created. In the





HUMAN COMPUTER INTERACTION AND ITS FUTURE SCOPE

Ashish L, Ranjitha Menon KG

Assistant Professor, MCA Scholar
Department of MCA,
NCERC, Trissur, India

Abstract : As the name suggests, Human Computer Interaction (HCI) is concerned with how people and computers communicate with one another. In this article, we take a look at the main computer vision-based techniques to multimodal human-computer interaction. This paper concentrate in particular on fundamental vision methods (body, gesture, and gaze) and efficient interaction methods (detection of facial expressions and emotion in audio) that are essential for Multimodal Human Computer Interaction (MMHCI) research. I do not want to offer a comprehensive report because MMHCI is a very dynamic and vast study area. This report's primary contribution is to highlight some of the most recent developments in MMHCI-related methodologies and applications while also consolidating some of the major concerns and theoretical frameworks. I also provide a vision of what HCI might look like in the future. This report describing how HCI will undergo a dramatic transformation in the future, from improved HCI devices to sophisticated HCI methodologies. The most sophisticated solutions incorporate enhanced GUI-related motions, VDU textiles, and other features along with connected devices that can simplify a person's interaction with a computer.

Index Terms - Multi model interfaces, Human centered design, Gesture recognition, Large scale body movement, Gaze recognition, User interface, User experience.

I. INTRODUCTION

HCI (human computer interaction) is a study of how humans perform colourful tasks using computers. And how they're using it in such a way where people are enjoying and doing effectively through the commerce from the computer. In the starting time only concerned with computers, but currently mortal- computer commerce has expanded in maximum areas to cover nearly all forms of information technology design available in our girding[1]. A multimodal human computer interaction (MMHCI) system responds to inputs from many communication modalities or channels (e.g., speech, gesture, writing, and others). MMHCI sits at the nexus of numerous fields of study, including artificial intelligence, psychology, and computer vision. Effective natural human-computer interaction is essential as computers are increasingly incorporated into everyday items (ubiquitous and pervasive computing). In many colourful ways or styles where humans interact with the computer to do their work fluently and efficiently. The capacities to respond and smell sweetly according to humans(the users) affective feedback and descry, interpret the affective countries shown by the stoner instinctually, this is the original step of an intelligent human computer interaction(HCI)[2].For many applications, users must be able to interact with computers in a natural way, similar to how they would interact with people in person. Techniques for human-computer interaction must keep up with the rapidly developing technology. In order to provide an answer to the question, "How will human computer interaction be in the future?" this report illustrates some of the applications and areas of interest where human computer interaction can be applied. The purpose of this paper is to consider the changes underway and lay forth a new paradigm for comprehending human interaction with technology. There is a need for a broader range of methodologies that prioritise human values. Here, it's important to take into account both positive and bad factors. On the one hand, individuals utilise technology to lead healthier and more joyful lives, develop their creative talents using digital tools, and get immediate access to information that they need.

DEFINITION

The study of user interactions with computers is known as human computer interaction (HCI). It is frequently seen as the nexus of computer science, behavioural sciences, design, and a number of other academic disciplines. The user interface (or simply interface), which combines both software and hardware, is where users interact with computers. Examples of this include characters or objects displayed by software on a computer monitor, user input received via hardware peripherals like keyboards and mice, and other user interactions with large-scale computerised systems like aeroplanes and power plants. As a human and a machine are studied together, supporting knowledge on both the human and the machine side is used in human-computer interaction research. Techniques in computer graphics, operating systems, programming languages, and development environments are pertinent on the machine side. Communication theory, visual and industrial design, linguistics, social sciences, cognitive psychology, and human factors are pertinent



Cloud Security and Homomorphic Encryption techniques For Identity Management in Cloud Computing.

Dr, Vineetha KR, *Associative Professor, Nehru College of Engineering and Research Centre.*

Harshil S, *Department of MCA, Nehru College of Engineering and Research Centre.*

ABSTRACT

Today, business organizations operate in a dynamic environment and thus need to keep adjusting in terms of size and resources. To meet these changing needs, firms are required to scale up their IT infrastructure (hardware, software, services etc.) by investing time, money and other scarce resources. This scaling up process, generally, is slow and expensive option as companies are required to make huge capital investments in land, building, hardware, software, employees etc. Further, owning a huge infrastructure merely is not a guarantee of meeting business requirements smoothly. In fact, most of the times; companies fail to utilize these resources fully, resulting in negative returns on such investments. In short, there are lots of challenges associated with these kinds of investments that discourage firms to own them.

Cloud computing is a new age technology that overcomes some of challenges associated with having own IT infrastructure. It is a paradigm shift in computing that is gaining acceptance in Information Technology industry now (Pring et al., 2009). This technology looks similar to its predecessors such as client/server computing, peer to peer computing, distributed computing, cluster and grid computing but is far superior in terms of performance and optimal utilization of resources. In this computing, data moves away from personal computer and desktops to large data storages called data centers to deliver applications as a service (Dikaiakos et al., 2009). It is the next step after Grid computing in the evolution of on-demand and pay-as-per-use model (Schubert and Jeffery, 2012).

This certainly, has come up as a boon for the all kinds of organizations. Be it small or big, profit or non-profit, govt. or private, all can get benefitted by this. Since cloud computing is in nascent stage, especially in India, therefore, there are many interesting challenges pertaining to its implementation & maintenance that provide research opportunities in this area. This research primarily deals with the systems for managing identity of users over the cloud.

Key words: Cloud Security, RSA algorithm, Homomorphic encryption.

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I. INTRODUCTION

Security is required to ensure the resources' Confidentiality, Integrity, and Availability (CIA).

Data and information can be encrypted and stored in the cloud.

If an operation needs to be done on the data, though, the data must first be decrypted. Nonetheless, attacks are all ways possible on encrypted data. The fact that everything is done by a third party instead of the data owner puts security and privacy as a top concern in cloud computing. All private or public data is accessed and stored via remote computers that are not within the data owner's control. Data confidentiality is compromised because the cloud server's management of the data is outside the confines of the data owner's trust.

Strictly speaking, cryptographers, who utilise techniques of cryptography to secure data, are concerned with data secrecy. The process of converting plain text into cypher text is known as cryptography. This method is typically used to transport data securely from one location to another by making sure that the data can only be accessed by receivers and users who have been verified.

