3.2.1 Number of papers published per teacher in the Journals notified on UGC website during the year (2023-2024):

Ans.: 12 papers during the year (2023-2024)

INDEX

Sl. No.	Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Page No.
1.	Impacts of Omega-3 Fatty Malabar Spinach (Basella alba), an Exotic Wonder Herb:A Review of Biomedical Applications	Veena S More	Biotechnology	Methods in Molecular Biology	2024	1940-6029	3
2.	Computational design of Aminopyrimidine Derivatives with FDA-Approved Anticancer Drugs and their ADMET Pharmacokinetics and Molecular Docking Evaluation against Cancer-Inducing AXL Kinase Activity	Kirankumar B	Biotechnology	Biointerface Research in Applied Chemistry	2024	2069-5837	4
3.	Design of Linux based Web Server System for Soil Moisture Measurement using GSM and ARM9 Mini 2440"	Anitha T G	Computer Science & Engineering	Journal of Propulsion Technology	Aug-23	1001-4055	5
4.	A Comprehensive Survey on Sentiment Analysis and Opinion Mining on social media Using Machine Learning Techniques	Kamalakshi Naganna	Computer Science & Engineering	Frontiers in Health Informatics	2024	2676-7104	6
5.	Insights of learning approach towards determination of potentially objectional communication in social networking	Kamalakshi Naganna	Computer Science & Engineering	IAES International Journal of Artificial Intelligence	March 2,2024	2252-8938	7
6.	A Strategy for Managing Energy in Standalone DC microgrid with PV and dual battery system	Dr.G.Raghavendra	Electrical & Electronics Engineering	International Journal of Intelligent systems and applications in Engineering(IJISAE)	2023	2147-6799	8
7.	Estimation of potential outage risk evaluation of system using performance indices	Dr.G.Raghavendra	Electrical & Electronics Engineering	International Journal of Intelligent systems and applications in Engineering (IJISAE)	2024	2147-6799	9

Sl. No.	Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Page No.
8.	Biometrically Secured Multi-account Integrated ATM Card	Dr. H C Sateesh Kumar	Electronics & Communication Engineering	Gradiva review Journal	2023	0363-8057	10
9.	Advanced IOT and Machine learning solutions to monitor under pass water logging	Prathibha P	Electronics & Communication Engineering	Gradiva review Journal	2024	0363-8057	11
10.	Raspberry pi based hand gesture recognition and voice conversation system for deaf, dumb and blind people.	Prathibha P	Electronics & Communication Engineering	Gradiva review Journal	2024	0363-8057	12
11.	An Automated Embedded Distribution of Deep Learning Heart Disease Identification System Using ECG Signal	Padmavathi C	Electronics & Communication Engineering	International Journal of Intelligent systems and Applications in Engineering	2023	2147-6799	13
12.	An efficient reconfigurable workload balancing scheme for fog computing network using internet of things devices	Nandini Gowda Puttaswamy	Information Science & Engineering	International Journal of Electrical and Computer Engineering	2023	2088-8708	14

Impacts of Omega-3 Fatty Acids, Natural Elixirs for Neuronal Health, on Brain Development and Functions

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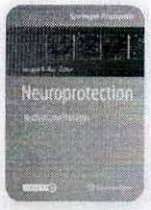
| pp 209–229 | Cite this protocol



Neuroprotection

Archana S. Rao, Ajay Nair, K. Nivetha, Bibi Ayesha, Kapadia Hardi, Vora Divya, S. M. Veena, K. S. Anantharaju & Sunil S. More

Part of the book series: Methods in Molecular Biology ((MIMB,volume 2761))

Abstract

Omega-3 fatty acids play a seminal role in maintaining the structural and functional integrity of the nervous system. These specialized molecules function as precursors for many lipid-based biological messengers. Also, studies suggest the role of these fatty acids in regulating healthy sleep cycles, cognitive ability, brain development, etc. Dietary intake of essential poly unsaturated fatty acids (PUFA) such as eicosapentaenoic acid (EPA) and

