Multimedia Tools and Applications
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An efficient breast cancer classification and segmentation system by an intelligent gated recurrent framework

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Abstract
One of the most cautious diseases that produced an increased death rate around the world is breast cancer. The early detection of this disease can save the lives of people. Therefore, an efficient detection and segmentation model is required to detect and classify cancer cells. Several past studies required more robust features and have gained more complexity because of the irrelevant features. Hence, a novel Buffalo-based Gated recurrent Cancer cell segmentation (BGRCS) has been implemented for segmenting the cancer cell in the oriented breast MRI images. Initially, the noise features were traced and eliminated using the preprocessing function. Moreover, the segmentation and classification function has been executed with dual classes: cancer and non-cancerous images. Consequently, the disease feature has been tracked for the classified cancerous images, and the buffalo function of the system segmented the traced features. It has earned meaningful features and reduced the computational time to train the system. Finally, the performance was valued and compared with other past studies. The designed framework has gained the highest segmentation accuracy over the compared models.

Keywords Breast MRI image · Cancer cell segmentation · Deep networks · Optimization · Feature analysis · Disease tracking

1 Introduction

Implementing complex system equipment in health care requires a more integrated plan [1] that incorporates Internet technology [2]. Moreover, the intelligent Smart data analysis scheme has generated significant attention in the innovative digital medical field [3]. In the modern period, urbanized nations are embracing the concept of the "smart city," wherein a computer predetermines every demand and procedure [4]. Furthermore, the decision-making with all obtained data is among the most significant obstacles in smart urban [5]; hence the current era is also known as the reporting data age [6]. In addition, the health service is a significant concern in the domain [7]; using technology, smart gadgets, and intelligent

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Deep learning structure for emotion prediction using MFCC from native languages

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Abstract
The role of AI in speech has been transformed to recognize and categorize emotions conveyed through speech. The research employed audio recordings from different datasets, including the Ryerson Audio-Visual Database of Emotional Speech and Song (RAVDESS), Berlin emotional data, and a self-developed Telugu dataset. The main contribution focused on using deep neural network-based models to categorize emotional reactions elicited by spoken monologues in various situations. The goal is to recognize eight distinct emotions: neutral, calm, happy, sad, angry, fearful, disgusted, and surprised. The evaluation of the model's performance was done using the F1 score, which is a measure that combines precision and recall. The model achieved a weighted average F1 score of 0.91 on the test set and performed well in the "Angry" class with a score of 0.95. However, the model's performance in the "Sad" class was not as high, achieving a score of 0.87, which is still better than the state-of-the-art results. The contribution with an effective model for recognizing emotional reactions conveyed through spoken language, utilizing neural networks and a combination of datasets to improve the understanding of emotions in speech.

Keywords Emotion recognition · Deep learning · CNN · MFCC · RAVDESS

1 Introduction

Emotions play a vital role in communication, affecting how messages are conveyed and received. Integrating Speech Emotion Recognition (Bediou et al., 2005) (SER) into human–machine interaction allows systems to better understand and respond to users' emotional states, creating a more natural and effective interaction. The Various Challenges in SER Recognizing emotions from speech is challenging due to the variability in how people express emotions. Factors like accent, tone, pitch, and cultural differences can influence how emotions are conveyed in speech. Despite advancements, accurately interpreting emotions from speech remains a complex problem. Potential Applications:

Multimedia Messaging: SER can enhance messaging platforms by enabling systems to interpret and respond to users' emotional cues, leading to more personalized and contextually relevant interactions. Video Games: Incorporating SER into gaming environments can create immersive experiences. Games can adapt based on players' emotional states, making gameplay more engaging and dynamic. Consumer Evaluations: In retail and product evaluation contexts, SER can provide real-time insights into customers' emotions, helping companies tailor their products and services to meet customer needs. Healthcare: SER can be utilized in healthcare settings to monitor patients' emotional states, potentially aiding in diagnosing and treating mental health conditions. Automated emotional analysis can complement traditional assessments. Benefits include enhanced user engagement, real-time feedback, data-driven insights, while emotion recognition offers numerous benefits, it also raises ethical concerns related to privacy, consent, and potential misuse of emotional data. Careful consideration and regulation are necessary to ensure responsible implementation. The integration of speech emotion recognition into various intelligent systems holds the substantial potential to revolutionize the way humans interact with technology, enhancing experiences in domains ranging from entertainment to healthcare (Chen et al.. 2018), and beyond. The traditional approach to SER involved extracting para-linguistic features

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PANTOMIME RECOGNITION USING MACHINE LEARNING

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Abstract
People who are deaf or hard of hearing use sign language to interact with others and within their own groups. Learning sign motions is the first step in computer recognition of sign language, which continues when text and voice are produced. Static and dynamic sign motions are the two categories. Even though static gesture recognition is simpler than dynamic gesture recognition, both gesture recognition systems are essential to human society. Understanding and learning sign language takes a lot of practice, and not everyone will comprehend what the motions in sign language indicate. Convolutional neural networks are used in pantomime recognition to help humans learn sign language and convert it into letters and words.

