


3.4.3 Details of research papers per teacher in CARE Journals notified on UGC website during the year JUNE 2022- AUG 2023

Name of the Author(s)	Department of the Author(s)	Title of the Paper	Name of the Journal	Month and Year of publication	ISSN	Link to the notification in UGC enlistment of the Journal
Dr DVSR ANIL KUMAR	MATHEMATICS	MEASURABLE SOFT SETS	AIP Conference proceedings	09-May-23	20036	https://doi.org/10.1063/5.0143156
S.ANUSHA	CHEMISTRY	A REVIEW ON GRAPHITIC CARBON NITRIDETHE PROSPECTS IN CATALYTIC AND PHOTO CATALYTIC APPLICATIONS		NCDT-2023	978-93-5915-756-6	
Dr. KOTESWARA RAO MALA	ENGLISH	Mother Tongue Influence In Pronunciation In The ELCS Context: A Study of the Pronunciation of Students Belonging to the Urban and Rural Areas of AP and Telangana	LongLit (AIPROJA)	Aug-23	2349-5189	https://drive.google.com/file/d/19vLadsSvqIwjYqu06xI8dDkgzeiJNVN2/view
Dr A.PREMALATHA	CHEMISTRY	RECENT ADVANCES IN DRUG DISCOVERY: INNOVATIVE APPROACHES AND TARGETED THERAPEUTICS	ECB	12.07.2023	2063-5346	
G. SANDHYA	S & H (PHYSICS)	Nano-CeO ₂ -loaded chitosan-bocycine zinc complex for photocatlytic degradation of piciric acid by comination of Fenton's reagent	Applied physics A	Jul-22	1432-0630	
G. SANDHYA		Nano-Fe ₃ O ₄ -loaded chitosan salicylamide copper complex as a photocatalysts to degrade nitrophenols under sunlight	Applied physics A	Aug-23	1432-0630	

G. SANDHYA		Structure based photocatalytic efficiency and optical properties of ZnO nanoparticles modified by annealing including including Williamson-Hall microstructural investigation	Materials Science and Engineering B	Jun-23	0921-5107	
B. Rajini Kanth, Md. Sarowar Hossain and P.K. Mukhopadhyay,	H&S (PHYSICS)	Structure, Microstructure and Magneto-Elastic Property study on Co ₄₀ Ni ₂₉ Al ₃₁ Ferromagnetic shapememory Alloy ribbon	Materials Today: Proceedings,	2023	doi.org/10.1016/j.matpr.2023.05.239 (2023)	
Himabindu Bantikatta, Latha Devi S.M.P.N., Pothukanuri Nagaraju and B. Rajini Kanth	H&S (PHYSICS)	A Nanostructured Al-doped ZnO as an Ultra-Sensitive Room Temperature Ammonia Gas Senso	Journal of Materials Science : Materials in Electronics	2023	34 1014(2023)	
Himabindu Bantikatta, Latha Devi S.M.P.N., G. Sandhya, T. Naveen Reddy, Tusar Saha, Md. Sarowar Hossain and B. Rajini Kanth	H&S (PHYSICS)	Structure based photocatalytic efficiency and optical properties of ZnO nanoparticles modified by annealing including Williamson-Hall microstructural investigation	Materials Science and Engineering B,	2023	296 116666 (2023)	
N.ANURADHA	H&S	Sn doped CdWO ₄ nanorods for augmented photodegradation of methyl orange	Material Letters (Elsevier)	Sep-23	353(2023)135304	https://doi.org/10.1016/j.matlet.2023.135304


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ACCURATE MEDICAL DIAGNOSIS OF CARDIOVASCULAR DISEASE USING MACHINE LEARNING TECHNIQUES

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ABSTRACT

One of the most difficult tasks in medicine is thought to be predicting heart illness. It is one of the most dangerous human heart diseases and has very serious effects on human life. Accurate and timely identification of human heart disease can be very helpful in preventing heart failure in its early stages and will improve the patient's survival. However, there is a great variation in the field of medical sciences due to computing capabilities and improvements in technique. Even for doctors and other medical professionals, determining the cause of this takes a lot of time and effort. This proposed work predicts heart disease using a variety of machine learning methods, LR, KNN, SVM, DT, RF, GBC and XGB. For these techniques, a comparison work is provided. This experimental proposed work aims to increase the prediction classifiers' accuracy by tuning hyper parameters. To evaluate the performance of the models, Framingham dataset is used. According to the analysis, the Extreme Gradient Boosting Classifier provides the highest and nearly identical accuracies of 95.48% respectively. Additionally, the analytical outcomes of the suggested technique are contrasted with earlier research on heart disease prediction. It is clear that the Extreme Gradient Boosting Classifier, out of the suggested methods, produces the best hyperparameter for accuracy.

Keywords: LR-Logistic Regression, KNN-K-Nearest Neighbor, SVM-Support Vector Machine, DT-Decision Tree, RF-Random Forest, GBC-Gradient Boosting and XGB-Extreme Gradient Boost classifiers.

INTRODUCTION

Cardiovascular diseases (CVDs) continue to be a global health challenge, representing a leading cause of morbidity and mortality worldwide. Timely and accurate diagnosis is crucial for effective management and intervention to improve patient outcomes. The advent of machine learning techniques has ushered in a new era in healthcare, offering unprecedented opportunities to enhance the accuracy and efficiency of medical diagnosis, particularly in the realm of cardiovascular diseases. Machine learning leverages the power of computational algorithms to analyze complex datasets, identify patterns, and make data-driven predictions. In the context of cardiovascular disease diagnosis, machine learning holds the promise of revolutionizing the way we detect, predict, and manage these conditions. This introduction will delve into the significance of accurate medical diagnosis using machine learning techniques for cardiovascular diseases.

Cardiovascular diseases encompass a broad spectrum of conditions affecting the heart and blood vessels, including coronary artery disease, heart failure, arrhythmias, and more. These diseases often develop gradually, with symptoms that may be subtle or absent until they reach an advanced stage. As a result, early detection and risk assessment are pivotal for preventive measures and timely interventions. Machine learning, as a subfield of artificial intelligence, excels in handling the vast and intricate datasets that healthcare generates. It can extract meaningful insights from diverse sources such as electronic health records, medical imaging, genetic data, and wearable devices. By doing so, it empowers healthcare professionals to make more informed decisions.

Machine learning algorithms can sift through extensive patient data to identify subtle indicators of cardiovascular disease often imperceptible to the human eye. They can predict disease risk, prognosis,

INTRUSION DETECTION IN CLOUD COMPUTING FOR NEURAL NETWORKS

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Abstract

The Distributed Denial of Service (DDoS) attack is a kind of intrusion in cloud computing environment that severely affects the end user by injecting illegitimate packets of data into internet traffic without the knowledge of the clients. It is a serious problem in cloud computing because the detection and mitigation of intrusion is a challenging task that will affect the functionality of the entire architecture. Numerous cyber security measures have been carried out to protect the server from attackers or hackers. The traditional cyber security methods failed to protect the server against several external unauthorized traffics. It is important to develop an Intrusion Detection System (IDS). A study to investigate various machine learning techniques, neural network models and optimization algorithms is carried out, aimed to reduce the impact of attacks.

1.1 INTRODUCTION

The immense growth in the field of information technology has increased the online services provided by the organizations of any type and size at the doorsteps of consumers. The development of cloud computing and Internet of Things (IoT) has facilitated on-demand service for all users over the internet. It offers huge data storage facility over the internet and can be accessed globally at any instant of time. All public and private sectors are integrated into a common service provider. This diverse nature paves the way for illegal cyber-attacks such as Denial of Service (DoS), Distributed Denial of Service (DDoS), Drive-by attack, SQL injection attack, Man-in-the-Middle (MitM) attack and so on. The DDoS attack is a kind of severe intrusion, which paralyzes the victim in the network by sudden flooding of attack packets by introducing zombies to cause traffic congestion over the service and it is a big challenge to distinguish the illegitimate traffic from a legitimate one. So, the proposed research aimed to develop an intelligent intrusion detection system for DDoS attack detection in the cloud computing environment.