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Article
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Computational Design of Aminopyrimidine Derivatives with FDA-Approved Anticancer Drugs and their ADMET Pharmacokinetics and Molecular Docking Evaluation against Cancer-Inducing AXL Kinase Activity

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Abstract: Cancer is a global health hazard that is linked to one in six deaths worldwide. Treatment for cancer has always been fraught with difficulties. Keeping that, in mind, the present study deals with the design of aminopyrimidine derivatives with FDA-approved molecules as templates to evaluate their potential as anticancer agents against AXL tyrosine kinase receptor as the target protein through molecular docking and ADMET studies. Functions of the protein with respect to cancer are proliferation, survival, invasion, and migration of cancer cells, and inhibiting this enzyme helps in the development of medication against cancer. Molecular docking results reveal that among the 11 tested compounds, 03 compounds (i.e., exemestane, sonidegib, and vemurafenib) displayed docking scores of -10 kcal/mol, -12.3 kcal/mol, and -10 kcal/mol, respectively. Further, these designed compounds were subjected to ADMET tests such as oral rat acute toxicity (LD50), and results indicated that among 11 compounds tested, 03 compounds (i.e., exemestane, sonidegib, and vemurafenib) indicated less toxic effect with LD50 values of 2.996 mol/kg, 3.462 mol/kg, 3.303 mol/ kg within the accepted range. Further, these compounds could serve as potential lead compounds for the development of novel anticancer drugs through *in-vitro* and *in-vivo* analysis.

Keywords: Amino-pyrimidines; Anticancer FDA approved drugs; AXL kinase; Cancer.

1. Introduction

Cancer is a complex disease characterized by uncontrolled cell growth and division. AXL kinase, a receptor tyrosine kinase, is associated with cancer progression, metastasis, and drug resistance. Inhibition of AXL kinase activity has emerged as a potential therapeutic strategy in various types of cancer. AXL kinase plays an important role in cancer, including its occurrence, progression, drug resistance, and treatment tolerance. AXL belongs to the TAM receptor tyrosine kinase family, and its abnormal expression has been associated with poor prognosis in cancer patients [1,2]. In triple-negative breast cancer (TNBC), AXL is commonly expressed and is considered a promising therapeutic target [3]. AXL kinase inhibitors have

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Design of Linux based Web Server System for Soil Moisture Measurement using GSM and ARM9 Mini2440

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Abstract

This work has been designed for the efficient measurement of soil moisture. The remote monitoring of soil moisture is very important in rural India and useful for irrigation scheduling. The GSM has been extensively used in wireless communication. In our work we have designed embedded linux based web server system for remote monitoring of soil moisture. The ARM LPC2148 board has been used at the base station and ARM9 mini2440 board has been used at the server side for remote monitoring. We have also designed our own LPC2128 and SIM300 GSM module for the implementation of work.

Keywords— soil moisture, GSM, Web server, Wireless sensor network, mini2440.

I. INTRODUCTION

As Per the 2010 Food and Agriculture organization (FAO) world agriculture statistics, India is the world's largest producer of many fresh fruits and vegetables, milk, major spices, select fresh meats, select fibrous crops such as jute, several staples such as millets and castor oil seed. India is the second largest producer of wheat and rice, the world's major food staples. India is also the world's second or third largest producer of several dry fruits, agriculture-based textile raw materials roots and tuber crops, pulses, farmed fish, eggs, coconut, sugarcane and numerous vegetables. India ranked within the world's five largest producers of over 80% of agricultural produce items, including many cash crops such as coffee and cotton, in 2010. India is also one of the world's five largest producers of livestock and poultry meat, with one of the fastest growth rates, as of 2011.

Soil moisture is nothing but water content and could be available in the spaces between soil particles. Generally, soil moisture measured either 8 to 10 cm of upper soil or 75 to 100 cm of upper soil. The soil moisture quantity is very small compared to other quantities in the hydrological cycle. The measurement of soil moisture is very important for water quality management, reservoir management, geotechnical engineering, irrigation purpose, estimation of crop yield ete. The remote monitoring of soil moisture plays a vital role nowadays for various reasons and technological development in the last decade will motivate for the researchers to involve in the development of advance remote monitoring systems. With this system we can monitor soil moisture of remote places and helps us to avoid of visiting remote places frequently.