Keywords: Machine learning, Pantomime, Image classification, Convolutional Neural Network

I. INTRODUCTION

Motivation

In our modern culture, it is important to interact with everyone, whether it be for fun or business. Every human being needs to communicate. However, individuals with speech or hearing impairments require a different form of communication than vocalization. They use sign language as a means of communication.

Problem definition

Sign language is also known as pantomime, which is the art or ability of utilizing gestures instead of speaking to convey emotions, actions, feelings, etc. However, sign language comprehension requires a lot of practice, and not everyone will be able to grasp the meaning behind the movements. There are also no dependable, portable tools available, thus learning sign language takes time. To successfully express their thoughts to others, hearing- or speech-impaired people who are fluent signers require a translator who is also fluent in sign language.

Limitations of existing system

The existing system helps hearing or speech disabled people to learn as well as translate their sign language to alphabets (A-Z) excluding J and Z. The system incorrectly predicts multiple signs, and some are labeled incorrectly. Due to the significant similarities between some letters and some digits, the recognition system with digits included had a reduced accuracy rate.

Proposed system

In the proposed system, we built a deep convolutional neural network (CNN) with additional layer batch normalization. The proposed system aids individuals who have difficulty hearing or speaking in learning new sign language and converting it into words and phrases. The model is able to transform the sign language images into alphabets (A-Z), numbers (1-10) and some words and sentences, including "thank you," "sorry," "ok," "best of luck," "is everything alright," "i love you," "rock and roll," and "space." This approach successfully classifies all signs with great accuracy. The system is tested using hyper parameters, which produce good accuracy.

II. LITERATURE REVIEW

People who have trouble hearing or speaking rely substantially on sign language in their everyday lives, according to work [1]. They may converse by using hand gestures. American Sign Language (ASL) has a high degree of complexity and is becoming more and more similar among classes, making it challenging to recognise. In [1], created a deep convolutional neural network to tackle the

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A MODEL TO PREDICT HEART DISEASE USING FISHER SCORE IN MACHINE LEARNING

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1. Abstract

In the current state of the globe, it is quite difficult to detect heart disease through early signs. If not treated in a timely manner, this might result in death. An accurate decision support system can play a crucial role in the early-stage diagnosis of heart disease in poor nations when there aren't any heart specialist doctors in remote, semi-urban, and rural locations. According to the clinical characteristics of the patient, the authors of this research have suggested a hybrid decision support system that can help in the early diagnosis of heart disease. The authors' method for handling the missing values is multivariate imputation using chained equations.

The authors employed support vector machine, Naive Bayes, Logistic Regression, Random Forest, and Ada-boost classifiers in the final stage of creating the suggested hybrid system. With the random forest classifier, the system has been proven to produce the highest accurate results. In the simulation environment created using Python, the suggested hybrid system was evaluated. The Cleveland heart disease dataset from the University of California, Irvine (UCI) machine learning repository was used for testing. Compared to some of the other heart disease prediction methods that can be found in the literature, it has a higher accuracy of 96%.

Keywords: Decision support system · Clinical data · Heart disease · Machine learning

2. Introduction

The primary thing of this study is to offer a heart complaint vaticination model for the auguring of heart complaint prevalence. Also, the thing of this exploration is to find the stylish bracket system for determining if a case may have cardiac complaint. By conducting a relative exploration and analysis exercising four bracket algorithms, Random Forest, Ada-boost, Logistic Regression, and Support vector Machine, which are employed at colourful situations of assessments, this work is supported. The vaticination of cardiac complaint is a pivotal task taking the topmost position of delicacy, despite the fact that these machine literacy ways are frequently employed. As a result, the algorithms are assessed using a variety of criteria and assessment ways, since it is vital to read a person's development of heart complaint. As a result of the fact that indeed youthful people currently are affected by heart complaint, the number of heart attacks has been rising encyclopaedically. This work was chosen in order to address the problem by relating cardiac complaint in people before it becomes a serious problem. People in their youth, middle age, and old age will have their lives saved by our endeavourer. By making this cast, we can educate the public about the threat factors that can contribute to heart complaint and other health issues. We also predicate our vaticination on the data we have gathered from the general public. The presence or absence of alcohol use and smoking are also significant factors in prognosticating the

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DISASTER ALERTING AND RESILIENCE SYSTEM

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Abstract:

Every year people and communities throughout the earth are suffering from disasters and severe destruction. However, climate change is considered as one of the main challenges of our time resulting in devastating weather conditions such as hurricanes, earthquakes, cyclones, tornadoes, droughts, floods etc. As we know the quantity of natural disasters is constantly growing and is becoming increasingly difficult to overcome their consequences. This system's main purpose is to quickly and efficiently send out/give an early warning based on common alerting protocol (CAP), which is digital format for exchanging emergency alerts. These alerts help in evacuation of people to a relatively safe place. Alongside dealing with the implementation of an integrated system of disaster alerting and managing disaster information this system also provides resilience which makes it possible after a disaster, to quickly restore everything to their normal operation.