1.2 CLOUD COMPUTING

Cloud computing provides the software and hardware computing resources over the internet based on the user's demand and is paid based on usage. It is diverse in nature, where various companies and organizations share their resources into a common traffic system. It utilizes a dynamic scaling strategy to provide highly reliable and flexible service to the users. The cloud uses a virtualization strategy instead of client-server

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Block Chain and Machine Learning Models to Evaluate Faults in the Smart Manufacturing System

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ABSTRACT

Smart Manufacturing Systems (SMS) have revolutionized industrial processes by incorporating automation, data analytics, and real-time monitoring to improve efficiency and quality. However, ensuring the reliability and fault tolerance of SMS remains a challenge. This paper proposes an innovative approach that combines Blockchain technology with Machine Learning (ML) models to evaluate faults in SMS. By leveraging the immutability and transparency of the blockchain and the predictive capabilities of ML, this approach enhances fault detection, facilitates traceability, and ultimately contributes to the resilience of smart manufacturing. The industrial sector's increase in data creation has made monitoring systems a crucial idea for management and decision-making. The Internet of Things (IoT), which is sensor-based and one of the most advanced and potent technologies today, can process appropriate ways to monitor the manufacturing process. The research's suggested method combines IoT, machine learning (ML), and monitoring of the industrial system. Temperature, humidity, gyroscope, and accelerometer IoT sensors are used to gather environmental data. Sensor data is produced in unstructured, enormous, and real-time data forms. Many big data approaches are used to process the data further. This system's hybrid prediction model employs the Random Forest classification approach to weed out outliers in the sensor data and aid in defect identification throughout the production process. The suggested approach was examined for South Korean vehicle production. This system uses a strategy to protect and strengthen data trust in order to prevent genuine data changes with

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Estimating the Effects of Voice Quality and Speech Intelligibility of Audio Compression in Automatic Emotion Recognition

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Abstract: This paper projects, the impact & accuracy of speech compression on AER systems. The effects of various codecs like MP3, Speex, and Adaptive multi-rate(NB & WB) are compared with the uncompressed speech signal. Loudness enlistment, or a steeper-than-normal increase in perceived loudness with presentation level, is associated with sensorineural hearing loss. Amplitude compression is frequently used to compensate for this abnormality, such as in a hearing aid. As an alternative, one may enlarge these by methods of expansion as speech intelligibility has been represented as the perception of rapid energy changes, may make communication more understandable. However, even if these signal-processing methods improve speech understanding, their design and implementation may be constrained by insufficient sound quality. Therefore, syllabic compression and temporal envelope expansion were assessed for in speech intelligibility and sound quality. An adaptive technique based on brief, commonplace words either in noise or with another speaker competing was used to assess the speech intelligibility. Speech intelligibility was tested in steady-state noise with a single competing speaker using everyday sentences. The sound quality of four artistic excerpts and quiet speech was evaluated using a rating scale. With a state-of-art, spectral error, compression error ratio, and human labeling effects, The experiments are carried out using the Telugu dataset and well-known EMO-DB. The results showed that all speech compression techniques resulted in reduce of emotion recognition accuracy. It is observed that human labeling has better recognition accuracy. For high compression, it is advised to use the overall mean of the unweighted average recall for the AMR-WB and SPEEX codecs with 6.6 bit rates to provide the optimum quality for data storage.

Index Terms: Speech Compression, speech intelligibility, emotion recognition, CER

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TEXT-BASED EMOTION PREDICTION SYSTEM USING MACHINE LEARNING APPROACH

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Abstract - Emotions play a significant role in human communication and understanding. With the advent of digital platforms and social media, there is an abundance of textual data expressing various emotions. Extracting and analyzing emotions from text has become a crucial task for numerous applications, including sentiment analysis, customer feedback analysis, and mental health assessment. The proposed system leverages a machine learning approach to train emotion prediction models using annotated text data. Initially, a comprehensive dataset consisting of text samples labeled with corresponding emotion categories is collected and preprocessed. The preprocessing involves text normalization, tokenization, and feature extraction to represent the text data in a format suitable for machine learning algorithms. Various machine learning models, such as Support Vector Machines (SVM), Naive Bayes, and Recurrent Neural Networks (RNN), are employed to learn the patterns and relationships between text features and emotions. Additionally, the system can contribute to mental health assessment by identifying emotional distress in text-based conversations and alerting healthcare professionals. Text-based emotion prediction system presented in this abstract offers a promising solution for automated emotion analysis from textual data. By leveraging machine learning algorithms and techniques, it enables accurate emotion classification, which can have a wide range of practical applications in diverse domains,

including social media analysis, customer sentiment analysis, and mental health assessment.

Keywords – Digital platform, textual data, sentiment analysis, machine learning techniques, Bayesian optimization.

1. INTRODUCTION

Emotions are an integral part of human communication and understanding. They play a crucial role in conveying meaning, intentions, and reactions in various social interactions. With the rise of digital platforms and social media, a massive amount of textual data is generated daily, expressing a wide range of emotions. Extracting and analyzing emotions from text has become a significant research area with numerous practical applications, such as sentiment analysis, customer feedback analysis, and mental health assessment. Traditionally, emotion analysis relied on manual annotation or rule-based approaches, which were labor-intensive, time-consuming, and often limited in their ability to capture the complexity and nuances of human emotions. However, the advancements in machine learning techniques, coupled with the availability of large annotated datasets, have paved the way for automated text-based emotion prediction systems. This paper presents a text-based emotion prediction system that leverages machine learning approaches to classify emotions from textual data. The system aims to automatically identify and categorize the underlying emotions expressed in written text, enabling a

Addressing the IoT Schemes for Securing the Modern Healthcare Systems with Block chain Neural Networks

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Abstract. This paper provides a wide-range of literature review of various IOT with AI based enabling wearable technologies and protocols used for medical (IoT) with a touch of examining the present and future smart health care technologies. Despite recent advances in medical systems, biomedical hardware, the growth of IoT in medicine continues to advance in terms of biomedical hardware, monitoring figures like cancer patient data disease indicators, temperature levels, oxygen levels, and glucose levels. In the near future, medical IoT is expected to replace the old traditional healthcare systems to smart Ai-IoT based healthcare systems. In our paper we provided a theoretical approach of the most relevant protocols and wearable technologies used for the IoT health care medical systems. We also provided a proposed smart AI based intelligent IoT frameworks for hospital systems settings.

Keywords: Internet of Things (IoT), biomedical hardware, Artificial Intelligence, wearable technologies, medical systems

I. INTRODUCTION

Health is the foundation of a fulfilling life. In modern times, society faces many problems, such as chronic diseases and organ failure caused by stress and anxiety. Therefore, hospitals must provide adequate resources, facilities, and services, such as timely access to medications, doctors, and nurses [1,2]. The current pandemic and rising incidence of chronic diseases have led to an increased demand for smart healthcare systems. These systems play a crucial role in delivering the effectual healthcare related services to the group of patients and reducing the need for in-person hospital visits [3-5]. Digital (E-healthcare) provides highly-qualitative medical care from the comfort of one's home. Advanced communication technology and the Internet of Things (IoT) have bridged the gap between patients and doctors, providing an effective communication channel. IoT is a solution for the problems in healthcare systems. Patients will be access their related health data and records through mobile application and the available healthcare apps [6].

IoT refers to the interconnectedness of devices, systems, and services through multiway human and machine communication [7,8]. This leads to automation across various fields, including smart cities. IoT has revolutionized modern healthcare by offering various healthcare related apps and

emergency services. With the integration of medical oriented devices, such as, the sensors and imaging related devices and also the service providers can provide better care to patients. This results in lower medical costs and improved patient outcomes. IoT-based wireless technologies have enabled the prevention and diagnosis of chronic diseases and provide the monitoring facility. Medical data records are maintained through databases and servers, ensuring patient accessibility at all times. Table.1 lists the advanced technologies integrated with IoT that are valuable in the healthcare sector [9].

Table 1: Technologies Integrated with IoT and Their Advantages in Healthcare

Technology	Description
Big data	Enables quick access to stored data in healthcare systems when needed.
	Facilitates the maintenance of clinical records, bills, and patient medical history.
Cloud computing	Facilitates storage of on-demand data and content access through the internet.
	Helps doctors work more effectively by providing visual access to data resources.
Software	Connects to patients' data, medical tests, and reports, reducing the communication gap between doctors and patients.

A novel Machine Learning approach for Person Identification and Validation using Digital Forensics methods

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Abstract UIDAI (Novel ID Authority of India) fostered an Iris acknowledgment framework to check both the uniqueness of the human Iris and furthermore its presentation as a biometric ID. A biometric framework gives programmed distinguishing proof of an individual in view of a remarkable element or trademark moved by the person. Iris acknowledgment is viewed as the most dependable and precise biometric distinguishing proof framework accessible. Iris highlight extraction is the pivotal phase of the entire Iris acknowledgment process for individual distinguishing proof. A framework for individual recognizable proof in light of iris designs is created by Seller gadget the board (VDM) under UIDAI has presented a trademark technique for validation in view of biometric Iris perusing to accomplish an answer for secure correspondences. It is made out of iris picture procurement, picture preprocessing, highlight extraction and classifier plan answer for secure correspondences. Biometric ID arrangement in light of Iris perusing was joined with regular confirmation techniques to accomplish safer correspondences and PCs better secured. This application is as of now utilized by AADHAR biometric project utilizing Microsoft Visual Studio and involved a few stages among which both utilizing a free Iris data set, procurement, handling and encoding human Iris, code the executives, - plan classifiers and a relative report with respect to viability of these classifiers. AI Procedures are utilized to work on the arrangement by keeping away from the copy pictures with point by point data.

Keywords: Biometric Image Classification, Iris Capturing, Machine Learning

I. INTRODUCTION

Residents of India depend on their administration for a wide assortment of contributions at various levels of the human existence cycle. These offers incorporate issuance of solicitations, elector cards, apportion cards, driver licenses, international IDs, Container cards, and the

sky is the limit from there. Furthermore, the specialists have laid out specific social frameworks for individuals' monetary and social advancement, like the designated public conveyance framework "TPDS", the public rustic work ensure framework "NREGS", wellness protection, and old advanced age benefits. We are doing it furthermore. Each resident is doled out a remarkable ID (UID) so she presents various records to demonstrate her character to get customized offers, for example, taxpayer supported organizations and opening records at monetary foundations never again need to. A One of a kind Personality (UID) can stay a steady identifier from birth to death of a resident.