In this work we have mainly focussed to design a linux based web server system for soil moisture measurement using GSM and ARM9 mini2440. GSM is one of the latest mobile technologies using smart MODEM which can be easily interfaced to embedded microcontrollers. Now everything is going to be automated using this technology and we can access the devices remotely.

II. HARDWARE USED FOR THE IMPLEMENTATION

For the design of remote monitoring system to measure soil moisture, we have been used soil moisture sensor, ARM7 LPC2148 microcontroller, GSM modem and ARM9 mini2440 board

1) Soil Moisture sensor

Detects the amount of moisture content in the soil and outputs serial data at 9600 bps. The sensor measures the dielectric constant of the soil in order to find its volumetric water content (VWC). It obtains volumetric water content by measuring the dielectric constant of the media through the utilization of frequency

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A Comprehensive Survey on Sentiment Analysis and Opinion Mining on Social Media Using Machine Learning Techniques

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Abstract

The growing usage of Internet-based applications, particularly social media platforms and blogs, resulted in an unprecedented flow of thoughts, reviews, and opinions. Sentiment Analysis (SA), also known as opinion mining, has emerged as a vital technique for systematically gathering and assessing people's sentiments, opinions, and impressions on a wide range of subjects, whether they are products, themes, or services, in this age of digital connectivity. The variety of public mood data has shown to be a valuable resource for corporations, governments, and individuals, enabling sound decision-making. However, impediments to precise judgment of sentiment polarity and precise interpretation of feelings develop as a result of SA implementation. SA is a sophisticated science that identifies and extracts subjective information from textual material. This is performed by utilizing strong Natural Language Processing (NLP) and text mining techniques. Our post aims to provide a thorough overview of the complicated procedures that underpin SA, as well as an examination of its problems. The SA process begins with data gathering from publically available datasets, followed by a number of data pre-processing activities such as converting text to lowercase, dealing with contractions, tokenizing, removing short and repeated words, and so on. Following that, feature extraction, including content-based, document-based, and texture-based features, is examined. Following that, the technique investigates Feature Selection (FS) approaches such as filter, wrapper, embedding, and hybrid procedures. Finally, we investigate numerous classification methods for sentiment detection, including machine learning, lexicons, and hybrid approaches. By presenting an in-depth review of key SA techniques and procedures, this study presents a comprehensive evaluation report that can serve as a solid foundation for future studies.

Keywords— *Sentiment Analysis, Natural Language Processing, Machine Learning, Review data, Accuracy*

Introduction

SA is the computer analysis of people's thoughts, feelings, and attitudes about a variety of themes, including services, goods, events, issues, and topics, as well as the traits connected with them [1, 2]. This survey provides useful information by measuring public opinion on specific problems. It also helps with the comprehension, interpretation, and prediction of social processes. SA is critical in business for making strategic decisions and knowing customer perceptions on products and services [3]. Understanding the consumer is crucial in today's customer-centric corporate landscape. The proliferation of online discussion forums, product review

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Insights of learning approach towards determination of potentially objectional communication in social networking

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ABSTRACT

Over the last decade, sentiment analysis has evolved significantly towards extracting the contextual knowledge associated with the communication exchanged in social networks. Irrespective of various approaches to natural language processing and constantly evolving machine learning, sentiment analysis has inherent shortcomings, which further act as an obstacle to determining hateful and offensive speech exchanged in social networks. Therefore, this paper offers a compact yet granular insight into the effectiveness of existing sentiment analysis approaches used distinctly for determining hateful and offensive speech with particular emphasis on machine learning-based methodologies. The paper further contributes towards research trend analysis followed by distinct highlights of the research gap. The paper offers a learning outcome that significantly benefits future researchers investigating the same field.