13





Back Propagation

Dr. Deepa A¹, Fathima Thasliya P A²

¹Associate professor, Department of MCA, Nehru college of Engineering and Research Centre, Thrissur

²Department of MCA, Nehru College of Engineering and Research Centre, Trissur

Abstract: Back Propagation Algorithm research is now very active in the Artificial Neural Network (ANN) and machine learning communities. It has increased a wide range of applications, including image compression, pattern recognition, time series prediction, sequence identification, data filtering, and other intelligent processes carried out by the human brain, have had enormous results. In this paper, we give a quick introduction to ANN and BP algorithms, explain how they operate, and highlight some of the ongoing research projects and the difficulties they face

Keywords: Back Propagation Algorithm, Artificial Neural Network, Feedforward artificial neural network, Summary working, Training, and Applications

I. INTRODUCTION

Artificial neural networks (ANNs) are logical techniques that are based on how the human brain learns. Synthetic neural networks (ANNs) consists of tiny processing units known as Artificial Neurons, which can be trained to carry out complex calculations, and processes information similarly to organic neurons in the brain. Humans learn to read, write, comprehend speech, detect patterns, and distinguish them all through imitating others. ANNs are trained rather than programmed in a similar manner. A large family of Artificial Neural Networks (ANN) known as Back Propagation (BP) have a design made up of numerous interconnected layers. The BP ANNs are an example of an ANN type whose deepest-descent learning algorithm is used. They can also minimise the inaccuracy of nonlinear functions with high levels of complexity if given the right number of Hidden units.

Many complex problems in the real world have been effectively solved by ANN, such as forecasting future trends based on a company's vast historical data. All engineering disciplines, including biological modelling, decision and control, health and medical, engineering, and manufacturing, have effectively adopted ANN.

Both the Feed Forward ANN and the Feedback ANN are members of the BP family (Recurrent Networks). We will just look at Feed Forward BP ANN in this section because it is crucial to understand it before studying Feedback BP.

II. LITERATURE SURVAY

The output value of the feed forward computation neural networks is not close to the target or teacher output value. Target and actual feed forward values have different lead error values. In order for the neural network model to provide the best prediction output with excellent tolerance, the error rate must be kept to a minimum. Backpropagation can be used for this.

A key back propagation milestone:

- 1) J. Kelly, Henry Arthur, and E. Bryson deduced the fundamental concept of continual backpropagation with respect to the control hypothesis in 1961.
- 2) A multi-orchestrate dynamic system improvement approach was presented by Bryson and Ho in 1969.
- 3) Hopfield introduced his concept of a neuronal framework in 1982.
- 4) Backpropagation received affirmation in 1986 thanks to the efforts of David E. Rumelhart, Geoffrey E. Hinton, and Ronald J. Williams.
- 5) Wan was the first person to use the backpropagation approach to win a stellar example acknowledgement competition in 1993

III. METHODOLOGY

The Back-propagation Neural Network (BPNN) Algorithm, which is conventional, commonly utilised to address a variety of real-world issues. In order to identify the mistakes in the hidden layers, the BPNN calculates the errors of the output layer. Back-Propagating is an extremely effective solution for issues where the relationship between the output and inputs cannot be determined. It has been effectively used in a variety of applications because of its adaptability and learning capabilities [7].

An input layer, at least one intermediate hidden layer, and an output layer are the minimum number of layers that make up a Back Propagation network.





Revolutionizing Aquatic Life: A Comprehensive System for Monitoring, Controlling and Optimizing Aquarium Environments with the Power of IoT Technology

¹Ms.Divya P, ²Sneha Vijayan T

¹Assistant professor, ²MCAScholar

¹,Department of MCA

¹Nehru College of Engineering and Research Centre, Pambady.

Abstract: Many individuals today keep fish as pets in their homes. The aquarist has been feeding the fish in the aquarium tanks, necessitating a suitable arrangement for upkeep. Changes in water quality, feeding fish, regulating temperature and lighting, and difficulty manually assessing an aquarium's conditions are some of the issues encountered. Therefore, It's important to improve the water quality and regularly check the physical parameters. So, this project suggests a system that has sensors and can be operated in real-time. It monitors the water's pH level, turbidity, and temperature. It also detects fish eating. To keep track of the aquarium's condition and transmit updates to the user's web application, an IoT-based system is put in place. In order to ensure that the fish are not overfed or underfed, intelligent aquarium management has been incorporated using a temperature sensor, pH sensor, and turbidity sensor. This reduces the amount of manual labour needed to maintain the aquarium.

Index Terms- : IoT (Internet of Things), Reliable, Intelligent, Aquatic, Monitoring, smart

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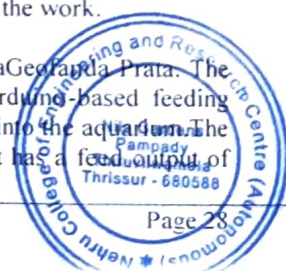
I. INTRODUCTION

Over the past 20 years, there have been a constant increase in pet ownership. The most popular pet right now, after dogs and cats, is freshwater fish. Fish aquarium management is a complex and challenging chore in and of itself. You have to accomplish a number of actions when you have to clean your aquarium or feed the fish. After an hour, you must manually feed your aquarium simultaneously turning off the air pump and powerhead. All equipment in the existing system, especially lights, heaters, and filters, must be handled manually via electrical switches. To do this, one must approach the tank and manually operate the electrical switches to turn on and off the machinery. It is considerably more difficult to maintain an aquarium since the fish need to be fed twice daily, even if this requires the owner to go up to the fish tank and personally feed the fish. When the owner is away, he occasionally loses control of the aquarium and is unable to feed the fish. The idea we came up with is a Smart Aquarium. Compared to current solutions on the market, the project will be more effective. In addition to being more efficient, it will also be less expensive. The audience for the project is a group of people who want to keep fish in their homes or offices but don't have time to care for the project or are worried about having to keep asking their neighbors to take care of the fish when they're not there. An automated fish care system is the focus of the project. Its automated functions will take the place of manual maintenance for fish aquariums. The Smart aquarium system is a straightforward system that enables a user to monitor a variety of water conditions, including temperature, pH level, and turbidity. In addition, it lets the user use a fan and bulb to control the temperature and feed fish.

II. LITERATURE SURVEY

The pertinent literature is reviewed in this section. It explains the many methods applied to the work.