Key words: Early Warning System, Resilience System, Emergency Notification.

1. INTRODUCTION

Around the world, terrible catastrophes and disasters affect people and communities every year. Climate change, on the other hand, is regarded as one of the major issues of our day and has been linked to severe weather events like hurricanes, earthquakes, cyclones, tornadoes, droughts, and floods. As we all know, there are more and more natural disasters every year, and it gets harder and harder to recover from their effects. Using the common alerting protocol (CAP), a digital standard for exchanging emergency alerts, this system's primary goal is to send out or provide an early warning swiftly and effectively. People can be evacuated to a location that is somewhat safe as a result to these alerts. This system provides resilience in addition to handling catastrophe information and implementing an integrated system of disaster warning.

According to research here are a few limitations of the Existing systems: For a select few systems, implementation is challenging and inaccurate. Some of the technologies now in use only provide notifications when there is precipitation. Certain systems' implementation is more economical. The alerts are not sent with any safety instructions. Additionally, it takes a lot of time because the safe places are determined using the Dijkstra method. Some of the

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VOTING CLASSIFIER-BASED SENTIMENT ANALYSIS ON TEXTUAL TWEETS

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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 analysing 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 project 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. The accuracy of each of the five machine learning techniques is evaluated, from which one assessment measures, such as the confusion matrix, accuracy, precision, recall, and f1- score, which accurately predicts the emotion. The extreme Linear SVM classifier has the best accuracy (95.825%), when compared to the other four.

INTRODUCTION

In an era marked by the proliferation of social media platforms and the unprecedented volume of user-generated content, sentiment analysis has emerged as a critical tool for understanding public opinion, consumer behavior, and social trends. One particular social media platform that has become a treasure trove of real-time textual data is Twitter. "Voting Classifier-Based Sentiment Analysis on Textual Tweets" is a cutting-edge application of machine learning and natural language processing techniques aimed at deciphering the sentiments expressed within the vast and dynamic world of Twitter. Twitter, with its concise yet expressive format, has become a microcosm of public sentiment. Users from diverse backgrounds share their thoughts, opinions, and emotions in the form of short textual tweets. These tweets cover a wide spectrum of topics, from breaking news and product reviews to political discourse and personal anecdotes. Deciphering the sentiment within this trove of text data is not only a monumental challenge but also a valuable opportunity for businesses, governments, and researchers alike.

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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 taught 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.

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GSE Publications

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Forecasting Stroke Risk with Cutting-Edge CNN Predictive Models

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Abstract: Brain cells are killed if there is a reduction in the amount of blood that is able to reach the brain or when there is an interruption in the blood flow to the brain. A stroke is the name given to this particular medical problem. There are a few different hypotheses that might explain this. It is possible for it to cause several physiological systems to fail, or even to cause death in a short amount of time. The length of time it takes to recover is directly proportional to both the severity of stroke symptoms and the degree to which organs were damaged. It is possible to avoid up to eighty percent of strokes via early diagnosis and control of risk factors. Because of the use of machine learning in medical imaging, many lives have been spared. One example of this is the early identification and treatment of strokes, which has led to the saving of many more lives. In light of the information presented above, the purpose of this study is to develop a Convolutional Neural Network (CNN) model that has the highest possible levels of both efficiency and accuracy for the purpose of making an early forecast of the likelihood that a patient would have a stroke. The model, which is a variation on the concept of a multi-layer perceptron, is made up of a few visible layers, a number of hidden layers, and some fundamental information. Eleven characteristics and one target class from the healthcare data set are used in the process of developing the prediction model. In addition, we have used a wide array of

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GSE Publications

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Enhancing Crop Prediction Accuracy: SVM Classifier Optimization using Tree-Structured Parzen Estimator

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Abstract: India's agricultural sector is vital to the country's economy and provides the majority of the country's export earnings. Both conventional farming practises and those that include outside advice see widespread use. The agricultural sector is crucial to the development of a country like India. The bulk of the population relies on agriculture for their livelihood. Farmers already use estimates to guide their decisions on fertiliser use and crop selection. The development of a country's agricultural sector should be a top priority for any nation seeking economic progress. Major variables that offer large hazards to agricultural productivity include climatic variations that are difficult to forecast and hard to regulate, conventional farming practises, and inadequate irrigation infrastructure [10]. It is only recently that researchers have begun using machine learning to the study of harvest results. Predicting agricultural output reliably is a critical issue. The most efficient approach to resolving this problem has been the use of machine learning technologies. Machine learning and other similar methods are used and examined in the agricultural industry to forecast next year's harvest. In order to predict crop yield in relation to fertiliser application rates, this research recommends using the