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1. INTRODUCTION

The communication taking place within a social network isfrom the perspective of the user's response, which could be text, audio, video, images [1]. With rising concernsabout cybersecurity, it is essential to understand the significance of meaningful and logically communicated information in terms of personal opinion. However, certain forms of communicated information in social networks harm everyone. This study, therefore, discusses one such harmful effect in social networks in the form of hateful and offensive speech that induces discrimination and misinformation [2]. Fromthe perspective of social networks, hateful speech is a type of communication that is meant to intimidate, dehumanize, and demean the individual or group based on personal characteristics, sexual orientation, gender, religion, ethnicity, and race [3]. Hateful speech often takes the shape of harassment, threats, slurs, and insults. The negative impact of hateful speech is that it propagates an environment of insecurity and unsolicitation for online users, making the environment more hostile [4]. On the otherhand, offensive speech is usually considered inappropriate communication with disrespect and rudeness during communication in social networks [5]. The majority of offensive speech on social networks deploys derogatory opinions about an individual or group, often using sexually explicit comments, vulgarity and profanity. One way to solve the associated problem is to develop a system to identify and remove such hateful and offensive statements in social networks. One effective way is to use sentiment analysis, which harnesses the potential of natural language processing (NLP) to process such objectional text [6]. As a social network is a vast network with massive information

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A Strategy for Managing Energy in Standalone DC microgrid with PV and Dual Battery System

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Abstract: The incorporation of energy storage technologies and renewable energy sources in standalone DC microgrid has becoming more significant for meeting the power requirements of critical and non-critical loads in remote and isolated areas. This study proposes an approach to managing energy in a standalone DC microgrid equipped with photovoltaic (PV) panels and a dual battery system, incorporating state of charge measurements to efficiently supply both critical and non-critical loads. The system proposed is simulated using MATLAB Simulink software to evaluate the performance. The results demonstrate its effectiveness in efficiently providing power to both critical and non-critical loads.

Keywords: *Solar PV, DC microgrid, Energy management strategy, Dual battery*

1. Introduction

Due to the depletion of conventional resources and the damaging effects of greenhouse gases on our planet's ecosystem, the usage of renewable energy sources (RESs) has increased recently. Additionally, the rising energy demand has prompted the widespread adoption of RESs. To form a power system and to enhance their reliability, it is also possible to combine various renewables together so that they can be included in existing non-renewable systems[1]. Among RESs, photovoltaic (PV) technology is particularly appealing. However, PV power generation is heavily influenced by environmental factors like sunlight intensity and temperature [2]. Therefore, the incorporation of energy storage systems (ESSs), such as flywheels, supercapacitors, batteries, and hydrogen storage systems, is necessary [3]. Integrating RESs systems with ESSs is crucial for overcoming the intermittent characteristics of wind and solar power, particularly in stand-alone applications [4].

Utilizing DC microgrids (MGs) has received increased focus in recent times because of their advantages over AC microgrids. The main reason is that DC power sources such as batteries and PV generators can be easily integrated into DC microgrids. This removes the necessity for numerous power converters, a common requirement in AC microgrids to adjust power for end users. As a result, DC microgrids provide a substantial decrease in the quantity of power converters required. Additionally, DC microgrids demonstrate higher efficiency compared to AC MGs, as evidenced in [5].

Nevertheless, there exist multiple issues that necessitate attention in photovoltaic/battery systems. The primary objective is to harness the highest attainable energy from the PV generator by utilizing methods for tracking the maximum power point (MPPT). In recent years, a variety of MPPT algorithms have been proposed in scholarly works for tracing the peak power point (MPP) of photovoltaic modules. While these MPPT algorithms have a common goal, they vary in terms of effectiveness, intricacy of design, and hardware realization. In a study conducted by the authors in [6], different MPPT algorithms were investigated, and suggestions were given regarding appropriate embedded boards for each technique. The research underscored the significance of selecting a cost-efficient and robust microcontroller for MPPT integration in order to reduce the overall system expenses. The perturb and observe (P&O) algorithm and the incremental conductance (IC) algorithm stand out as the most widely used MPPT techniques. [7]. To extend the durability of the battery, which is a valuable element within a photovoltaic/battery setup, it is essential to appropriately adjust the battery's charging and discharging patterns. This involves preventing overcharging and deep discharging, as it helps to enhance the battery's longevity [8]. In an islanded microgrid (MG) with a PV/battery hybrid system, droop control method is used. This strategy ensures that the demand of load is met efficiently handling the processes of battery charging and discharging. The control strategy, proposed in [9], focuses on standalone PV systems. Its primary goal is to maximize the battery's lifespan while meeting demand of the DC load. A comparable system was displayed in [10], which