A.Smart Aquarium Based Microcontroller by Budi PrijoSembodo and NovendraGeopada Prata. The scientists Budi PrijoSembodo et al.[1] developed a smart aquarium system with an Arduino-based feeding system that manages the servo motor as an open and close system for the exit of fish food into the aquarium. The servo motor can automatically distribute fish food that was controlled by Arduino, and it has a feedback of



Brain Machine Interface the Paths, Dangers and Strategies of Creating Super humans with Its Dominating Market Analysis

Sumi M, Assistant professor, Department of MCA, Nehru college of Engineering and Research Centre, Thrissur, India, Sumimurali118@gmail.com

Vishnu AS, Student Scholar MCA, Nehru College of Engineering and Research Centre, Thrissur, India, Vishnuofficial18@gmail.com

Abstract: Recent years have seen an increase in interest in brain-machine interface (BMI) that have been lost, and even the development of superhuman abilities. BMI has great potential advantages, but it also carries some risks, including as the possibility of privacy violations, loss of autonomy, and social injustice. Strict moral standards, openness, and user education are tactics for reducing these hazards. The desire for better healthcare and communication technologies, as well as rising investment in research & development, are projected to fuel the BMI market's growth in the upcoming years. Neuralink, Kernel, and Blackrock Microsystems are major market players. It is crucial to think about the ethical ramifications as BMI technology develops and to make sure that it is designed and applied in a fair and responsible way.

Keywords — Brain computer interface, Electroencephalography, Functional magnetic resonance imaging, Luke arm, Single-Unit Recording, Transcranial magnetic stimulation.

I. INTRODUCTION

The goal of brain-machine interface (BMI) technology, which is quickly developing, is to provide a direct line of communication between the human brain and a computer or other electronic gadget. BMI technology has a wide range of possible advantages, but there are also a number of potential risks to be aware of, including the potential for hacking or other security breaches and moral concerns over the development of "superhumans". Researchers and decision-makers are looking into ways to guarantee the ethical and safe advancement of BMI technology in spite of these worries. The growing demand for applications like prosthetics, virtual reality, and neurological research is likely to propel the market for BMI technology to considerable growth in the upcoming years.

II. BRAIN MACHINE INTERFACE HISTORY

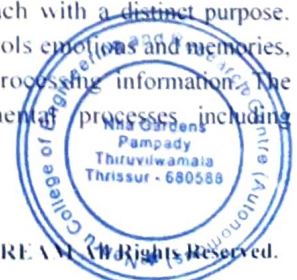
A prosthetic limb or computer can communicate directly with the brain thanks to a technique called a "brain machine interface," or BMI. BMI's origins can be traced to the invention of electroencephalography (EEG), a method for capturing electrical activity in the brain, in the early 20th century.

Researchers started looking into the idea of controlling external equipment like prosthetic limbs with EEG in the 1960s. However, the first effective BMI experiments weren't carried out until the 1990s. Animals' brains were implanted with electrodes for the purpose of these research, and the signals from the implants were used to operate extracellular machinery [1].

Since then, BMI technology has developed quickly, and scientists have created a variety of invasive and non-invasive methods for recording brain waves. With the use of BMI technology, persons with paralysis, neurological diseases, and other ailments can now take control of their body and interact with their surroundings just with their thoughts.

III. ARCHITECTURE OF BRAIN AND THOUGHTS CONTROLLING

All bodily processes, including thoughts and emotions, are managed by the brain, a sophisticated organ. It is made up of various areas, each with a distinct purpose. While the limbic system controls emotions and memories, the cortex is in charge of processing information. The brainstem regulates fundamental processes, including breathing and heartbeat.





IATRICAL DIAGNOSIS USING DEEP LEARNING

Dr Deepa A, Associated Professor, Department of MCA, Nehru College of Engineering and Research Centre.

Fathima Shahana, Student Scholar, Department of MCA, Nehru College of Engineering and Research Centre.

ABSTRACT: Artificial intelligence (AI), which has gained popularity and been incorporated into every industry, has produced benefits that have boosted production and helped us solve challenging problems. Deep learning (DL) is a branch of AI that was created to simulate the human brain. It allows a computer to carry out tasks that people would naturally do. It is a technology that is frequently employed to arrange unsupervised or unlabeled data and discover patterns within them. The healthcare sector is unique compared to other sectors. People expect the highest caliber of care and services in this high-priority sector, regardless of their ability to pay for them. Typically, a medical professional is responsible for interpreting medical data. Because of its subjectivity, the complexity of the disease itself, and the wide range of possible interpretations, a human expert's ability to provide a medical diagnosis is severely constrained. As a result of DL's use in medical drug development, medical imaging, genome synthesis, disease detection, and other areas, the field of medical science has been significantly impacted and it is now offering innovative solutions with high precision for medical diagnostics and is seen as a crucial technique for upcoming applications in the healthcare industry. The processing and type of data used in the models have substantially accelerated the progress of DL in this industry. The success rate of a DL model can be significantly impacted by concentrating on the type of data—preexisting or curated—in a dataset. DL is employed to identify conditions such as skin blemishes, neurological disorders, and chronic illnesses. It also discusses various deep learning techniques and their diagnosing methods to understand how DL is used in disease diagnosis and how it has evolved into one of the most effective methods for disease diagnosis. We provide some future research topics that could be used to guide additional studies based on the summary.

KEYWORDS:

Medical, Diagnosis, Deep Learning, Artificial Intelligence

1. INTRODUCTION:

Medical professionals may have misdiagnosed a patient, which could have an impact on the treatment's outcome. When a diagnosis is made incorrectly, the patient may receive the wrong treatment and not receive the necessary care. Experts frequently make symptoms because they become preoccupied with features that seem important at the time. The environment in which a patient is diagnosed as well as the diagnostic tools themselves can lead to inaccurate diagnoses. These factors collectively could have a serious negative effect on the patient's health, raise overall medical costs, and result in mental suffering. The engine that helps advance the development of medical care quality is deep learning. AI is astonishingly applied in both academia and industry to enhance "intelligent medicine," with the capacity to generate precise predictions from many sources of information. Deep learning algorithms can be used for the analysis of medical data and help diagnose a variety of medical issues. Frameworks that use deep learning generate reliable diagnosis findings using patient information such as side effects, lab results, and some significant qualities. The machine will decide which data will be used as a training and trained dataset for later use based on how accurate the results were. Doctors are currently gathering all the patient's data and administering medications to patients. Due to a few factors, this circumstance consumes a significant amount of time.