With UIDs, specialists can guarantee that favors among different government assistance software engineers arrive at their planned recipients, save you from being pursued down for gifts by some, and lessen extortion. UID additionally expects to aid the guideline and authorization of mandates, the productive execution of method for dissemination to the overall population, the meaning of government assistance privileges, financial consideration, and worked on fundamental execution of government organization. Enlistment is supposed to include states taking biometrics and biometrics of occupants to make a remarkable ID variation. While enlisting, care ought to be taken to guarantee that people with equivalent privileges are not enrolled more than previously. This should be possible by assessing a resident's biometrics and denying enlistment in the event that any remaining occupants are now selected and seizures are identified. Occupant enlistment should be possible in more than one way.

Enlistment is finished in a unified design involving all enlistment stations in the US associated with a focal server and the biometrics of enlisted residents contrasted with the biometrics of all generally selected occupants. should be possible online by taking on Contraptions can never again perform enrollment on the off chance that a match is found. One more method for enlisting is to utilize the disconnected enrollment strategy. On the off chance that you have a web association, synchronize your information

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Deep Learning Based NLP and LSTM Models for Sentiment Classification of Consumer Tweets

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Abstract:

The expanded use of virtual entertainment and online business sites is continually creating a monstrous volume of information about picture/video, sound, text, and so on. The text among these is the main sort of unstructured information, requiring exceptional consideration from scientists to obtain significant data. To gain insight from these data, numerous methods have recently been proposed. However, dealing with the enormous text poses additional difficulties; As a result, accurately detecting polarity in customer reviews is a challenging but exciting challenge. Because of this, it is difficult to precisely interpret the textual information in consumer reviews, comments, tweets, posts, and other such materials. There has been some work done in the past to make it easier to get exact meanings from these data. When interpreting such data, proper data collection, preprocessing, and classification are crucial. Deep Learning Based NLP and LSTM Models were implemented with parameters F1 score, Precision, Recall and accuracy. All parameters were applied to two different datasets and our proposed method showed good performance, accuracy.

Keywords: sentiment analysis; consumer reviews; artificial intelligence; deep learning

1. Introduction

This article aims to explain the concepts of Natural Language Processing and how to build a model using LSTM (Long Short Term Memory), a deep learning algorithm for performing sentiment analysis.

Natural Language Processing:

Natural Language Processing (NLP) is a subfield of Artificial Intelligence that deals with understanding and deriving insights from human languages such as text and speech. Some of the common applications of NLP are Sentiment analysis, Chatbots, Language translation, voice assistance, speech recognition, etc. examples Google translator, Chatbots in Apps like Flipkart & Swiggy, Autocompletion feature in Gmail, Personal Assistance like Alexa, Siri & Google Assistance, Email spam detection, Document summarization

Importance of NLP: The reason for this is that in today's world, roughly 2.5 quintillion bytes of data are generated every day. And the majority of them are inherently unstructured. Examples: Text, audio, etc. To make use of the majority of these data and to derive meaning out of it, we



Contents lists available at ScienceDirect

Computers and Electrical Engineering

journal homepage: www.elsevier.com/locate/compelecengExpert system for smart farming for diagnosis of sugarcane diseases using machine learning[☆]Athiraja Atheeswaran^a, Raghavender K.V.^b, B.N. Lakshmi Chaganti^c, Ashok Maram^d, Norbert Herencsar^{e,*}^a Department of Computer Science and Engineering (AI ML), Bannari Amman Institute of Technology, Sathyamangalam, Tamilnadu, 638401, India^b Department of Computer Science and Engineering, G. Narayanamma Institute of Technology and Science, Hyderabad, Telangana State, 500104, India^c Department of Computer Science and Engineering, TKR College of Engineering and Technology, Hyderabad, Telangana State, 500097, India^d Department of Computer Science and Engineering, Malla Reddy Institute of Engineering and Technology, Hyderabad, Telangana State, 500100, India^e Department of Telecommunications, Faculty of Electrical Engineering and Communications, Brno University of Technology, Technicka 3082/12, Brno, 616 00, Czechia

ARTICLE INFO

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CBR
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Fuzzy logic
Median filtering
Neuro-fuzzy
Smart farming

ABSTRACT

Agriculture is one of the oldest occupations in the world and continues to exist today. In some form or another, the world's population depends on agriculture for its needs. The major loss in sugarcane production in India is due to pests, plant disease, malnutrition, and nutrient deficiency in plants. To identify these diseases, farmers go to local farmers, experts, agricultural people, and fellow neighbors to identify the problem caused. In some cases, their information may be adequate, but in others it is not. These people cannot solve all the problems caused by their crops can be solved by these people; there is a need to accurately predict the correct disease and provide the proper treatment at the right time. This can only be done by applying machine learning-based Internet of Things solutions in real time. This article proposes a method for a smart farming system to address the needs of farmers producing sugarcane in India by applying intelligent solutions that use image processing and soft computing. Four sugarcane diseases are investigated, such as Eyespot, Leaf Scald, Yellow Leaf, and Pokkah Boeng, and three characteristics such as color, shape, and texture. Images were used for training data in Artificial Neural Network (ANN), Neuro-Fuzzy, and Case-Based Reasoning (CBR) algorithms, and the performance of the feature extraction technique was evaluated in terms of sensitivity, specificity, F1 score, and accuracy.

Introduction

In 2020, India produced nearly 20% of the total sugarcane (*Saccharum officinarum* L.) in the world [1]. In Tamil Nadu, sugarcane is cultivated on approximately 4 million hectares, and the sugarcane yield is approximately 67 tons per hectare. These data are collected from the Sugarcane Research Institute in Coimbatore, shown in Table 1. Sugarcane production in Tamil Nadu is

[☆] This paper is for special section VSI-sacs. Reviews were processed by Guest Editor Dr. Antonio Zuurro and recommended for publication.

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Bibliometric Analysis on Identifying Plant, Crop Diseases Using Machine Learning and Deep Learning

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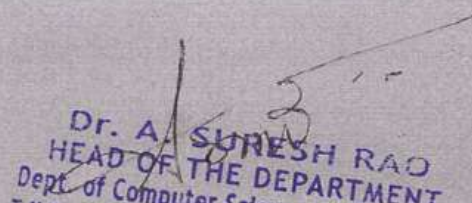
Abstract. This paper is intended to explore the research done on identifying the diseased plants and crops using Machine Learning (ML) and Deep Learning (DL) techniques during last 10 years using bibliometric methods. In this study, we used Scopus database to analyze on "Plant disease" or "Crop disease" using "Machine Learning" or "Deep Learning" or "Neural Networks". This paper focuses on the importance of ML and DL techniques in identifying plant or crop diseases. The database collected from the Scopus is analyzed using VOSviewer software of version 1.6.16. The study is limited to publications from conferences, journals with subject areas are limited to Computer Science, Engineering and languages limited to English and Chinese. Scopus search outputs 824 articles on Plant or Crop diseases with ML, DL and Neural Networks covering conference papers and journal articles. Statistics showed that more articles were published during the last five years and major contributions were from India. By analyzing database on Authors, Subject area, Keywords, Affiliation, Source type it is evident that there is plenty of research scope in this area. Network analysis on diverse parameters specifies that there is a good scope to do research in this topic using advanced deep learning techniques.


Keywords. Crop Disease, Plant Disease, Machine Learning, Deep Learning, Neural Networks, Network Analysis, Bibliometric Analysis.

1. Introduction

Diseases in plant, crop are the major concern in the agricultural sector, and their automatic detection is critical for their monitoring. Plants are extremely susceptible to seasonal illnesses, which worsen over time and under varying climatic conditions. As a result, it is critical to address the issue of safeguarding plants from a variety of illnesses. The leaves reflect the majority of disease symptoms; however leaf identification by professionals in laboratories is costly and time-consuming. Rice infections commonly cause yield losses of 20 to 40% and are closely associated to the global economy [1]. Rice disease diagnosis is still primarily done by hand. It's vital to identify diseases quickly so that treatment can be planned and losses can be minimized.

Many computer algorithms have been developed to detect plant diseases early in order to protect crops from damage. Extracted features are very important in both segmentation and categorization of infected areas in the Machine Learning, Deep


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23-24



A Secured Data Storage in Cloud Computing by Using Block Design Based Key Agreement

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ABSTRACT

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Cloud computing has emerged as a dominant paradigm for storing and accessing data. In group data sharing scenarios, where multiple users collaborate and exchange sensitive information in the cloud, ensuring secure and efficient key agreement becomes crucial. This paper presents a comprehensive analysis of key agreement mechanisms for group data sharing in cloud computing environments. We explore various cryptographic techniques and protocols specifically designed for establishing secure communication channels among group members. The paper discusses the challenges associated with key agreement in the cloud, proposes potential solutions, and provides insights into the implementation and evaluation of such mechanisms. The proposed framework aims to protect data confidentiality, integrity, and availability, ensuring a robust and reliable cloud storage environment. We explore various cryptographic techniques, including encryption, key management, and authentication mechanisms, and discuss their application in securing cloud-based data storage. The framework addresses common security threats and provides guidelines for implementing a secure cloud storage solution.