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Estimation of Potential Outage Risk Evaluation of System using Performance Indices

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Abstract: Primary concern of power system is economical operation, but an equally defensive factor is the desire to maintain security. It is imperative to study the state of system by outage analysis and monitor its impact in advance to minimize the occurrence of cascaded disruptions. In power flow analysis the possibility of any error in measurement is not considered assuming all values as accurate. Due consideration is taken to minimize these errors adopting weighted Least square state estimation method incorporating synchronized PMU measurements. Overall severity index is the guideline selected in evaluating the stress on IEEE 5 and IEEE 14 bus systems. Highest indexed events are ranked on the top indicating too troublesome conditions leading the system towards risk.

Keywords: *System Security, Contingency Analysis, State Estimation, Phasor Measurement Unit.*

1. Introduction

The ultimate motive of power system is to maintain continuous supply to its stakeholders without any interruptions when components fail. Detection of dangerous situation of system need to be assessed quickly which is an essential mode of security assessment [1]. Unpredictable initiating events should not cause series of multiple actions which threatens the system security. Initiating hurdle may be one element outage termed as contingency. The response of outage scenarios on the system parameters must be investigated to initiate recovery action. Shortlisting the critical contingencies [2] from large list of credible contingencies are time consuming and tedious task. The operator faces lots of challenges in taking fast actions when many hurdles are observed in power system in a short duration leading to multiple problems. To overcome above problem most troublesome hurdles are to be ranked top in the list to accelerate the operator control action considering only necessary emergency cases. Index calculations are the guidelines adopted in assigning the top ranks to particular outages which cause more stress to the system [3]. Preplanned scenarios enable the operator to act defensively when hurdles arise in the form of outages.

Data gathered by the operator in control center has lots of errors. To emphasize the more accurate measurement proper procedure to be selected which in turn force the result to coincide more closely with the measurements of greater accuracy. Errors in meter is random in nature but must be within limit. We have to consider the errors in measured quantities for the purpose of power flow analysis [4]. Since there are errors in metered measured quantities, we will not be able to calculate ideal values of unknown quantities. So, estimate these values such that the effect of these measured errors is minimized [5]. Thus, measurements that come from instruments with good consistency will carry greater weight than measurements that come from less accuracy in instruments. The reduction in estimation error is the point of concern and need of the hour in modern era of power system. The conventional meters act as one of the bad data generating source and need to be controlled. PMU measurement will be the deliberate choice in reducing the undesired harmful effect of bad data on state estimation [6]. A unique feature of PMU in furnishing accurate phasor readings enhance its involvement in state estimation to reduce uncertainty.

2. Methodology

This paper involves simulation of IEEE Five bus system and IEEE Fourteen bus system based on Newton Raphson load flow method to obtain system parameters [7]. MI Power Simulation software is used as platform. Load flow problem consists of finding power flows and voltages of a network for given bus conditions. At each bus there are four quantities of interest to be known for further analysis: the real power and reactive power, voltage magnitude and its phase angle. Failure of one equipment is identified as N-1 contingency. One component outage may be either a transmission line, or a generator, or a transformer. The effect of single line outage on complete network is analyzed by Newton Raphson method. The procedure is

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Biometrically Secured Multi-account Integrated ATM Card