We can enhance the accuracy, speed, reliability, and performance of the diagnosis on the current system by using deep learning classification algorithms for a specific illness. Deep learning is suitable for automated decision-making based on a variety of learning techniques, separating simple samples from realistic data, and making precise and accurate judgments. However, there are some significant problems with medical data, including the fact that most medical information has a large number of dimensions, which makes it difficult for rule-based heuristics to work and causes challenges with regularly changing information for medical applications. This paper's main goal is to provide a succinct and straightforward discussion of the application of deep learning in

SCOPE AND RESOLUTION IN NEURAL PROSTHETICS AND CONCERNS FOR THE WHOLE BRAIN EMULATION

¹Ms.Divya P, ²Sabana jasmine c

¹Assistant professor, ²MCA Scholar

¹, Department of MCA

¹Nehru College of Engineering and Research Centre, Pambady
divyapakkattil@gmail.com, jasminejasmi777@gmail.com

Abstract: The idea of recreating the entire human brain on a computer, replete with thoughts, feelings, memories, and skills, is known as whole brain emulation (WBE), and it has long been a staple of science fiction. Recent claims made by WBE proponents claim that its realization will take place within the next few decades. The basic goal is to take a particular brain, scan its anatomy in great detail, and then develop a software model of it that is so close to the original that, when utilized with the appropriate technology, it would function almost exactly like the real brain. By doing this software-based intelligence would imitate biological intelligence (without necessarily understanding it). The mind uploading procedure requires a number of primary tasks that can be completed concurrently or sequentially after WBE is formed.

Keywords:

computational architectures; brain functions; computational neuroscience; neural networks.

I. INTRODUCTION

Whole brain emulation (WBE), commonly referred to as mind uploading, is a potential method for one-to-one modelling of how the human brain works in the future. The WBE method copies the functional structure of biological nerve systems into software in order to create software intelligence. The approach makes the assumption that perception, action, emotion, and intelligence emerge from a sufficiently accurate imitation of the low-level neural functions, even if this is accomplished through a software process, rather than attempting to understand the high-level processes underlying them. We list the following four key technologies as prerequisites: brain scanning, model creation from the scan, computer implementation of the model, and environment and body simulation.

Despite the fact that WBE concentrates on the brain, a realistic project would probably also need to consider a highly complicated body. The mimicked nervous system to communicate with a virtual or physical environment, as well as the physiological feedback loops that affect brain activity. The scanned brain cannot be used since the only procedures that can now produce complete data at cellular and subcellular resolution are harmful. It seems doubtful that non-destructive procedures will be created anytime soon for a variety of reasons. Whole brain emulation is a technique for developing a type of artificial intelligence by simulating human brain functionality in computer programmers. Unless alternative types of AI are developed first, which would then shift our direction, it appears likely that we will be able to simulate brains this century.

i. Philosophical Assumptions

Physicalism While various non-physicalist theories of mental characteristics could permit them to exist in the situation of WBE, physicalism (everything supervenes on the physical) is a useful but not required assumption. Emulation of success criterion 6b is predicated on numerous realizabilities (that the same mental property, state, or event can be implemented by different physical properties, states, and events). Persuasive proof for multiple realizability would be provided by sufficient apparent success with WBE. Emulation up to and including level 6a does not, in general, seem to be strongly dependent on any metaphysical presumptions.

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ROBOTIC PROCESS AUTOMATION

¹DR. SUDHEER S MARAR, ² AJMAL K

¹Professor, ²MCA Scholar

¹Department of MCA,

¹Nehru College of Engineering and Research Centre (NCERC), Thrissur, India

Abstract : RPA stands for Robotic Process Automation, which is the use of software robots or bots to automate repetitive and rule-based tasks typically performed by humans. RPA technology can mimic human actions in digital systems such as user interfaces, databases, and spreadsheets.

In essence, RPA involves creating software robots that can interact with other software applications and systems in the same way that humans do. These robots can be programmed to perform tasks such as data entry, report generation, invoice processing, and customer service inquiries. The abstraction of RPA refers to the high-level concept of using software robots to automate tasks, without getting into the specific technical details of how the robots are programmed or how they interact with other systems. This abstraction allows non-technical users to understand the potential benefits of RPA without needing to have a deep understanding of the underlying technology.

Index Terms - Automation, AI, business process management.

I. INTRODUCTION

Artificial intelligence (AI) has become an increasingly important technology in our daily lives, transforming industries and changing the way we work and live. AI has gained a lot of attention in recent years. However, building and deploying AI solutions has traditionally required specialized skills and knowledge, making it inaccessible to many businesses and individuals. This is where no-code AI comes in. AI can be useful to anyone in almost any profession, from doctors and lawyers to marketers, teachers, and project managers. Many of these people probably don't have the technical skills needed to write code or the free time to learn it. [1]

No-code AI is a revolutionary approach to building machine learning models that enables users to create and deploy AI solutions without any programming skills. With no-code AI, anyone can leverage the power of machine learning to automate repetitive tasks, analyse data, and make predictions, all without having to write a single line of code.

The concept of no-code AI has democratized access to AI technology, allowing businesses and individuals to develop and deploy AI solutions quickly and efficiently. It has also opened up new opportunities for innovation and problem-solving, as more people can now leverage the power of AI to tackle real-world challenges.

In this seminar, we will explore the world of no-code AI, including its benefits, limitations, and best practices. We will also look at some of the tools and platforms available for building and deploying no-code AI solutions, and explore case studies of successful no-code AI applications. By the end of this seminar, you will have a solid understanding of no-code AI and its potential for transforming the way we work and live.

What is RPA?

Robotic process automation (RPA) is a software technology that facilitates the creation, deployment and management of software robots that mimic the behavior of humans interacting with digital systems and software. Just like humans, software robots can do things like understand what's on the screen, make the right keystrokes, navigate systems, recognize and extract information and perform various actions. But software robots can do the job faster and more human-like without getting up or taking a coffee break.



Lighting the Way Forward: Exploring the Exciting Advancements and Applications of LiDAR Technology

¹Sidharthan V. U., ²Ms. Divya P.