Keywords: Key Agreement Protocol, Symmetric Balanced Incomplete Block Design, Data Sharing, Cloud Computing.

I. INTRODUCTION

Group data sharing in cloud computing offers tremendous opportunities for collaboration and knowledge exchange. However, it also poses significant challenges in terms of security, privacy,

access control, and scalability. By implementing effective key agreement mechanisms, employing strong encryption algorithms, and ensuring proper access control and authentication mechanisms, organizations can establish secure group data sharing environments in the cloud. Continued research and

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Improvement of Agriculture Productivity by using Artificial Intelligence and Block Chain Technology

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ABSTRACT

Agriculture plays a vital role in global food security and economic sustainability. However, the sector faces numerous challenges, such as the need to feed a growing population, resource constraints, climate change, and inefficient supply chain management. This paper explores the potential of integrating Artificial Intelligence (AI) and Blockchain technology to address these challenges and boost agricultural productivity. AI can revolutionize decision-making and data analysis, while Blockchain offers transparency, traceability, and security. By synergizing these technologies, agriculture can transition towards a more efficient, sustainable, and resilient future.

Keywords : Precision Agriculture, Supply Chain, Blockchain, Internet Of Things; Traceability, Smart, Contracts


I. INTRODUCTION

Agriculture is a cornerstone of human civilization, ensuring food security and economic stability. As the global population continues to rise, reaching an estimated 9.7 billion by 2050, the agricultural sector faces the challenge of producing more food with limited resources. Moreover, the sector must adapt to the changing climate and minimize its environmental footprint. This paper delves into the potential benefits of leveraging Artificial Intelligence and Blockchain technology to enhance agricultural productivity.

An important part of India's economy is played by agriculture, which accounts for 18% of the country's GDP and 50% of all jobs there. The largest producer of pulses, rice, wheat, spices, and spice-related items is India. Inefficient middlemen plague India's agricultural supply chain from the producer (farmer) all the way to the customer. The middle man farmer and customer receive unequal distributions of information about costs, supply, and stocks. The improvement of the aforementioned issue has been addressed by a variety of planning and management techniques, such as Material Requirement Planning, Enterprise Resource Planning, and Advanced Supply

Details of research papers Journals 2022-2023

Name of the Author(s)	Department of the Author(s)	Title of the Paper	Name of the Journal	Month and Year of publication	ISSN
Dr S.Narasimha	EEE	A Novel Dual-Buck AC-AC Converter-Based Dynamic Voltage Restorer With Improved Power Quality	JAC	Oct-22	0731-6755
Dr S.Narasimha	EEE	A Non-Isolated Multi-Input Multi-Output DC-DC Converter Based Hybrid BLDC Electric Vehicle	JAC	Oct-22	0731-6755
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Dr S.Narasimha	EEE	A Modified Fuzzy Based Fast DC-Type Electric Vehicle Charger Based New Boost-Buck Rectifier	JAC	Oct-22	0731-6755
DrK.Raju	EEE	Develop of PID using PSO Algorithm and Fuzzy Logic Controller Application to Load Frequency Control of Two Area Interconnected System	Science Technology and Development	May-23	0950-0707
DrK.Raju	EEE	Fuzzy PID Controller Application to Load Frequency control of two area Power System	Science Technology and Development	Nov-22	0950-0707
A.Anjaiah	EEE	Develop of PID using PSO Algorithm and Fuzzy Logic Controller Application to Load Frequency Control of Two Area Interconnected System	Science Technology and Development	May-23	0950-0707
A.Anjaiah	EEE	Fuzzy PID Controller Application to Load Frequency control of two area Power System	Science Technology and Development	Nov-22	0950-0707
A.Anjaiah	EEE	Develop of Fuzzy GA-PID (F-GAPID) for Load Frequency control of Single Area Hybrid Power System	JICS	22-Jun	1548-7741
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A NOVEL DUAL-BUCK AC-AC CONVERTER-BASED DYNAMIC VOLTAGE RESTORER WITH IMPROVED POWER QUALITY

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Abstract

Sags and swells are the most common types of power quality disturbances. Millions of dollars are lost in productivity each year in the India due to these disturbances. A simple understanding of the causes will allow for effective solutions to mitigating these disturbances in most applications. VSC based Dynamic voltage restorer is a conventional solution for the sag and swell and this VSC based Dynamic voltage restorer act as a series active power filter. In this project a novel dual buck AC-AC converter based Dynamic voltage restorer with improved power quality features is proposed and it has ability to act as a active power filter too and also a three-phase proposed AC-AC converter reduces the power quality problems. A single-phase and three-phase simulation studies are carried out in this project using MATLAB Simulink.

Keywords: Dynamic voltage restorer, AC-AC converter, Power Quality.

I. INTRODUCTION

The sag and swell in supply voltage are the main power quality problems. They can damage or shut down sensitive equipment. Voltage sag occurs when the supply voltage drops between 10 %–90 % of the RMS voltage, and voltage swell occurs when the supply voltage is increased to 110 %–180 % of the RMS voltage A buck-boost ac-ac converter with inverting and non-inverting operations is proposed. It compensates both the voltage sag and swell when used as a dynamic voltage restorer. Its basic switching cell is a unidirectional buck circuit, owing to which it has no shoot-through concerns. It achieves safe commutation without using RC snubbers or soft commutation strategies. Further, it can be implemented with power MOSFETs without their body diodes conducting, and for current freewheeling external diodes of good reverse recovery features can be used to minimize the reverse recovery issues and relevant loss. The sag and swell in supply voltage are the main power quality problems. They can damage or shut down sensitive equipment. Voltage sag occurs when the supply voltage drops between 10 %–90 % of the RMS voltage, and voltage swell occurs when the supply voltage is increased to 110 %–180 % of the RMS voltage. A DVR can be designed with a VSI or a direct PWM ac-ac converter. A DVR based on VSI.

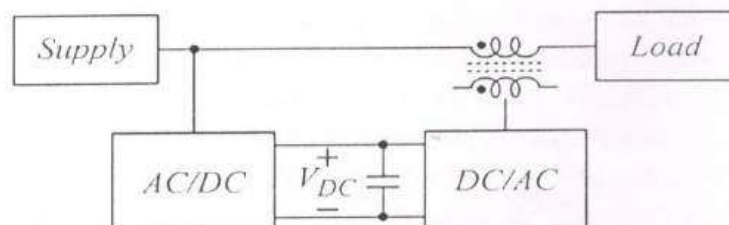


Figure 1: DVR using VSI compensates both voltage sag and swell, and also stores energy in batteries for voltage compensation

A NON-ISOLATED MULTI-INPUT MULTI -OUTPUT DC-DC CONVERTER BASED HYBRID BLDC ELECTRIC VEHICLE

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Abstract

In this work, we present a novel non-isolated MIMO dc-dc boost converter for use in BLDC electric vehicles. With a solar panel and battery, this converter may hybridise renewable energy for use in automobiles. True, the benefits of several energy sources may be realised via hybridization. This converter allows for versatile load power distribution across many inputs. In addition, the input from other sources may be managed precisely to ensure that energy storages are charged or discharged correctly. In addition, BLDC-powered electric cars need two distinct dc voltages: one for the HVAC and cabin lighting, and another for powering the motor itself. There is just one inductor in the proposed converter. The energy storage system (ESS) may be in either a charging or discharging condition, and therefore the converter can switch between two distinct power operating modes. All simulation work is done in MATLAB, making use of the SIMPOWERSYSTEM and SIMULINK toolboxes.

Keywords: Energy storage system (ESS), MIMO dc-dc boost converter, BLDC electric vehicles, HVAC and cabin lighting, ELECTRIC VEHICLE.