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Abstract- *The popularity of automated teller machine (ATM) services is growing due to their adaptability and convenience for financial systems. A lot of people use their ATM cards for instantaneous transfers of funds, cash withdrawals, and other uses like shopping. The ATM card used by the customer for each bank account on the majority of current ATMs is either a plastic smart card with a chip or an ATM card with a magnetic stripe. However, the weakest link in the computer security chain is password PIN, which is the primary authentication method for ATM transactions. To enable the consumer to conduct financial transactions for various bank accounts, we embed several bank accounts within the suggested Multi Account Embedded ATM card. The user does not have to keep track of numerous ATM cards or passwords. We introduced fingerprint-based customer authentication to offer great security. Because integrating several bank databases requires a lot of resources, it lowers the cost of interbank transactions. Unauthorized individuals can enter this security system utilizing keypads, smart cards (RFID), and Message Module-based OTPs (One Time Passwords). The interactive user module allows users to log into the system and conduct the transactions of their choosing. Although the suggested solution offers the customer a level higher of convenience, efficiency, and use.*

Keywords: RFID, aurdino MEGA 2560, NodeMCU, LCD and Fingerprint reader.

1. INTRODUCTION

A multi-account integrated ATM card with fingerprint security system is a type of financial transaction system that provides secure access to multiple bank accounts using a combination of ATM card authentication and fingerprint biometrics. This system is intended to improve security and provide convenience of banking transactions by reducing the risk of unauthorized access to sensitive account information. The system works by incorporating a fingerprint scanner into an ATM card, which allows users to authenticate themselves using their fingerprint in addition to the traditional ATM card PIN. The user's fingerprint data is stored in a secure database, and the system compares the fingerprint data with the user's biometric information during the authentication process. The multi-account feature of this system allows users to access and manage multiple bank accounts accessible with a single ATM card. Users can choose the account they wish to access from a list of registered accounts associated with their profile, and the system will provide access only to the selected account. Overall, a multi-account embedded ATM card with fingerprint security system offers a more secure and efficient way to manage multiple bank accounts, along with lowering the risk of fraud and identity theft. Although the ATM card is currently one of the most commonly used

Advanced IOT And Machine Learning solutions To Monitor Underpass water Logging

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Abstract*— The comprehensive system aims to enhance road safety and public awareness during flood events by employing various technologies. It involves displaying alert information to road users, indicating which types of vehicles can safely pass through flooded areas. Additionally, warning messages are uploaded to the cloud, ensuring the public has access to real-time status updates. To address flooding, collected water is automatically removed using a water pump system. Moreover, human presence detection in flooded underpasses is achieved through the YOLO algorithm, a machine learning technique. By integrating these components, the system aims to mitigate risks associated with floods, improve traffic management, and provide crucial information to safeguard public safety during adverse weather conditions.

I. INTRODUCTION

In today's rapidly evolving technological landscape, ensuring road safety and public awareness has become increasingly paramount. To address this, innovative solutions leveraging advanced technologies such as Internet of Things (IoT), cloud computing, automation, and machine learning are being explored and implemented.

One critical aspect of road safety is regulating the types of vehicles permitted to traverse certain routes. To address this, a system is proposed to display alert information to road users regarding the types of vehicles allowed to pass through specific areas. This system aims to mitigate the risk of accidents and congestion by providing real-time guidance to drivers, ensuring compliance with regulatory restrictions.

By utilizing the scalability and accessibility of cloud platforms, timely dissemination of crucial information regarding road conditions, hazards, and emergencies can be achieved. This approach enhances public safety by providing individuals with up-to-date information, enabling them to make informed decisions while navigating roads and highways.

Water accumulation on roads due to rainfall or flooding poses significant hazards to both motorists and pedestrians. To address this challenge, an automated water removal system utilizing water pumps is proposed. This system aims to efficiently clear collected water from roadways, thereby reducing the risk of accidents, hydroplaning, and infrastructure damage. By automating the water removal process, response times can be minimized, ensuring the safety and accessibility of roadways during inclement weather conditions.

II. OBJECTIVES

1. To display alert information to the road user which type of vehicle can pass in

2. To upload warning messages to the cloud and make the status available to the public.

3.To remove the collected water automatically using water pump.