¹ MCA Scholar, Department of MCA, Nehru College of Engineering and Research Centre, Pambady, India

² Assistant professor, Department of MCA, Nehru College of Engineering and Research Centre, Pambady, India

Email - ¹sidharthan6242gmail.com, ²divyapakkattil@gmail.com

Abstract: : LIDAR (Light Detection and Ranging) is a remote sensing technology that uses laser pulses to measure distances between the sensor and objects or surfaces. It emits laser light and measures the time it takes for the light to bounce back to the sensor after hitting a surface, allowing for accurate distance calculations. LIDAR has applications in mapping, geology, archaeology, forestry, and autonomous vehicles. It can create high-resolution maps, detect geological features, create digital models of historical sites, measure forest canopy height and density, and help autonomous vehicles create 3D maps of their surroundings and detect obstacles in real-time. LIDAR has the potential to revolutionize various fields and has become an increasingly important tool for remote sensing.

Key Words: Lidar; remote sensing ; laser pulses.

1. INTRODUCTION:

LiDAR is a remote sensing technology that uses a narrow beam of coherent light energy to measure distances. It provides pulses of high peak intensity that enable it to penetrate clear to moderately turbid coastal waters for bathymetric measurements and to probe gaps in forest canopies for topographic data. LiDAR systems employ an accurate clock to record the round-trip travel time between the transmission and reception of a reflected laser pulse. The development of LiDAR technology started in the 1970s and was implemented aboard aircraft in the late 1980s for the accurate determination of terrain models. Early systems were limited by complexity, cost effectiveness, and poor georeferencing, but these limitations were gradually overcome with the availability of more reliable electronics, advanced lasers, and increased geo-accuracy afforded by GPS. Current systems use commercial lasers that can pulse at rates as high as 200 kHz and inertial measurement units (IMUs) that provide pointing precision that enables georeferencing accuracy to the sub-meter level. LiDAR sensors can be categorized into three types: profiling, discrete return, and waveform. The mode of delivery of the laser light can also be used to characterize the technology, with pulsed and continuous wave LiDAR being the most common. It is important to note that while advanced scanning LiDAR can yield data which, if processed, can be viewed as an image; more simple profilers only deliver widely spaced range postings along a narrow corridor, and the user should be fully informed about the specifics of the instrument used to acquire the soundings and the associated caveats with the dataset.

2. LITERATURE REVIEW:

- "Light Detection and Ranging (LiDAR): An Emerging Tool for Archaeological Research" by William E. Banks and Christopher B. Rodning. This paper discusses the use of LiDAR technology in archaeological research, specifically in the discovery and mapping of archaeological sites.
- "Terrestrial LiDAR for 3D Vegetation Mapping: A Review" by C. Béland, J.-F. Pouliot, and M. A. Lefebvre. This review paper explores the use of terrestrial LiDAR technology for mapping and monitoring vegetation.
- "Review of LiDAR Remote Sensing Technologies for Urban Planning and Management" by Zhaoqing Yong and Yuhong Zhou. This paper provides a comprehensive review of LiDAR remote sensing technologies for urban planning and management, including urban land-use classification and building information modeling.



A Chatbot Application by using Artificial Intelligence and Natural Processing Language

¹Ms.Sumi M, ²Varsha J

¹ Assistant professor, ² MCA Scholar,

¹Department of MCA,

¹Nehru College of Engineering and Research Centre, Pambady, India

Abstract : The society has been greatly impacted by the modern era of technology. Chatbots are a common element in conversational services thanks to the development of the ultimate virtual assistants. Bots that use natural language processing and understanding are known as chatbots. In addition to assisting users with chores like locating the nearest cinema, chatbots can also be used to entertain users, help with home automation projects, offer business strategy advice, and assist in other ways. In this paper, we'll explain what a chatbot is and the many kinds of chatbots. We also suggest a classification based on requirements, usefulness, and market trends.

IndexTerms - Artificial Intelligence, Chatbot, Natural Language Processing, Machine Learning, AIML, etc.

I.INTRODUCTION

The economy and daily chores both heavily rely on technology. It is used in various ways around the world and for a number of purposes. Artificial intelligence has recently captivated the public's imagination. Artificial intelligence replicates a human's cognitive powers. The AI Chatbots are currently replacing human responses with this software since they are more accurate and closely resemble people. Widely recognized as a virtual assistant, a chatbot is a computer programme that acts as a colloquist between a human user and the bot[1]. It has gained tremendous popularity in recent years, largely as a result of significant advancements in artificial intelligence, machine learning, and other foundational technologies like neural networks and natural language processing. These chatbots use interactive questions to efficiently converse with any human. Many cloud-based chatbot services, including IBM Watson, Cleverbot, ELIZA chatbot, and many others, have recently been significantly more prevalent and made available for the growth and enhancement of the chatbot industry. Over the past few years, the art of interaction between humans and robots has significantly advanced as these conversational agents have grown more sensitive[1].

II.LITERATURE SURVEY

The adoption of AI chatbots by businesses to interact with clients and automate customer service chores has grown in popularity in recent years. Below is a review of existing research on AI chatbots with usage examples[1].

Creating an AI chatbot for personalized health advice by D. Kang et al: This study investigates the usage of an AI chatbot to give people personalized health advice. The chatbot uses natural language processing to comprehend user inquiries and offer tailored responses after being trained on a sizable dataset of health-related data. As an illustration, the healthcare provider Babylon Health utilises an AI chatbot to connect users with doctors and offer them health advice[1],[2].

A study by H. Chen et al. on chatbot design methods in speech communication systems: The approaches used to develop chatbots for speech conversation systems, such as natural language processing, managing conversations, and response creation, are discussed in this paper. The authors highlight the need of creating chatbots that can comprehend user inquiries and give thoughtful, conversational answers. For instance, Alexa from Amazon is a AI chatbot that can comprehend and react to voice commands, enabling users to operate their smart home gadgets, play music, and acquire information[2].

The article "Chatbot Technology: A Review of Design, Procedure, and Applications" was written by S. Anitha et al: With a focus on the advantages and difficulties of employing chatbots for business reasons, this article examines the design, development, and implementations of chatbot technology[2]. The authors emphasise the value of creating chatbots that can respond accurately to a range of user inquiries. As an illustration, the clothing company H&M utilises an AI chatbot to offer clients tailored fashion advice and to assist them in finding products.