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A Method for Unsupervised Ensemble Clustering to Behavioral Patterns

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Submitted: 02/12/2023 **Revised**: 10/01/2024 **Accepted**: 26/01/2024

Abstract: Identification of student behavior time to time for projected throughput in terms of perfo goal of any educational organization. Prediction of unconventional behavioral patterns may useful institutes build the learning modules and the respective support for the development of student worked on it by means of conducting surveys, taking reports and used questionnaire are not su proposed a frame work that can be integrated with the advanced algorithms for getting hidden pat unsupervised clustering method and results can be refined with ensemble algorithms. We collected d campus to getting better behavioral patterns. For we developed two approaches for extracting featu Means algorithm. And also adapted density based spatial clustering techniques concepts based on st the experimental purposed various types of patterns produced by the student behavior is used. W concluded that our frame work is better that the accuracy rate of 96.3% in abnormal students' educational organizations improve the academic targets as per their goals. Empirical research sho these behavioural characteristics and academic achievement. We also examine the relationshi performance and that of other students who exhibit behaviors that are similar to his or her own, pro association is substantial, according to statistical testing.

Keywords: Density based clustering, DBSCAN, k-means algorithm, entropy based approach, s behavioral patterns.

1. Introduction

In order to generate complete students who are performing fine academically and possess the skills they would need after completing their studies, it is crucial to forecast student outcome perfectly. This will assist reduce the symptoms of kids who are at a high risk of failing. It is crucial to be able to forecast student performance, especially early on, so that professors and universities may identify high-risk kids earlier. In order to provide a proper method for teaching and learning resources, works like Stapa et al. [1] have concentrated interventions and earl possible. A suitabl particularly in the area by the responsible pa semester grade point a instance in the Freq enrollment decisions o examined the effects c system and found that instructors better unde

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Role of Machine Learning in Retrieving and Classifying Anomaly from IoT Based Wireless Multimedia Sensor Networks: A survey

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Abstract-*Anomaly detection serves as a critical security feature, pinpointing instances where system behavior diverges from the expected norm, thereby enabling swift identification and resolution of anomalies. The integration of AI and IoT amplifies the efficacy of anomaly detection, bolstering the reliability, effectiveness, and integrity of IoT systems. AI-driven anomaly detection systems exhibit the capability to discern an array of threats within IoT environments, including brute force attacks, buffer overflow, injection attacks, etc.. With the proliferation of Internet-connected devices and the surging demand for IoT devices in various domains, such as home automation, personal wearable's, vehicular applications, and smart infrastructure, anomaly detection assumes paramount importance. This paper constitutes a survey of anomaly detection techniques in sensor networks and IoT realms, elucidating the concept of anomalies and conducting a comprehensive review of pertinent literature sources. The primary objective of this survey is to shed light on the methodologies employed for anomaly detection in IoT and sensor network domains, identifying existing approaches and delineating research gaps within this field. The study undertakes a thorough examination of anomaly detection techniques in IoT infrastructure, leveraging both machine learning and deep learning methodologies. It addresses the inherent challenges associated with intrusion and anomaly detection in IoT systems, underscoring the escalating frequency of cyber-attacks targeting IoT ecosystems. By reviewing recent advancements in machine learning and deep learning-based anomaly detection schemes tailored for IoT networks, the paper succinctly summarizes the prevailing literature. In conclusion, the survey underscores the imperative for further refinement of existing anomaly detection systems, advocating for the utilization of diverse datasets, real-time validation, and scalability enhancements to meet the evolving demands of IoT environments.*

Keywords: *anomaly detection ; Internet of Things; artificial intelligence; machine learning and Multimedia* Sensor Networks

I. Introduction

The IoT can be classified into either three-, four-, five-, or seven-layer architectures [1], while generally, the four-layer architecture is considered the essential component of the IoT [2]. These four layers are the Perception layer, Network layer, Middleware layer, and Application layer [2,3,4,5]. The Perception layer contains physical devices such as sensors and actuators that collect data for processing. The Network layer is the communication gateway for the Perception layer and the IoT system. The Middleware layer is where the collected data from the Perception

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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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A NOVEL LAYERED BLENDED REGRESSOR APPROACH FOR RAINFALL PREDICTION TO STABILIZE WEATHER APPLICATIONS

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ABSTRACT
Forecasting the amount and pattern of precipitation (rainfall) in a certain geographic area for a set time period, usually in the near future, is known as rainfall prediction. For many purposes, including farming, managing water resources, flood control, and disaster management, accurate rainfall projections are crucial. Establishing models of prediction that can predict future precipitation requires the use of past meteorological data and machine learning techniques. Weather patterns are often non-stationary, meaning they change over time. Machine learning models assume stationarity, which can be a limitation when dealing with climate and weather data that exhibit trends, seasonality, and long-term shifts. The proposed model uses Blended stacking model, is a technique in machine learning where multiple models are combined to improve predictive accuracy. Stacking can make rainfall prediction models more robust to changes in data distribution and weather patterns. It can adapt to varying conditions and provide consistent performance over time.Blended stacking can provide not only point predictions but also measures of uncertainty. By aggregating predictions from multiple models, it can offer insights into the variability and confidence associated with rainfall forecasts.