I. INTRODUCTION

There are many arguments in favour of switching to EVs from gas and oil cars, including the world's rapidly growing population and energy demands, rising oil and natural gas costs, and the depletion of fossil fuel reserves. As a result, there has been a growing push to perfect electric vehicles (EVs) powered by renewable energy to compete with cars powered by fossil fuels. Electric vehicles (EVs) are touted as a promising and alluring option for transportation applications due to their potential for eco-friendly operation via the use of clean and renewable energy sources. Clean energy is often provided via a fuel cell (FC) stack in EVs. In order to produce electricity, fuel cells (FCs) undergo a direct conversion from chemical energy. Fuel cells (FCs) are widely recognised as a potentially game-changing technology for fulfilling the world's future energy needs. To avoid the need for energy storage, FCs produce electricity directly and keep on supplying it so long as fuel is available. FCs have a high cost per watt and a sluggish power transfer rate in transitive conditions, both of which are well-known technological constraints. This is why FCs are not relied on solely in EVs to meet load requirements, especially during start-up and transitory times. Therefore, these issues are often addressed by combining FC with ESSs like batteries or supercapacitors (SC). In addition, when FCs are coupled with ESSs, the FC's need for hydrogen is mitigated. FC and ESSs like batteries and SC operate at different voltages. So, a dc-dc converter must be used for each input source in order to supply a set voltage level for load and regulate power flow between input sources. When a dc-dc converter is used for each input source, costs, size, and

Design and Analysis of BLDC Motor Driver for Hybrid Electric Vehicles



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and Surender Reddy Salkuti

Abstract This chapter presents the design and analysis of brushless DC (BLDC) motor driver for hybrid electric vehicles. Due to the combustion of petroleum, it is going to create a pollution problem. Therefore, it is needed that alternating energy resources for petroleum reserves which are exhaustible in potential are required to be determined. The majority of the automobiles right now are reliant on internal combustion engines (ICEs) for the operation and it the root cause of worry since they are accountable for smog. Therefore, the automobile companies are searching for alternate energy sources which could decrease pollution. As a result of arising pollution issue, the hybrid electric-powered vehicles are important for long term planning. The brushed DC machine works on a setup of wound wire coils and armature which acts as a two-pole electromagnet. The brushless DC machine, by comparison, uses a lasting magnet as it has an outside rotor. Additionally, it runs on 3 phases of coils along with a special sensor that monitors the rotor position. This chapter presents the relative evaluation of the electric vehicle (EV) that is powered by brushless DC (BLDC) motor and the corresponding impact on the state of ripples and charge in the DC voltage at the battery power. This comparison has been carried in the MATLAB application and the outcomes are explained clearly in the results section.

Keywords Brushless DC motor · Hybrid electric vehicles · DC-DC converters · Pulse width modulation · Regenerative energy · Voltage source converter

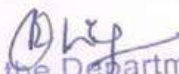
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AN EFFICIENT CONTROLLER FOR GRID CONNECTED PV SYSTEM WITH IMPROVED POWER QUALITY

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Abstract

This project presents the detailed design and modelling of grid integrated with the Photovoltaic Solar Power Generator. As the Photovoltaic System uses the solar energy as one of the renewable energies for the electrical energy production has an enormous potential. The PV system is developing very rapidly as compared to its counterparts of the renewable energies. The DC voltage generated by the PV system is boosted by the DC-DC Boost converter. The utility grid is incorporated with the PV Solar Power Generator through the 3-PWM DC-AC inverter, whose control is provided by a constant current controller. This controller uses a 3-phase locked loop (PLL) for tracking the phase angle of the utility grid and reacts fast enough to the changes in load or grid connection states, as a result, it seems to be efficient in supplying to load the constant voltage without phase jump. Simulation studies are Carried out by the constant current controller and proposed fuzzy based hybrid controller using MATLAB Simulink.

Keywords: PV system, DC-DC Boost converter, DC-AC inverter, Photovoltaic Solar Power Generator.

I. INTRODUCTION

World is moving towards the greener sources of energy to make the planet pollution free and environment friendly. The major utilization of these sources with grid integration is the challenging task. It is therefore Distribution Generation particularly single phase rooftop Photo Voltaic system are major research area for grid integration, since these sources have huge opportunity of generation near load terminal. The rooftop application involving single phase Distribution Generation's fed with Photo Voltaic source can be not only utilized for household use but the excess energy can be transferred to the grid through proper control scheme and adequate hardware. Photo Voltaic systems can generate high voltages. Safety is therefore very important in order to avoid accidents and damage of expensive components and equipment. For safety reasons, solar arrays are normally earthed, either by placing a matrix of metal in the ground under the array, or by using conventional earth rods. It is normally not necessary to protect solar array from direct lightning strikes, provided that their mounting structure is well earthed. However, inverters or other electronics controls connected to the array should be protected. Blocking diodes are installed in solar arrays to prevent reverse current flows into the modules, which may damage the modules and cause energy losses. By-pass diodes are incorporated into modules to prevent damage of arrays when some cells or modules become shaded. Photo Voltaic system requires regular maintenance to ensure proper operation and the full life of components. Some of the most important maintenance tasks are cleaning of modules front, Removal obstacles, tree branches, etc. Which cause shadowing of the modules, Battery charge check, if it remains very low the system should be re-designed, topping of battery electrolyte. The rest of components of PV systems require little or no maintenance. The decentralized renewable energy production needs the continuous increase in the electrical energy with the clean environment. The




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A MODIFIED FUZZY BASED FAST DC-TYPE ELECTRIC VEHICLE CHARGER BASED NEW BOOST-BUCK RECTIFIER

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Abstract

A rapid DC-type battery charger for electric vehicles with minimal switching losses is presented. Here, a typical three-phase two-level voltage source rectifier runs with a discontinuous PWM modulation in which each phase-leg causes switching for 240 degrees of the grid fundamental period, i.e. just a single phase-leg switch every 60 degrees. Due to the AC-DC converter's inability to maintain voltage control over the DC-link, a buck-type DC-DC converter is cascaded to provide the required voltage regulation and current limiting during EV charging. The development for the cause of an electric vehicle is air pollution that is being caused by motor vehicles. To reduce the pollution, an electric vehicle is developed but the main problem with an EV is charging of the vehicle. The vehicle should be charged in an electronic charging station as fast as the motor vehicle is being filled with fuel. Fuzzy logic controller, and a buck-boost controller is present with which the speed of charging an electric vehicle will be increased. The electronic charging station must be able to provide charging of different electric vehicles with different capacities in less duration. A modified fuzzy-based rapid dc-type electric car charger.

Keywords: Modified fuzzy logic, Fast charging, DC-type electric vehicle charger, Boost-buckrectifier, Power electronics, Electric vehicle technology, Energy efficiency, Renewable energy, Power quality, Electric power conversion, Control systems.

I. INTRODUCTION

The main reasons for the invention of electric vehicles is the emission of toxic substances into the air by the motor vehicles such as cars, buses, trucks, and so on causing air pollution but the other reason for the development of electric vehicles is that the fossil fuels which are being employed in our daily life will be exhausted not beyond a few years considering the rate of usage. The electric vehicles must be developed in such a way that the vehicle must be charged within a few seconds. The PID controller used in a fast-charging electric vehicle is always a closed-loop network and receives feedback. This feedback is employed to make adjustments to the deviations in the output. The capacitor bank is used to obstruct the variable DC voltage, the voltage in the transformer is used to step-up or step-down as per the requirements. In the radial distribution system, buffering loads are used, when there are no vehicles in the charging station these loads are utilized to store the electrical energy, the battery is used as a rectifier, and for fast charging purpose the PID controller along with buck-boost converter are used to control the circuit with the FLC. Buck-boost converter along with the PID controller and FLC is presented as the advanced controlling circuit. The converter is connected to the electric vehicles which are attached to the grid. The FLC can be easily accessible in domestic and industrial based applications. The fuzzy logic can be carried

Development of PID Using PSO Algorithm and Fuzzy Logic Controller: Application to Load Frequency Control of Two Area Interconnected System

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Abstract-- The goal of the study is to compare PID employing PSO and fuzzy controllers in terms of performance on the two areas' interconnected power systems, which are examined using four different scenarios. The effectiveness of PID utilising PSO will be demonstrated with reference to four different simulation results. PID and fuzzy logic, which are frequently used in control, are the methodologies used. Fuzzy logic and PID utilising PSO are often used techniques in control systems. In actual use, the effectiveness of these controls was evaluated against various scenarios in the two area-connected systems. Daily demand for power is rising steadily. Delivering consistent, high-quality electricity to clients in a variety of circumstances is the toughest challenge. In order to do this, the two parameters—load distribution and network frequency—must always be examined for each scenario. To eliminate the fluctuations in electric energy, use two distinct fields. For this, MATLAB provides Simulink models and simulation applications. The results acquired are used to compare the two different control directions. In addition to all of these, simulation experiments utilising PSO are used to evaluate the performance of the proposed method with a proportional integral derivative tester, and the results demonstrate its efficacy and superiority.

Index Terms— PSO block, fuzzy systems, frequency control, matlab, power system control, proportional control

INTRODUCTION

Due to rising demand and increased environmental awareness, the relevance of energy generation has recently increased. Additionally, it is a natural expectation of both producers and consumers to use electricity as efficiently as possible. Therefore, in order to meet the energy requirements of both energy suppliers and consumers, interconnected electrical power systems were created. Additionally, networked electrical power networks have been developed for both domestic users within the nation and with its neighbouring nations to interchange electric energy under any condition [1]. The joining up needs a lot of setups and adjustments, electrical power networks that connect the nations' internal and external power grids. The frequencies that can be adjusted for the entire system of its subsystems


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Development of PID Using PSO Algorithm and Fuzzy Logic Controller: Application to Load Frequency Control of Two Area Interconnected System

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Fuzzy and PID controller application to Load Frequency control of two area Power System”

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ABSTRACT

Daily demand for power is rising day by day. Delivering consistent, high-quality electricity to clients in a variety of circumstances is the toughest challenge in power sector. The important challenge is to provide uninterrupted and good quality power to customer in variable conditions. There are two measurements checked such as load distribution and frequency. In order to accomplish this parameter, the load distribution and network frequency—must always be examined for each scenario. In this study, Fuzzy logic controller and the proportional integral derivative controller (PID) method are used in this work to eliminate electric energy variations in a power system connected to two areas.