4. To detect the human beings in underpass flood area using YOLO algorithm (Machine learning).

III PROBLEM STATEMENT

During monsoon season, many underpasses are waterlogged. Most of the cities are facing the problem of underpasses getting flooded. These inoperable underpasses cause heavy traffic and pose a grave danger to pedestrians with dangerous diseases and infections. Drivers remain uncertain about which vehicles can pass through specific areas, leading to accidents and congestion. These factors negatively affect vehicle drivers as they contribute to stress and waste of time.

IV PRPOSED FRAMEWORK

A. Hardware components used

1. Arduino mega
2. Ultra sonic sensor
3. DC motor
4. GPS Module
5. Relay

Raspberry pi based hand gesture recognition and voice converstion system for deaf, dumb and blind people

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***Abstract*—**

It could be difficult to concentrate on and address the problems faced by persons with impairments, such as those who are visually, aurally or vocally challenged. The project's objective is to provide a single device solution that is simple to use, efficient, rapid and accurate. A Raspberry Pi based assistance is implemented for the blind, deaf, and dumb people. The technology promises to provide people with impairments a sense of freedom and confidence by allowing them to see, hear, and communicate for themselves. Those who are incapbale to talk can stand in front of the camera and conduct movements using sign language thanks to the recommended technology. The converted text from the collected image is next converted into an audio format using speech synthesis and object -to-text conversion. Those who are hard of hearing the microphone picks up their speech as input. The captured audio is converted to text and displayed to the user in the window on the device's screen. Now, the audio message may be heard by blind people through the speaker.

Keywords—Raspberry pi, Voice conversion, hand gesture, speech (key words)

I. INTRODUCTION

The regard to Blind, Deaf & Dumb individuals, communication with others is a way longer struggle for them. They are unable to speak with traditional individuals properly. They face difficulties in finding jobs and living a traditional life like others. In this project we are introducing a two-way smart communication system designed for Blind, Deaf & mute and also for abled people. The system consists of two main parts: The first part is for Blind, Deaf & Dumb person to communicate their message to a person without disabilty by using our hardware system and the second one is for a normal person who can also respond them easily without learning a sign language by using vnc Application. This ensures a two-way smart communication system and will make life easy for them.

II. OBJECTIVES

1. To Convert hand gesture into voice Signal
2. To Convert Speech to Text
3. To Convert Text to Speech
4. To Detect Object

III Problem statement

Design and Develop a Raspberry pi based assistive technology system capable of recognizing hand gestures and facilitating voice conversations for individuals who are deaf, dumb and blind. It is to create a comprehensive solution that addresses the communication barriers faced by this individuals, enabling them to interact effectively with their environment and communicate with others.

IV PRPOSED FRAMEWORK

A. Hardware components used

1. Raspberry pi
2. Camera
3. Speaker
4. Mic
5. Power Supply

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An Automated Embedded Distribution of Deep Learning Heart Disease Identification System Using ECG Signal

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Abstract: The article relies on improvements in feature extraction and investigates successful ECG recognition that can be achieved by integrating the Multi-Proportional Peak Pattern (MPPP)-based feature learning model with the Embedded Distribution of Deep Learning (ED-DL) method for the classification of features extracted from the proposed work. The ECG signal texture extraction technique generates the pattern of structural information in an ECG signal and provides instructions for each block to determine the heart condition that matches the feature database. The multi-proportional peak pattern method improves the feature extraction model by extracting the optimal combination of features at different angles of the projection plane to obtain the clear characteristics of a disease. A good collection of feature vectors is also extracted using an MPPP-based feature extractor. The ED-DL approach is then incorporated for the categorization of extracted characteristic features. The suggested model is subjected to a comparative result analysis to demonstrate its superiority compared with Gated Recurrent Unit-Extreme Learning Machine (GRU-ELM) and Class Imbalanced Gated Recurrent Unit-Extreme Learning Machine (CIGRU-ELM) techniques in terms of performance evaluation metrics. An average accuracy, sensitivity, specificity, and F1-score of 93.6%, 96.3%, 93.8%, and 94.5%, respectively, and an error rate of 6.4% have been obtained in classifying several classes, namely coronary artery disease (CAD), myocardial infarction (MI), congestive heart failure (CHF), cardiomyopathy, and normal class.