Keywords: Historical Data, Regression Models, Blending, Stacking, Weather Patterns, Uncertainty.

1. INTRODUCTION
Regression modeling is a versatile and powerful technique for understanding and predicting relationships between variables. An analysis of the connection between a variable that is dependent and a few independent variables is done using a regression model, a form of statistical framework used in statistics and machine learning. With the help of the numerical values of the independent variables, a regression model attempts to forecast the outcome of the dependent variable. The working of linear regression is presented in figure 1.

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AIML and Remote Sensing System Developing the Marketing Strategy of Organic Food by Choosing Healthy Food

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Abstract: The growing demand for organic and healthy food products has prompted the need for innovative marketing strategies to educate consumers and help them make informed choices. This paper explores the integration of Artificial Intelligence and Machine Learning (AI/ML) technologies with remote sensing systems to develop a data-driven marketing strategy for organic food selection and promotion. By harnessing the power of AI/ML in analyzing remote sensing data, we aim to provide consumers with accurate information about the health benefits and quality of organic food products, ultimately contributing to healthier lifestyles and sustainable consumption. An emerging technology in agriculture is artificial intelligence. Tools and equipment powered by artificial intelligence have really raised the bar for the agriculture industry. This new technology has boosted immediate monitoring, processing, and collecting as well as crop yield. The most modern computerised systems that use drones and remote sensing have significantly improved the agricultural sector. Furthermore, by providing cyclic data on the state of the yield during the examined periods at various degrees and for various factors, remote sensing has the potential to promote the development of agricultural applications with the purpose of overcoming this major challenge. To determine many essential factors, such as plant detection, yield recognition, crop quality, and numerous other techniques, a variety of high-tech, computer-supported structures are developed. This study describes the methods used to analyse the data gathered in order to increase production, predict impending hazards, and lighten the strain on farmers.

Keywords: Food environment, obesity, food insecurity, food shopping, healthy food marketing.

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Development of CNN Model to Avoid Food Spoiling Level

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ABSTRACT

Food spoilage is a pervasive issue that contributes to food waste and poses significant economic and environmental challenges worldwide. To combat this problem, we propose the development of a Convolutional Neural Network (CNN) model capable of predicting and preventing food spoilage. This paper outlines the methodology, data collection, model architecture, and evaluation of our CNN-based solution, which aims to assist consumers, retailers, and food producers in minimizing food waste. Researchers are working on innovative techniques to preserve the quality of food in an effort to extend its shelf life since grains are prone to spoiling as a result of precipitation, humidity, temperature, and a number of other factors. In order to maintain current standards of food quality, effective surveillance systems for food deterioration are needed. To monitor food quality and control home storage systems, we have created a prototype. To start, we used a Convolutional Neural Network (CNN) model to identify the different types of fruits and vegetables. The suggested system then uses sensors and actuators to check the amount of food spoiling by monitoring the gas emission level, humidity level, and temperature of fruits and vegetables. Additionally, this would regulate the environment and, to the greatest extent feasible, prevent food spoiling. Additionally, based on the freshness and condition of the food, a message alerting the client to the food decomposition level is delivered to their registered cell numbers. The model used turned out to have a 96.3% accuracy rate.

Keywords : Machine learning for health, smart system, food spoilage detection, food spoilage prevention, sensors.

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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 FromModel, 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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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 analyses the disease severity and predict the outcome. However, if the trained images are more complex, the noise pruning results have decreased, which has tended to gain less prediction exactness score. So, a novel Chimp-based Boosting Multilayer Perceptron (CbBMP) 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 pruning outcome. Henceforth, the feature analysis and the tumor prediction process were executed accurately with the help 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 CbBMP model has recorded the finest tumor forecasting rate.