AI Chatbots in Customer Service: The Effect of Personality and Communication Style on User Satisfaction" by S. Sree et al: The impact of chatbot personality and communication style on user satisfaction in customer service encounters is examined in this paper. The researchers discovered that consumers were happier with chatbots that talked in a conversational manner and had more

Empirical Evaluation and Prediction of Crop Yield Process Using Machine Learning Methodology

Dr. Vineetha K.R, Associate Professor, Department of MCA, Nehru College of Engineering And
Research Centre, vpvprakash@gmail.com

Hiba mol C, MCA student scholar, Department of MCA, Nehru College of Engineering and
Research Centre, hibaanees012@gmail.com

ABSTRACT - Agriculture is the most important thing for survival. The perspective of machine learning, or ML, may be a crucial one in the search for a viable and practical solution to the crop yield issue. Given the current method, which uses satellite imagery, climate-smart pest management, and manual counting, the results aren't particularly accurate. The primary objective of this study is to forecast agricultural production using a variety of machine learning methods. Random Forest has the highest accuracy among the classifier models used in this study, followed by Logistic Regression and Naive Bayes. The predictions made by machine learning algorithms will help farmers select the crop that will yield the most by taking into account factors like temperature, rainfall, area, and other characteristics. This bridges the gap that exists between the technological and agricultural sectors

KEYWORDS: Crop Yield Prediction; Logistic Regression; Naive Bayes; Random Forest; Weather Api

I. INTRODUCTION

Agriculture has been the primary activity of every society and civilization throughout human history, ever since it was invented. Not only does it play a significant role in the expanding economy, but it is also essential to our continued existence. Additionally, it is a crucial sector for the future of humanity and the Indian economy. Additionally, it contributes significantly to employment. The demand for production has significantly increased over time. In order to make a lot of stuff, people use technology in totally wrong ways. New hybrid varieties are created on a daily basis. However, these varieties lack the essential components of a naturally grown crop. The soil is degraded by these synthetic methods. All of this worsens the state of the environment even more. Most of these unnatural strategies are employed to avoid losses.

However, when agricultural growers have access to accurate crop production data, the loss decreases. Machine learning is a method that is rapidly expanding and supports decision-making in all fields to provide the most useful applications. Models should be examined prior to deployment for the majority of modern devices. The basic idea is to use models from machine learning to increase agricultural sector throughput. Because the number of parameters was higher in comparison, another factor that influences the prediction is the amount of knowledge imparted during the training period. The primary focus would be on precision agriculture, which places quality above adverse environmental factors. Numerous classifiers for machine learning, such as Logistic Regression, Naive Bayes, Random Forest, and others are

used to establish a pattern so that accurate forecasts can be made and stand on the erratic patterns of temperature and rainfall. We concluded from our investigation of the aforementioned machine learning classifiers that the Random Forest approach provides the highest level of accuracy. Based on the collection of data from the past, the system forecasts crops. The data used to provide the information come from historical weather, temperature, and other variables data. A list of crops with predicted yield values that match the inputted data is displayed by our application after it runs an algorithm.

II. LITERATURE SURVEY

Aruvansh Nigam, Saksham Garg, and Archit Agrawal [1] conducted experiments using the Indian government dataset, and found that the Random Forest machine learning method provides the best yield forecast accuracy. Simple Recurrent Neural Network, a sequential model, is more effective at predicting rainfall than LSTM is at predicting temperature. For the purpose of yield forecast, the article combines variables such as rainfall, temperature, season, area, etc. When all parameters are considered, the results show that Random Forest is the best classifier.

Leo Brieman [2] is specializing in the strength, accuracy, and correlation of the random forest method. The random forest algorithm builds decision trees using several data samples, predicts the data from each subset, and then determines the best solution for the system through voting. The data was trained in Random Forest using the bagging approach. The randomness must reduce correlation while retaining strength in order to increase accuracy.



RESTORATION OF VISION IN BLIND INDIVIDUALS USING BIONIC EYE

¹ Dr Sudheer S Marar, ² Amrutha R

¹ Professor and HOD, ² MCA Student Scholar

¹Department of MCA,

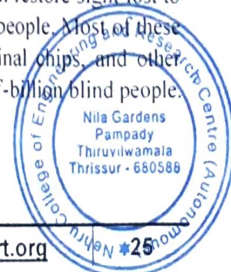
¹ Nehru College of Engineering and Research Centre, Pampady, India

Abstract: One of the terrible diseases that people fear in life is blindness. There were none 200 years ago. The development of a treatment for blindness. If a person is born blind, he must live his entire life in that capacity. A novel gadget, the Bionic Eye, was created as a result of the integration of biomedical and electronics, which has had a significant impact on research. The bionic eye, an artificial eye, helps certain people who are blind. A CCD camera attached to the lenses of the spectacles and a chip inserted into the retina make up a bionic eye. The photos that the camera records are Images from the camera are wirelessly transmitted to the chip, where they are transformed into electrical impulses that the brain may process. The main benefit of the bionic eye is that it offers those who struggle with age-related blindness a remedy. Cataract, diabetic retinopathy, glaucoma, retinitis pigmentosa, macular degeneration, myopia, hypermetropia, presbyopia, macular edema, keratonosus, trachoma, leucoma, cystoids macular edema, and drusen are the main disorders that damage the eyes. Retinitis pigmentosa and macular degeneration are two of these disorders that the bionic eye completely eliminates.

Key words - Bionic eye, retina, vision, visual prostheses

I. INTRODUCTION

The eye is a necessary organ that allows humans to see the beauty of the world. The human eye is a kind of natural camera. Being blind is a serious disease. A shortened version of Bioelectronics eye is Bionic eye. The bioelectronic connection is the cause of the bionic eye. It is an electrical component that takes the role of the eye's functions in whole or in part. It is employed to enhance or replace functions in the eye. Eye diseases may have an impact on our entire way of life because the eye constitutes the most sensitive portion of our body. The external world is visible through the eyes. We are unable to even think of a single flaw in it. In the present world, bionic eyes are mostly used to treat eye illnesses including retinitis pigmentosa and macular degeneration. This Bionic Eye's function is to offer crystal-clear vision. We wear glasses with a CCD camera attached to them, and a chip is inserted into the retina. Many cells are activated when light strikes it, aiding the brain's ability to perceive an image. The world of blindness is bleak. Everyone in our world hopes to see even a single ray of light. There was no remedy for this problem 200 years ago. Several treatments followed, including cornea and eye transplants, but these are primarily for glaucoma and cataracts. The power consumption for this cutting-edge technology, called "THE BIONIC EYE," is only one-fourth of a milliwatt. In this method, there is no implanted battery in the body. The size of the chip inserted into the eye is similarly incredibly small, measuring between (250 and) 50 micrometres. The benefit of this approach is that blindness may be partially avoided. There are two types of implantations Experimental implant and Sub Retinal implant. Based on whether the implant is positioned in front of or behind the retina, this classification is made. Australia is the centre that is pioneering Bionic Vision Australia. An enhanced bionic eye is being developed by researchers. With the use of bionic eyes, we can restore sight lost to retinal illnesses. The majority of those who report being blind are from India. India has 15 million blind people. Most of these illnesses can be treated. A bionic eye is made up of cameras, computers, receivers, transmitters, retinal chips, and other components. Within two years, patients will have access to a bionic implant that will cure the world's half-billion blind people.