Keywords: *Cardiovascular Disease (CVD), Electrocardiogram (ECG), Multi-Proportional Peak Pattern (MPPP), Embedded Distribution of Deep Learning (ED-DL)*

1. Introduction

Based on the World Health Organization report, around 31% of deaths reported globally are due to cardiovascular disease. 7.4 million deaths from CVDs were attributable to CAD. Approximately 74000 deaths, or 16% and 10% of deaths for males and females, respectively, are attributable to CAD as of 2012. 165,000 silent heart attacks are said to occur annually. MI causes 175,000 hospital admissions overall. More than 23 million patients are said to be at risk for heart failure, according to [1]. More than 26 million people worldwide are affected by severe heart conditions, with an annual growth rate of 3.6 million [2]. This data from several sources highlights the significance of early diagnosis and detection of CVDs, which can save the majority of lives.

The heart's ability to receive blood is hampered by plaque accumulation in the coronary artery. If coronary artery blockage is not detected and left untreated, it leads to a heart attack, which is a very hazardous ailment that develops when the heart muscle isn't getting enough blood, which in turn leads to an irregular heartbeat by producing electrical impulses that are either too fast or too slow. Blood cannot be pumped efficiently when the heart is not beating adequately, due to which the vital organs fail to function properly.

For detecting any heart issues, a different number of diagnostics are available. Among the diagnostics available are blood tests, ECGs, chest X-rays, and ultrasounds. ECG is among the popular non-invasive tests used by cardiologists to diagnose a wide range of heart conditions. ECG is a non-invasive test that, by sensing cardiac muscle electrical activity, provides information on heart function. Since it gives physicians the data they need to diagnose heart problems, the ECG is a useful tool to detect different cardiac malfunctions. Cardiologists are required to carry out a tedious and time-consuming examination that is meticulous to be able to deliver an accurate diagnosis of CVDs. As a consequence of this, there is a need for an entirely automated method of recognizing cardiac issues using ECG recordings which may assist cardiologists in making correct diagnoses more quickly, and it can help minimize the amount of time and money spent on clinical interpretation.

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An efficient reconfigurable workload balancing scheme for fog computing network using internet of things devices

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ABSTRACT

Nowadays a huge amount of data has been communicated using fog nodes spread throughout smarty cities. the communication process is performed using fog nodes which are co-located with cellular base stations (BSs) that can move the computing resources close to internet of things (IoT) devices. In smart cities, a different type of data flow has been communicated through IoT devices. The communication process performs efficiently using the remote cloud. The IoT devices very close to the BS can communicate data without using fog nodes. Due to these phenomena, workload unbalancing occurs in IoT devices communicating in fog computing networks. Hence, it generates communication and computing latency. The task distribution process between the IoT devices is unbalanced. Hence, congestion and loss of information occur in fog computing network. A proposed reconfigurable load balancing algorithm (RLBA) is efficiently balancing the workload by reconfigurable communication channels and deviates the task with respect to the BS locations, IoT devices density and load IoT devices in each fog nodes in a network to minimize the communication and computing latency. As per the performance analysis, the proposed algorithm shows better performance as compared to conventional methods' average latency ratio, communication latency ratio, computing load and traffic load.

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1. INTRODUCTION

The development of smart gadgets that can perceive the environment physical information has received a lot of research attention in recent years [1]. The term "internet of things (IoT)" refers to a concept in which linked the smart devices of one another over the internet and equipped with data analytics. IoT is currently employed in many different applications, including smart cities, smart homes, smart transportation, and smart health [2]. As the number and types of devices connected to the IoT increases, managing these devices efficiently becomes a vital consideration. As the number and variety of devices increase, so does the need for cloud-based thinking [3], [4]. But since the data streams produced by IoT devices are sent to a distant cloud over the internet, it uses an amount of energy and core network bandwidth [5].

Many delay-sensitive IoT applications typically have a significant data streams processing with a delay in cloud hosted architectures where the main network is frequently located long distance from the IoT devices [6]. Fog nodes, which bring computer resources closer to devices of IoT and IoT users, are one