Keywords-component; 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, those 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 imagining system [10]. Different sequential models have been executed in the imaging system to find the present statistical features in the trained image [11]. Using those 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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ORIGINAL ARTICLE

An effective hierarchical image coding approach with Hilbert scanning

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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

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Integrating Enhanced Decoy Technology and User Behavior Profiling for Strengthening Cloud Server Security

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Abstract: Information technology improvements have improved things but also caused security issues, particularly with regard to password file security. Strong security measures are needed for cloud computing, which holds massive amounts of data. This study investigates the possibility of Enhanced Decoy technology and User Behaviour Profiling as a combined strategy to improve cloud server security. Although there are algorithms for both strategies, after recognizing anonymous user behaviour, effectively providing Enhanced Decoy files without raising suspicion is still difficult. In order to provide a complete security solution, a proposed system blends user behaviour profiling and Enhanced Decoy technology. While Enhanced Decoy technology diverts attackers and reveals information about their strategies, User Behaviour Profiling identifies suspicious activity. The suggested approach seeks to enhance cloud-based data security by integrating these techniques. The integration of user behaviour profiling with Enhanced Decoy technology is presented in this study as a viable strategy to address security issues in cloud computing, leading to increased effectiveness and improved data protection.

Keywords: Security concerns, password-file security, cloud computing, data storage, robust security measures.

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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,

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Navigating E-commerce Serendipity: Leveraging Innovator-Based Context Aware Collaborative Filtering for Product Recommendations

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Abstract- **This paper introduces a novel approach to enhancing product recommendations in e-commerce settings by leveraging innovator-based context-aware collaborative filtering. Traditional recommendation systems often struggle to capture the serendipitous nature of user preferences, leading to limited discovery of new and relevant products. In response, we propose a methodology that combines insights from innovators, who exhibit a propensity for exploring novel items, with contextual information such as time, location, and user behavior. By integrating these elements into a collaborative filtering framework, our approach aims to deliver personalized recommendations that not only align with users' existing preferences but also introduce unexpected and intriguing product suggestions. To evaluate the effectiveness of our proposed system, we conduct experiments using a comprehensive dataset from the e-commerce domain. Moreover, we present three distinct algorithmic paradigms: contextual pre-filtering, post-filtering, and modeling. These paradigms aim to integrate contextual information seamlessly into the recommendation process. We explore the potential synergies of amalgamating multiple context-aware recommendation techniques into a cohesive framework and offer insights into the benefits of such integration. Additionally, we offer a case study illustrating the implementation and efficacy of one such integrated approach in real-world scenarios. Results demonstrate significant improvements in recommendation accuracy, serendipity, and user engagement compared to traditional methods. Overall, our study highlights the potential of innovator-based context-aware collaborative filtering to navigate e-commerce serendipity and enhance the shopping experience for users.**

Keywords: **Recommender System, Context aware Collaborative Filtering, Serendipity, Innovator-Based**

I. INTRODUCTION

Recommender Systems can be defined as programs which attempt to recommend the most suitable items (products or services) to particular users (individuals or businesses) by predicting a user's interest in an item based on related information about the items,the users and the interactions between items and users [1-4]. To provide genuine recommendations to a user so that the suggested items or products are offering the utmost satisfaction should be given the priority while designing any Recommender System [5-6]. There are plenty of Recommender Systems available in the literature.

But the items offered as recommendations by the majority of the Recommender Systems do have the tendency to recommend popular or easily identifiable or routine items [7-8]. Because these offerings by the majority of the Recommender Systems lack the components of novelty and serendipity, such Recommender Systems end up facing the issues of 'Popularity Bias', ignorance of the 'Long Tail' items and 'Matthew Effect' etc [5-12]. Because of such shortfalls of the traditional Recommender Systems, the products which are popular in the catalog have the

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DAN: a Deep Broad Learning Technique for Emotion Classification in Textual / Speech Conversations

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Abstract – Sentiment analysis is the process of gauging people's sentiments, attitudes, and emotions towards specific targets, such as activities, organizations, services, topics, and products. Emotion recognition, a subset of sentiment analysis, predicts distinct emotions rather than simply categorizing sentiments as positive, negative, or neutral. Recent research has delved into language and facial expressions to discern emotions. Combining Convolutional Neural Network (CNN) with a proposed algorithm enhances classification accuracy and reduces processing time by addressing gradient saturation issues and mitigating data imbalance effects. This approach is demonstrated in a binary sentiment problem context. Various methods have been proposed to identify emotions from text using natural language processing (NLP) techniques, including keyword-based, dictionary-based, and machine learning approaches. However, keyword- and vocabulary-based methods are constrained by semantic relationships and have limitations. In this study, we introduce a hybrid model (combining machine learning with deep learning) for emotion identification in text. On the other hand, in the deep learning realm, the LSTM model achieves the highest accuracy at 83%, while the CNN model attains the highest F1 score of 72.39%. Our hybrid model delivers a precision rate of 74.2%, recall rate of 78.63%, an F1 score of 75.01 and an overall precision rate of 74.2%.