Two area connected power systems were simulated in four scenarios under a variety of operating situations to highlight the efficacy of the suggested fuzzy logic control (FLC) method. In addition to all of this, the effectiveness and superiority of the suggested methodology are demonstrated by comparison of the proposed method's performance with a Proportional Integral Derivative (PID) tester using MATLAB simulation studies.

KEYWORDS:

Fuzzy Logic controller, Power system, Proportional Integral Derivative (PID)

I. INTRODUCTION

The frequency and inter-area tie power should be kept close to the scheduled levels in big power systems that consist of interconnected control areas and load frequency. The frequency deviation of the generators is monitored by the input mechanical power and the change in oscillation and tie-line power and is a measurement of the delayed in rotor angle, are measured. By maintaining the frequency and its magnitude within acceptable ranges, a well-designed system can be able to deliver the required levels of power quality. RP power is more dependent on fluctuations in voltage magnitude than it is on frequency changes, which are more sensitive to delayed in the load on the system. Real and RA power are thus controlled separately in the power system. While the AVR regulator loop controls variations in reactive power and voltage magnitude, the load frequency control primarily controls frequency and real power.

Numerous sophisticated ideas for the large-scale control of the network system are built around load frequency control. Due to rising demand and increased environmental awareness, the relevance of energy generation has recently increased. Additionally, it is a natural expectation of both producers and consumers to use electricity as efficiently as possible. Therefore, in order to meet the energy requirements of both energy suppliers and consumers, interconnected electrical power systems were created. Additionally, connected EPN have been developed for both domestic users within the nation and with its neighbouring nations to interchange electric energy under any condition [1].

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ABSTRACT

Daily demand for power is rising day by day. Delivering consistent, high-quality electricity to clients in a variety of circumstances is the toughest challenge in power sector. The important challenge is to provide uninterrupted and good quality power to customer in variable conditions. There are two measurements checked such as load distribution and frequency. In order to accomplish this parameter, the load distribution and network frequency – must always be examined for each scenario. In this study, Fuzzy logic controller and the proportional integral derivative controller (PID) method are used in this work to eliminate electric energy variations in a power system connected to two areas.

Two area connected power systems were simulated in four scenarios under a variety of operating situations to highlight the efficacy of the suggested fuzzy logic control (FLC) method. In addition to all of this, the effectiveness and superiority of the suggested methodology are demonstrated by comparison of the proposed method's performance with a Proportional Integral Derivative (PID) tester using MATLAB simulation studies.

KEYWORDS:

Fuzzy Logic controller, Power system, Proportional Integral Derivative (PID)

I. INTRODUCTION

The frequency and inter-area tie power should be kept close to the scheduled levels in big power systems that consist of interconnected control areas and load frequency. The frequency deviation of the generators is monitored by the input mechanical power and the change in oscillation and tie-line power and is a measurement of the delayed in rotor angle, are measured. By maintaining the frequency and its magnitude within acceptable ranges, a well-designed system can be able to deliver the required levels of power quality. RP power is more dependent on fluctuations in voltage magnitude than it is on frequency changes, which are more sensitive to delayed in the load on the system. Real and RA power are thus controlled separately in the power system. While the AVR regulator loop controls variations in reactive power and voltage magnitude, the load frequency control primarily controls frequency and real power.

Numerous sophisticated ideas for the large-scale control of the network system are built around load frequency control. Due to rising demand and increased environmental awareness, the relevance of energy generation has recently increased. Additionally, it is a natural expectation of both producers and consumers to use electricity as efficiently as possible. Therefore, in order to meet the energy requirements of both energy suppliers and consumers, interconnected electrical power systems were created. Additionally, connected EPN have been developed for both domestic users within the nation and with its neighbouring nations to interchange electric energy under any condition [1].

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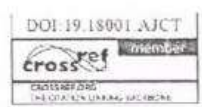
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An effective hierarchical image coding approach with Hilbert scanning

V. Krishna¹ · K. V. Murali Mohan² · Rajesh Banala¹ · B. Sunil Srinivas¹

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Abstract Due to the rapid growth in the data acquired by the acquisition devices throws a challenge to propose efficient compression algorithm. Compression of digital images aims to transform the image into more compact form which is convenient for storage, transmission, processing and retrieval. This paper presents an effective and low computation complexity based image compression approach with Hierarchical coding using Hilbert transform. The presented Hilbert transform based scanning with Hierarchical coding is compared against state of art image coders and the experimental results with standard dataset images shows that the method yields higher metrical values than earlier methods. It can be concluded from the average of the results that PSNR is increased by 0.6 dB on average with respect to JPEG 2000 and ~2 dB with respect to SPIHT method. In a similar manner, the MSE and RMSE values are very low (0.78 units). The SSIM and correlation coefficient are utmost higher (0.99 units). These depict the high quality of the reconstructed compressed image.

Keywords Image compression · Hilbert scanning · Hierarchical coding · Hilbert transform

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1 Introduction

The acquired images from the acquisition devices are quite large in resolution and consume huge data for storing them digitally. Transmission of these images also requires huge bandwidth and consumes lot of time. To overcome this limitation, image compression seems to be the better solution. Compression of image aims to minimize the redundant data samples without disturbing the actual content of the image (Krishna et al. 2014). It is very crucial note to make that compression of images leads to minor loss of information that may cause serious consequences, so these image compressions are categorized as lossy and lossless and respective approach is applied based on the requirement and application (Karras et al. 2009). Though there is enormous progress in storage systems, the speed of the processing systems yet there is a huge need for faster transmission of the data. These requirements have paved a way for the demand of efficient ways to encode the data for faster and reliable communication.

One of the important task for an efficient image compression technique is to provide high correlation between the pixels because higher the correlation leads to efficient data compression. One of the solution for this issue is provided with Hilbert transform. In early days, this transform is mainly applied for transforming the 1D-signal but Salam and others (Salam 1999) have applied this transform to image. Hilbert scanning takes the advantage of similarity of neighbor pixels that helps to develop an optimal transmission coder. Due to this property of Hilbert transform the decoding process retains high quality image with decoded pixels.

In many recent technologies, perfect reconstruction of image pixels is an utmost requirement. This lossless compression processes the size reduction which is very important

A Novel MLP Technique on Augmented Dataset for Heart Attack Prediction

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ABSTRACT: Heart Attack is the leading life threatening disease because of the stress life facing by the humans. Traditional approaches are utilizing the 13 attributes related to medical tests like cholesterol, treadmill test, and others. But the proposed model integrates the genetic algorithm known as "Particle Swarm Intelligence" algorithm with neural networks to perform the dimensionality reduction and classify the dataset using the customized neural network. The proposed model uses an augmented dataset that contains general information along with medical test reports, which are presented in the form of 55 attributes. The model also has the capability to predict the sub classification like mild, moderate, and severe. Neural Networks helps the automation system to extract the features automatically and implementation of genetic algorithm reduces the features and customization of layers helps the model to find the probability of each option and chooses the one with highest probability.

Keywords: Genetic Algorithms, Neural Networks, Customization, Attribute Selection, Augmentation

INTRODUCTION:


Greek words for "higher level" and "discovery" include "meta" and "heuristic." Typically, this approach finds outstanding answers by avoiding cost complexity. Let's talk about two of the many authors' definitions of these methodologies from various perspectives. In order to swiftly find solutions that are close to ideal, data is organised using learning techniques. A subordinate heuristic is driven by an iterative generating process that integrates cognitively disparate thoughts to achieve this, a master process that iteratively guides and modifies the activities of subpar heuristics to deliver high-quality results in a short amount of time. Iterations may include modifying a single solution—complete or insufficient—or a collection of connected solutions.



The meta-advantages heuristic's allow for the best derivation of search strategies based on the seven approaches. Let's take a closer look at several strategies and their advantages in relation to the phases now. In GA, a variety of searching-related problems are resolved, and working with other strategies is relatively simple. The AIS technique, which derives the data through self-adaptation, suggests new locations to search. The SA technique requires less computation time, is simple to implement, and does not require the search for local optimums. Dynamic approaches are the most adaptable, reliable, etc. at graph problems, according to the ACO approach. With its simple implementation and architecture, the PSO approach quickly and efficiently identifies fewer values. ICA technique based on user-implemented

LITERATURE SURVEY:

In [1], Ravish et al say that the cardiovascular system's most crucial component is the heart. It has a weight range of 250–350 grams and is roughly the size of a fist. A technique or model that is effective in foretelling heart attacks is required. In order to effectively evaluate the heart and identify any problems, the authors offer a methodical approach to collecting clinical and ECG data and training an artificial neural network. The group makes predictions using artificial neural networks (ANN). Less than 200 mg/dL of total cholesterol is the ideal range. Another crucial element that needs to be considered in the prognosis of heart disease is age.