PADDY LEAF DISEASE DETECTION USING CONVOLUTIONAL NEURAL NETWORK

Aswathy V.S, Student

Mr Pramod K, Associate Professor

Department of MCA, Nehru College of Engineering and Research Centre, Thrissur, Kerala

ABSTRACT

The spread of plant pests and diseases has increased dramatically in recent years. Globalization, trade and climate change, as well as reduced resilience in production systems due to decades of agricultural intensification, have all played a part. Plant pathogens can be fungal, bacterial, viral or nematodes and can damage plant parts above or below the ground. Identifying symptoms and knowing when and how to effectively control diseases is crucial. In this paper, we propose the idea of leaf detection using leaf images. precision Agriculture is a concept of farm management which makes use of IoT and networking concepts to improve the crop. Plant diseases are one of the underlying causes in the decrease in the number of quantity and quality of the farming crops. Recognition of diseases from the plant images is an active research topic which makes use of machine learning (ML) approaches. A novel deep neural network (DNN) classification model is proposed for the identification of paddy leaf disease using plant image data. Classification error were minimized by optimized weights and biases in the DNN model using a crowsearch algorithm (CSA) during both the standard pre-training processes. This DNN-CSA architecture enables the use of simplistic statistical learning techniques with a decreased computational workload, ensuring high classification accuracy. Paddy leaf images were first preprocessed, and the areas indicative of disease were initially extracted using a k-means clustering method. Thresholding was then applied to eliminate regions not indicative of disease. Next, a set of features were extracted from the previously isolated diseased regions. Finally, the classification accuracy and efficiency of proposed DNN-CSA model were verified experimentally and shown to be superior to support vector machine with multiple cross-fold validation.





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CONTINUOUS DELIVERY AND DEVOPS: A QUICKSTART GUIDE

¹Mr.Pramod K, ²Aswin D

¹Associate Professor, ²MCA Scholar

¹Department of MCA

¹Nehru College of Engineering and Research Centre, Pampady, India

Abstract : DevOps is a culture rather than a tool. As the name suggests DevOps is the combination of development and operation. It encourages the collaboration between development team and operation team in a software development environment. By combining these two teams, DevOps is able to deliver applications faster. It also helps in faster service to customers. Here the operation team and development team have a clear understanding of each other's process hence resulting in a stable and advanced product which meets the expectation of the customer. The collaboration also results in other great benefits like efficiency, stability better communication and so on.

IndexTerms - DevOps, development, operation, model.

I. INTRODUCTION

The concepts "development" and "operations" are combined to form the term "DevOps." Everyone is encouraged to take part in the organisational growth and operation in this culture. DevOps promotes communication between development and operations teams so that code may be sent to the production environment more rapidly and consistently. Organizations can provide applications and services more quickly thanks to DevOps. Also, it enables companies to provide better customer service and compete more successfully in the market. DevOps is a collection of IT operations and development processes that have increased communication and teamwork.



Figure 1. DevOps

II. HISTORY

The word "DevOps," which is recognised as the DevOps founding year, was first coined by Patrick Debois in 2009, which is when the DevOps movement began. With more and more firms incorporating DevOps into their operating systems, Debois is now recognised as one of the founding members of the DevOps movement and has grown in importance as one of its gurus. The words "development" and "operations" were combined, which led to the evolution of DevOps. Hence, this basically offers a starting point for understanding what people mean when they speak to "DevOps".



Deep Learning for Computer Vision: Convolutional Neural Networks

¹Dr.Vineetha K. R., ²Kashyap Krishna K. R.

¹ Associative Professor Nehru college of engineering and research centre, Thrissur. India

² Department of MCA, Nehru college of engineering and research centre, Thrissur. India

Email - vpvprakash@gmail.com , kashyapkrishnakr2000@gmail.com

Abstract: Convolutional neural networks (CNNs) and its application to object detection in computer vision tasks are thoroughly discussed in this study. The study explains the various CNN components, their advantages and disadvantages, and their actual propensity for unexpected future developments. Also covered are transfer learning with CNNs and well-liked designs like YOLO and Faster R-CNN. In the paper, the benefits of CNNs are discussed, including their high accuracy, transfer learning, automated feature extraction, and effective image processing. It also highlights CNNs' susceptibility to hostile attacks and their substantial computing needs. The paper's conclusion lists several potential directions for further research and advancement, including weakly supervised learning, self-supervised learning, multitask learning, explainability, and continuous learning. In overall, this work is a valuable source for understanding CNNs and their potential to advance computer vision applications.

Key Words: convolutional neural networks, CNNs, computer vision, object detection, image processing, transfer learning, automated feature extraction, weakly supervised learning, self-supervised learning, multi-task learning, memory-efficient architectures, advantages, disadvantages, future directions, explainability, noise robustness, high accuracy, adversarial attacks.

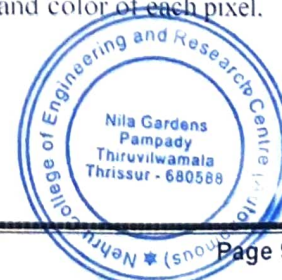
1. INTRODUCTION:

This article provides an overview of convolutional neural networks (CNNs) and their use in computer vision applications, including object detection. Convolutional layers, convergence layers and fully connected layers are among the several explained parts of CNN. Other terms such as pitch, padding, activation function, dropout, learning rate, set size, optimization, and transfer learning are also explained. In addition, the essay discusses the advantages and disadvantages of CNNs, as well as future promises for continuous learning, explainability, weakly supervised learning, self-directed learning, multitasking learning, and memory-efficient design. Regarding Convolutional Neural Networks (CNN) and their use in computer vision applications, this article focuses on object detection. CNN networks have grown in popularity in recent years due to the efficiency and accuracy of their image processing. This work explains convolutional layers, pooling layers, and fully connected layers in detail, along with related ideas such as pitch, padding, activation function, stopping, learning rate, set size, optimization, and transfer learning. In addition to their future continuous learning, explainability, weakly supervised learning, self-directed learning, multitasking and memory-efficient design, the advantages and disadvantages of CNNs are also explored. To advance computer vision applications, the study aims to provide a comprehensive understanding of CNNs.