Keywords: Convolutional Neural Networks; Emotion Classification; Text mining, Deep learning and Sentiment analysis

1. Introduction

Emotion recognition capabilities are essential not only for successful interpersonal relationships but also for humanmachine interaction. Understanding and knowing how to react to emotions significantly improves the interaction and its outcome. It is therefore a crucial component in the development of empathetic machines, which substantially enriches the experiences these can provide. Emotion Recognition in Conversation (ERC) modules are useful for a wide range of applications, from automatic opinion mining, to emotion-aware conversational agents and as

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"INTEGRATING DEEP LEARNING IN URBAN TRAFFIC MANAGEMENT: A COMPREHENSIVE REVIEW OF PEDESTRIAN BEHAVIORAL ANALYSIS AND TRAJECTORY PREDICTION AT CROSSINGS"

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Abstract - With growing numbers of intelligent autonomous systems in human environments, such systems' ability to perceive, understand, and anticipate human behavior becomes increasingly important. Explicitly, predicting future locations of dynamic agents and planning considering such predictions are critical tasks for self-driving vehicles, service robots, and advanced surveillance systems. Autonomous driving is an active area of research and includes many issues related to navigation and trajectory prediction. To perform efficient and collision-free navigation, we need accurate trajectory prediction capabilities. Trajectory prediction is the problem of predicting the short-term and long-term spatial coordinates of various road-agents such as cars, buses, pedestrians, rickshaws, and even animals; furthermore, TP approaches are limited to short-term predictions and cannot handle a large volume of trajectory data for long-term prediction. Autonomous cars driving in urban environments are challenging because autonomous vehicles require the ability to communicate with other road users and understand their intentions. Such interactions are essential between cars and pedestrians as the most vulnerable road users. However, understanding pedestrian behavior is not intuitive and depends on factors such as demographics of pedestrians, traffic dynamics, environmental conditions, etc. This review paper is focused on proposing a Unified Deep Learning Approach for pedestrian's behavior Learning and its trajectory prediction

I. INTRODUCTION

Trajectory Data Mining Tasks are classified in several categories according to the type of each task i.e., pattern mining, Clustering, Classification, and Knowledge discovery. A broad spectrum of applications is driven by trajectory data mining classified into different types, few are path discovery, Trajectory prediction (TP) and road-agent movement analysis, and group agent behavior analysis. Despite its various applications, trajectory data mining techniques must be improved from many aspects, and current trajectory data mining techniques help to analyze the behavior of moving objects. Trajectory prediction (TP) is of great importance for a wide range of location-based applications in intelligent transport systems such as location-based advertising, route planning, traffic management, and early warning systems.

A significant challenge for automated vehicles (AVs) is safe interaction with pedestrians, especially at uncontrolled mid-block crosswalks [1], [2]. Thus, it is critical that AVs can reliably predict pedestrian trajectories for safe motion planning [3].Short-term trajectory predictions [4], [5] may be sufficient for collision avoidance at low vehicle speeds, but at higher speeds, the AVs must be able to predict pedestrian trajectories over long durations (5-10 s) [6][7].

The adoption of autonomous vehicles shortly is expected to reduce the number of road accidents and improve road safety [8]. However, for safe and efficient operation on roads, an autonomous vehicle should not only understand the current state of the nearby road-users but also proactively anticipate their future behavior object detection and behavior prediction can be considered as two main functions of the perception system of an autonomous vehicle. Behavior prediction plays a key role in autonomous driving applications as it supports efficient decision making [9] and enables risk assessment [10].

Trajectory prediction (TP) is of great importance for a wide range of location-based applications in intelligent transport systems such as location-based advertising, route planning, traffic management, and early warning systems.

Most recently, deep learning-based approaches have become popular due to their superior performance in more complex environments compared to the conventional approaches.

1. Vehicle monitoring, behaviour, and safety analysis at intersections
2. Vehicle behaviour analysis with a focus on trajectory clustering and topic modeling methods
3. Anomaly detection techniques using visual surveillance
4. Vehicle behavior prediction and risk assessment in the context of autonomous vehicles.

II. BACKGROUND

Spatial-Temporal: Spatial refers to space. Temporal refers to time. Spatiotemporal, or spatial-temporal, is used in data analysis when data is collected across both space and time. It describes a phenomenon in a particular location and time.