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The Effective Quantitative Analysis for Brain Tumor Diagnosis Using an Efficient Deep Learning Algorithm

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Abstract— In the medical field, imaging analysis is the hottest topic. It has attracted many researchers to accurately analyze the disease severity and predict the outcome. However, if the trained images are more complex, the noise printing results have decreased, which has tended to gain less prediction accuracy score. So, a novel Chimp-based Boosting Multilayer Perceptron (ChBMP) prediction framework has been built in this present study. Moreover, the objective of this study is brain tumor prediction and severity analysis from the MRI brain images. The boosting function is employed to earn the most acceptable error printing outcome. Henceforth, the feature analysis and the tumor prediction process were executed accurately with the help of chimp solution function. The planned framework is tested in the MATLAB environment, and the prediction improvement score is analyzed by performing a comparative analysis. A novel ChBMP model has recorded the finest tumor forecasting rate.

Keywords—corruption; formatting; style; styling; insert (key words)

I. INTRODUCTION


In a human biological system, the brain tumor is considered a harmful disease category [1]. Hence, the early tumor diagnosis framework is a major concern in recovering human lives with proper treatment procedures [2]. Several medical analysis tools exist for these diagnosis systems [3]. However, these tools are high in cost also that is not suitable for predicting all tumor types [4]. Considering these drawbacks, intelligent models have been introduced for the disease prediction problem, which functioned as a neural model [5]. The neural framework process without the optimum layer is defined as machine learning (ML) [6]. Also, the neural models processed with optimal layers for the tuned prediction outcome are termed deep learning (DL) networks [7]. However, the neural models have needed more periods to train the system [8]. Furthermore, the imaging analysis was introduced to the

medical framework for the finest visualization results [9]. Some imaging schemes have required more image features to train the system that has maximized the complexity score of the imaging system [10]. Different sequential models have been executed in the imaging system to find the present statistical

features in the trained image [11]. Using these sequential models, the possible features were extracted that are imported to the classification function for further processing [12]. The existing numerical models like kernel model, belief deep networks system, regression, and logical system were widely utilized for analyzing the image features [13]. But those approaches required the additional combination approaches for training and classification [14].

Hence, those combined approaches might increase the computational complexity [15]. Considering these demerits, the neural system has been applied in imaging [16]. The imaging

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A CASE STUDY ON PROJECT ANALYTICS RELATED TO DATA DRIVEN FRAME WORK BY USING MACHINE LEARNING

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Abstract:

Project analytics refers to the analytical processes used to make project delivery easier. The current methods emphasise looking back at data and figuring out the underlying connections so you may make more intelligent choices in the future. Despite the widespread use of machine learning algorithms to solve issues in many fields (e.g., improving the efficiency of construction project design), only some studies have examined current machine learning approaches in the construction industry's project delivery. So, this study aims to evaluate a particular collection of machine learning algorithms to further contribute to this convergence between artificial intelligence and the execution building project. To tackle issues in project analytics, this research provides a machine learning-based, data-driven research approach. As a follow-up, it gives a case study demonstrating how this paradigm might be used. In this example, different machine learning models (Python's Scikit-learn package) were tested and assessed using preexisting data from an open-source data repository on building projects and the frequencies of cost overruns. Project cost overrun frequency was the dependent variable, while the other 44 variables (ranging from materials to labour and contracts) were classified for processing by several machine

learning models. Models such as the support vector machine, logistic regression, k-nearest neighbour, random forest, stacking (ensemble), and artificial neural network are included. The best possible prediction model was found using various feature selection and assessment strategies, such as the Univariate feature selection, Recursive feature elimination, Select From Model, and confusion matrix. It is also discussed in this study how the suggested research framework might be applied to various research settings in the field of project management. Practitioners, stakeholders, and academics would benefit significantly from the proposed framework, its illustrative example in the context of building projects, and its potential for adoption in many situations.


Keywords: project analytics, SVM, logistic regression, KNN

1. Introduction:

There can only be successful initiatives with the correct data and tools. Through analytics, project managers can make better choices at every project development stage. Earned value analysis and Monte

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A Journal for New Zealand Herpetology


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An effective hierarchical image coding approach with Hilbert scanning


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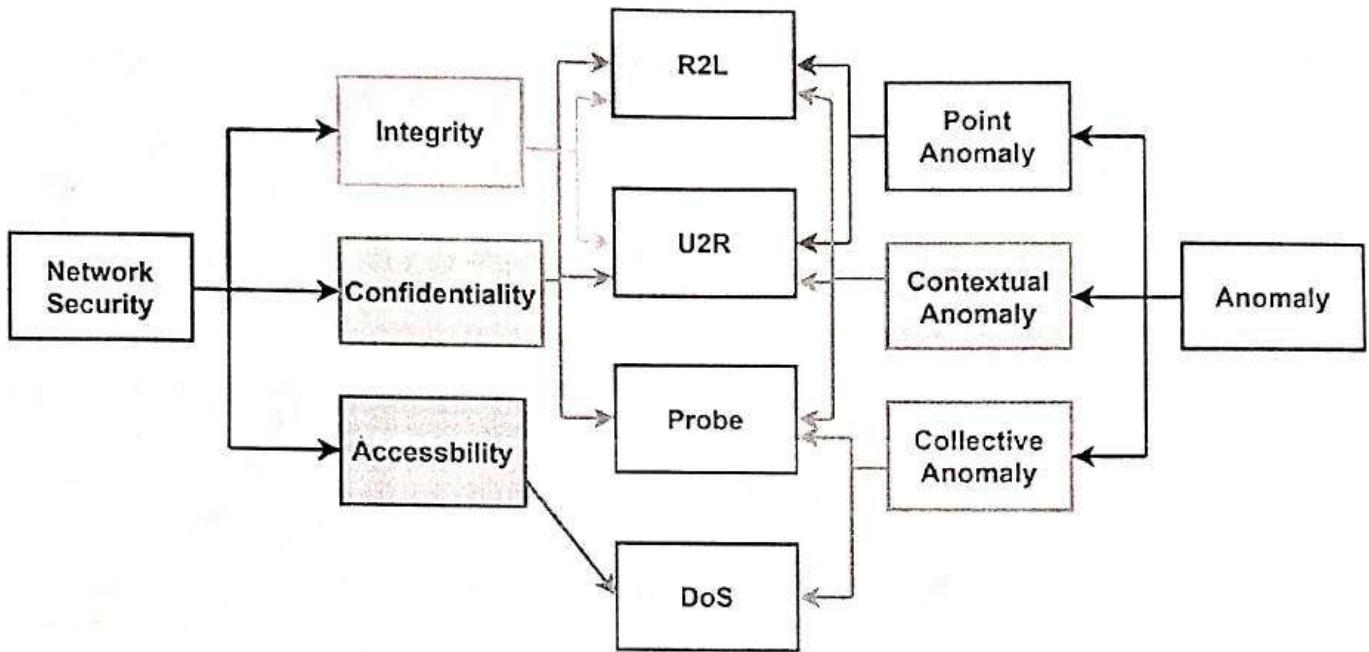
[V. Krishna](#) , [K. V. Murali Mohan](#), [Rajesh Banala](#) & [B. Sunil Srinivas](#)

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Abstract

Due to the rapid growth in the data acquired by the acquisition devices throws a challenge to propose efficient compression algorithm. Compression of digital images aims to transform the image into more compact form which is convenient for storage, transmission, processing and retrieval. This paper presents an effective and low computation complexity based image compression approach with Hierarchical coding using Hilbert transform. The presented Hilbert transform based scanning with Hierarchical coding is compared against

Machine Learning Based Classification Model for Network Traffic Anomaly Detection



PDF (<https://ijritcc.org/index.php/ijritcc/article/view/7048/6071>)

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Keywords:

DDos, OSI, machine learning

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Abstract



Document Sections

- I. Introduction
- II. Literature Survey
- III. Proposed Methodology
- IV. Implementation and Result Analysis
- V. Conclusion

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Abstract: Machine learning algorithms such as KNN and SVM can provide assistance with a variety of issues, including determining what crops should be planted when, as well as determining when the field requires additional water and fertilizer. The proposed system is intended to collect data on the current condition of the soil and make use of that data in order to establish the types of nutrients that are present in the soil. Farmers will be able to identify pest damage to their crops using camera sensor modules for the internet of things. They will be able to take the appropriate actions now that they have the ability to. Through the use of the app, the farmer is able to receive notifications and other information regarding crops based on the conditions of the soil and the weather. The types of soil, crops, nitrogen, potassium, and phosphorus are a few examples of the types of information that fall under this category. In addition to the characteristics of the soil and the weather, farmers can also base their decisions on the kind of crops they grow based on these elements. Because of this, the farmer is given the ability to take the appropriate measures to reduce crop loss and increase crop yield.