1.1 CONVOLUTIONAL NEURAL NETWORK

A type of neural network known as a convolutional neural network (also known as a CNN or ConvNet) is designed to process data with a grid-like topology, such as an image. The binary representation of visual data is a digital image. It consists of a series of pixels arranged in a grid pattern that indicate the brightness and color of each pixel.

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HAWK EYE TECHNOLOGY: APPLICATION OF AUGMENTED REALITY IN GAMES

¹ Dr Sudheer S Marar, ² Anjana V

¹ Professor and HOD, ² MCA Student Scholar

¹ Department of MCA,

¹ Nehru College of Engineering and Research Centre, Pampady, India

Abstract: Cricket is constantly getting better. One of the main causes of this progress is the development of sports technologies. One such technological advancement that has been applied to cricket is Hawk Eye. This technology has greatly contributed to the quality of the game by offering a great deal of support, and as a result, it has gained a lot of public popularity. However, fewer studies have been done on this subject, therefore the general public's perception of the technology is still very much governed by law. So, the purpose of this essay is to explore the Hawk Eye's basic idea, its several cricket-related applications, the system's accuracy and dependability, and to make suggestions for its potential future development.

Index Terms - Hawk eye, Technology, Sports

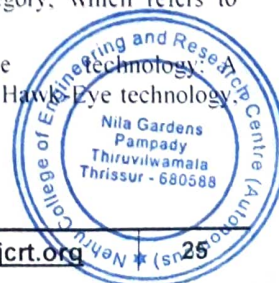
I. INTRODUCTION

The industry of broadcasting television has grown to be quite lucrative all around the world. There is a sizable audience available in the sport broadcasting industry. As a result, broadcasting channels are in fierce competition with one another to establish themselves. With the aid of the most up-to-date technologies, networks hope to do this by providing their viewers with an improved experience. One such technology, called Hawk-eye, was employed by broadcasting networks to create a variety of images. like vibrant waggon wheels. Dr. Paul Hawkings created the technology behind Hawk-eye. The Roke Monor Research limited engineers developed it. Although the broadcasting networks employed this technology at first, it has improved to the point that it is now used as a decision-making tool for many sports, including football, tennis, cricket, and snooker. This is utilised to support the LBW (Leg Before Wicket) determination in the game of cricket because it is the first and only ball tracking system accessible. The trajectory of the cricket ball is tracked during the entire play using data from various cameras.

II. LITERATURE SURVEY

In a paper titled "Hawk-Eye: Augmented reality in sports broadcasting and officiating," which was published in IEEE Visual Information Engineering in September 2008 by Paul Mellroy, the basic idea associated with this theme is discussed, along with some implementations of this theme. This subject also fits within the Techathlon category, which refers to technology in athletics.

2018's International Journal of Computer Science and Network Security article, "Hawk-Eye comprehensive evaluation," by F. M. Hassan and S. Tariq. The writers give a general overview of the Hawk Eye technology, including its history of evolution and the many sports in which it has been used.





Metaverse in Education-Culmination of Technologies

Dr Deepa A, Associate Professor, Department of MCA, Nehru College of Engineering and Research
Centre achatdeepajayan@gmail.com

Devaki V K, student scholar, Department of MCA, Nehru College of Engineering and Research Centre
devakihrishikesh@gmail.com

ABSTRACT

The metaverse, a 3D digital environment that combines the actual and virtual worlds, has been hailed as a significant trend in future education. The previous study, however, hardly ever discussed the metaverse from the standpoint of education because it is still a new topic. In this paper, discuss several metaverse visions and their origins, definitions, and commonalities.

Keywords: Metaverse, actual world, virtual world.

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I. INTRODUCTION

Some physical world activities have made their way into the virtual world. Online meetings, distant learning, online purchasing, and other activities such as telecommuting have all become commonplace in modern life. As a result, the desire for a more developed virtual world has increased as humankind's quest to push the limits of the physical world has intensified (Suzuki et al., 2020)[1]. The metaverse, a 3D digital realm with collapsed virtual and actual boundaries, has drawn increased attention as a result of the advancement of VR (virtual reality), AR (augmented reality), AI (artificial intelligence), blockchain, etc. It has been acknowledged as the Internet's next generation, which is about to fundamentally alter how we connect with the outside world (Hwang and Chien, 2022)[2].

The majority of educational scholars may not be familiar with the metaverse's definition, elements, and implications because it is a new concept.

To provide a thorough understanding of the metaverse in education, including its definition, structure, typical features, potential applications, obstacles, and future research topics, this research study will evaluate a number of sample papers. The following are some of this paper's significant contributions:

- A detailed framework of the metaverse in education is proposed, along with the discussion of features of metaverse-based learning compared with in-person classroom learning and screen-based remote learning.
- The origin, definition, and typical features of the metaverse are discussed with the perspectives taken from state-of-the-art studies.
- The metaverse's potential uses, difficulties, and potential research areas in education are discussed.

II. LITERATURE SURVEY

The term "metaverse" refers to a new virtual universe that combines the words "meta-" (beyond; transcending) and "verse" (the root of "universe," cosmos; the entire globe). Produced beyond the physical world. The word "metaverse" was invented by American author Neal Stephenson in his 1992 cyberpunk science fiction novel *Snow Crash* (Stephenson, 1992[3]; Joshua, 2017)[4]. In this story, humans could freely access and interact with each other in a 3D universe that mirrored the actual world via digital agents (avatars). Throughout the next three decades, science fiction films such as *Ready Player One*, *Lucy*, and *The Matrix* powerfully illustrated the metaverse notion (Zhao et al., 2022)[5]. At that time, the metaverse envisioned by filmmakers, could not come into being in reality.

The fast advancement of new technologies, such as wearable gadgets and three dimensional (3D) photography, has enabled people to gain access to the virtual world throughout this decade. The sandbox game Roblox was listed in New York in March 2021 under the halo of "the first stock of the metaverse"; in October, Facebook announced its rebranding strategy and changed its name to "Meta." Since then, governments all around the world have made significant efforts to make it a reality. This dormant "lion" had been roused.