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Low light color balancing and denoising by machine learning based approximation for underwater images

Article type: Research Article

Authors: Arulaalan, M. (<https://content.iospress.com:443/search?q=author%3A%28%22Arulaalan, M.%22%29>)^a; Aparna, K. (<https://content.iospress.com:443/search?q=author%3A%28%22Aparna, K.%22%29>)^b; Nair, Vicky (<https://content.iospress.com:443/search?q=author%3A%28%22Nair, Vicky%22%29>)^c; Banala, Rajesh (<https://content.iospress.com:443/search?q=author%3A%28%22Banala, Rajesh%22%29>)^d

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Abstract: It is difficult for underwater archaeologists to recover the fine details of a captured image on the seabed when the image quality worsens due to the presence of more noisy artefacts, a mismatched device colour map, and a blurry image. To resolve this problem, we present a machine learning-based image restoration model (ML-IRM) for improving the visual quality of underwater images that have been deteriorated. Using this model, a home-made bowl set-up is created in which a different liquid concentration is used to replicate seabed water variation, and an object is dipped, or a video is played behind the bowl to recognise the object texture captured image in high-resolution for training the image restoration model is proposed. Gaussian and bidirectional pre-processing filters are used to both the high and low frequency components of the training image, respectively. To improve the clarity of the high-frequency channel background, soft-thresholding decreases the presence of distracting artefacts. On the other hand, the ML-IRM model can effectively keep the object textures on a low frequency channel. Experiment findings show that the proposed ML-IRM model improves the quality of seabed images, eliminates colour mismatches, and allows for more detailed information extraction. Blue shadow, green shadow, hazy, and low light test samples are randomly selected from all five datasets including U45 [1], EUVP [2], DUIE [3], UIEB [4], UM-ImageNet [5], and the proposed model. Peak Signal to Noise Ratio (PSNR) and Structural Similarity Index (SSIM) are computed for each condition separately. We list the values of PSNR (at 16.99dB, 15.96dB, 18.09dB, 15.67dB, 9.39dB, 17.98dB, 19.32dB, 14.27dB, 12.07dB, and 25.47dB) and SSIM (at 0.52, 0.57, 0.33, 0.47, 0.44, and 0.23, respectively). Similarly, it demonstrates that the proposed ML-IRM achieves a satisfactory result in terms of colour correction and contrast adjustment when applied to the problem of improving underwater images captured in low light. To do so, high-resolution images were captured in two low-light conditions (after 6 p.m. and again at 6 a.m.) for the training image datasets, and the results of their observations were compared to those of other existing state-of-the-art-methods.

Keywords: ML-IRM, image denoising, different low-lighting conditions, Gaussian and bidirectional filters, high and low frequency channel

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DISEASE DIAGNOSIS MODEL FOR INTELLIGENT HEALTHCARE SYSTEMS USING AI

Dr. Rajesh Banala, B. Greeshma
DOI: 10.14704/NQ.2022.20.11.NQ66348

Abstract

Because of recent developments in IoT, cloud computing, and AI, the traditional healthcare system has been replaced by a smart healthcare system. Improvements to healthcare may be made via the use of cutting-edge technology like the Internet of Things and artificial intelligence. Multiple possibilities exist for the healthcare industry as a result of the merging of IoT and AI. This study contributes to the literature by introducing a novel model for the diagnosis of diseases in a smart healthcare system that is based on the convergence of artificial intelligence and the internet of things. Focusing on AI and IoT convergence methods, this paper aims to create a model for the diagnosis of cardiovascular and metabolic disorders. The provided model consists of many steps, including data collection, pre-processing, classification, and fine-tuning of parameters. Wearables and sensors are examples of IoT devices that facilitate data collecting, and artificial intelligence approaches use this information to aid in the diagnosis of sickness. The suggested technique diagnoses diseases using a Cascaded Long Short-Term Memory (CSO-CLSTM) model based on the Crow Search Optimization algorithm. We use CSO to fine-tune the CLSTM model's 'weights' and 'bias' parameters so that we can better classify medical data. Also, the isolating Forest (Forest) approach is used to filter out anomalous data in this study. The diagnostic results of the CLSTM model may

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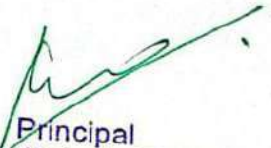


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ACADEMIC YEAR 2022-23**

3.4.3 Details of research papers per teacher in CARE Journals notified on UGC website during the year 2022-23

Name of the Author(s)	Department of the Author(s)	Title of the Paper	Name of the Journal	Month and Year of publication	ISSN	Link to the notification in UGC enlistment of the Journal
Dr.R.Muruganatham	IT	AI-based big data analytics model for medical applications	Measurement Sensors	Oct-22	2665-9174	https://www.sciencedirect.com/science/article/pii/S2665917422001684
Dr.R.Muruganatham	IT	Enhance Software-Defined Network Security with IoT for Strengthen the Encryption of Information Access Control	Computational Intelligence and Neuro Science	Jul-22	1687-5265	https://www.hindawi.com/journals/cin/2022/4437507/


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AI-based big data analytics model for medical applications

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Health care

ABSTRACT

Today, people's daily lives depended on their mobile phones, facilitating many beneficial tasks. Mobile computing and cloud computing combine cloud-based mobile computing to improve their features and overcoming their disadvantages such as memory space, processor, and longer battery life. By combining the four "V's" of volume, variety, velocity and veracity, Big Data analytics tools allow the utility to be extracted through knowledge. This paper explores the development of interconnected healthcare systems and the contribution of mobile cloud applications and big data analysis. With the implementation of cloud computing in the healthcare system, inspiration and development of interconnected health - software and care services are given. Big Data services for the healthcare sector on a cloudlet-based mobile cloud computing platform. Big data analysis methods, equipment, and solutions are examined. We have concluded the development of interconnected medical systems using Big Data and mobile cloud computing.

1. Introduction

The globe is changing rapidly and also is gradually resembling a smaller community as just a result of the current developments in information and communication techniques. Cloud technology, wireless technology, and the highly competitive mobile phone market are a few of this technology [1–3]. A wide range of services can be offered by mobile devices to improve our way of life. It incorporated into our daily lives to assist with several tasks, including managing time, picture processing, reservations, shopping online, and social networking [4,5]. Additionally, you can monitor and maintain overall fitness with smart phone apps for heart rate, workouts, and weight reduction [6].

The ability to move around with portable devices has transformed how individuals use technological advancements worldwide. To complete your work or everyday chores, you are no longer required to remain at the workplace mobile attributes [7]. Areas are chosen depending on a variety of factors to make things easier, including effectiveness, a fast and reliable internet service, and information confidentiality issues, which mandate the need to guard against

unwanted exposure of user information, particularly via insecure wireless links [8,9]. The adoption of mobile technology and its capabilities into daily life hastens the shift to smart, healthier communities. Another emerging technology was cloud storage, which enables information stored with anyone at any moment and might even be utilized by both individuals and populations can improve productivity and effectiveness while lowering cost and risk [10]. According to NIST, cloud technology is "a concept of allowing pervasive, accessible, on-demand demand access to a shared pooling of programmable computer resources which can be promptly supplied & discharged without reduced management activity and network operator contact."

Mobile Cloud Services is used to describe the combination of cellular devices and cloud technology, which allows users to access the cloud's limitless services via their mobile phone [11]. To increase the use of a collection of network-connected systems, cloud computing technology depends on sharing those assets, which lowers operating and capital expenses. The cloud-healthcare industry will profit from the mobile cloud(MC), among other industries. The MC healthcare system, as such an illustration, was created to gather and analyze real-time biological

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Research Article

Enhance Software-Defined Network Security with IoT for Strengthen the Encryption of Information Access Control

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The Internet of Things (IoT) is legitimately growing quicker. The operators have already started setting up a diligent infrastructure for these gadgets. Various technologies need to be developed for this type of sensor, including enterprise safety initiatives. This paper covers the stability routing protocol, which assumes an assessment of credibility in gadgets and packet flow. To build reliable Software-Defined Network (SDN) routes, build on the trust between network element flows and Quality of Service (QoS) or energy conditions. The SDN architecture is used for the Cognitive Protocol Network (CPN) technical platform to increase the energy level. Stochastic Neural Networks (SNNs) are accredited with information extracted from perceptual packets and make decentralized decisions. The proposed network infrastructure is designed and integrated into the SerIoT techniques to strengthen IoT encryption for information access control. The versatility of the technology is to circumvent the unpredictable connectivity of the system and the node decreases in terms of potential cryptographic capacity, limited interval, a target node, and deterministic energy. Based on factual statistical data, appropriate marketing generates an end-to-end antitheft solution that meets a set of predetermined circuit restrictions. A study must collaborate by demonstrating numerous flaws due to the obvious instability of clusters, which is essential for the efficiency of the platform.

1. Introduction

Stability in IoT is no longer perceived as a secondary concern, but rather as a relevant concept throughout the development of technological infrastructure or software applications. Intimate location, biometric data, or business information are among the most dangerous data acquired by electronic objects. Interconnections extract data that would be used to control urban and industrial infrastructure [1]. The deteriorating IoT sector raises concerns about the reliability of the IoT devices or the connections that send information. If

verified or corrected, then aggressions have an enormous cost to the distribution system, including the lack of credibility in a competitive world [2]. Manage devices that have hacked abandonment risk based on customer or end-user credibility to increase overhead, legal costs, increased electricity usage, operating costs, and CO2 damage [3].

Partitioning is one of the most important steps to ensure secure Internet access. As a result, hackers focus on targeting 14,000 attacks such as drains in data loss, income loss, and reputational damage in 2017. Navigation assaults include a malware on the delivery service, intrusion on the