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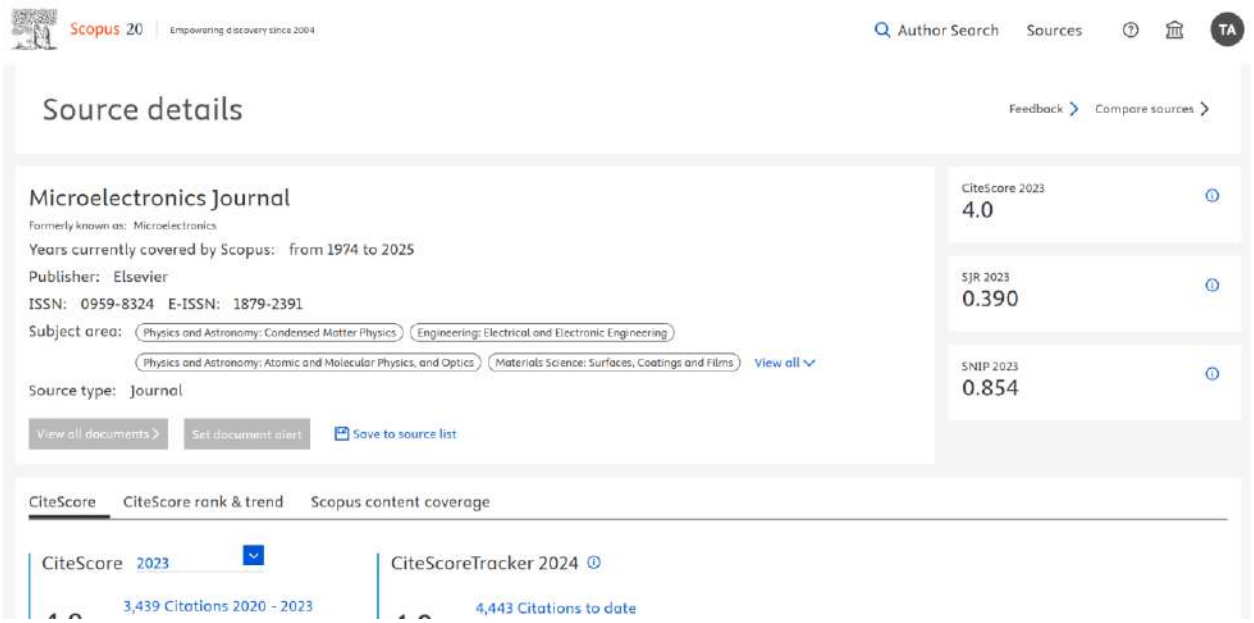

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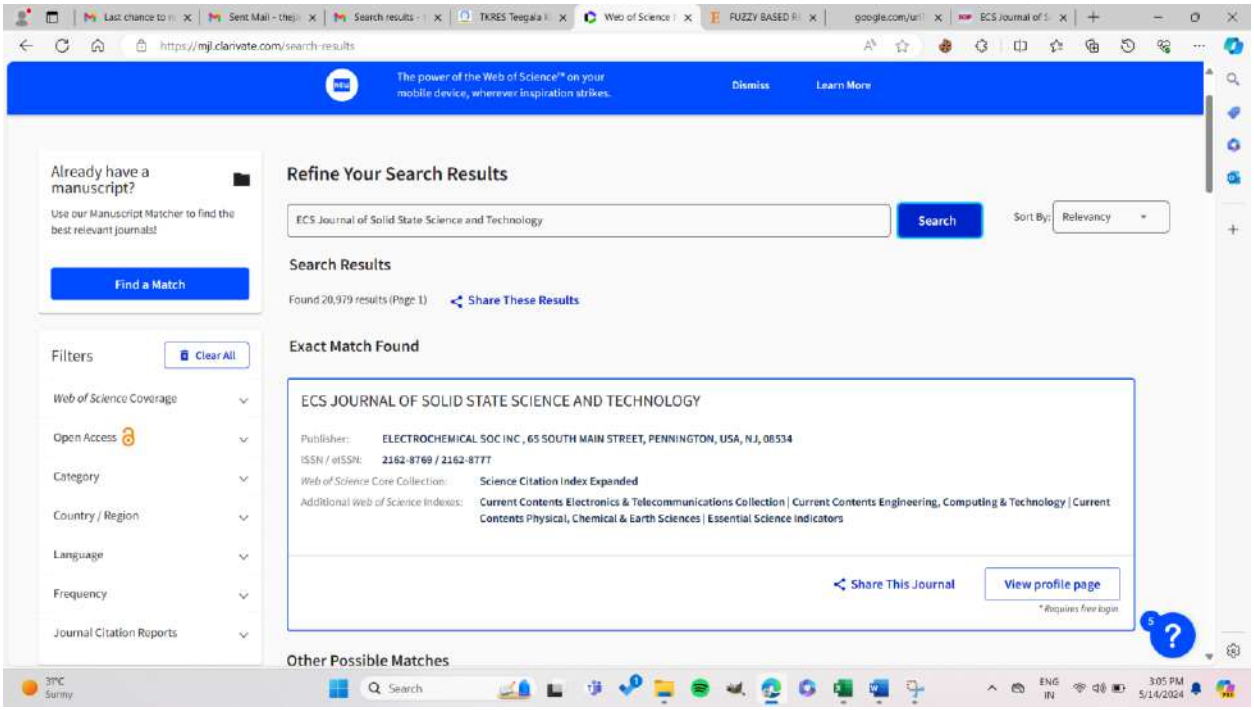

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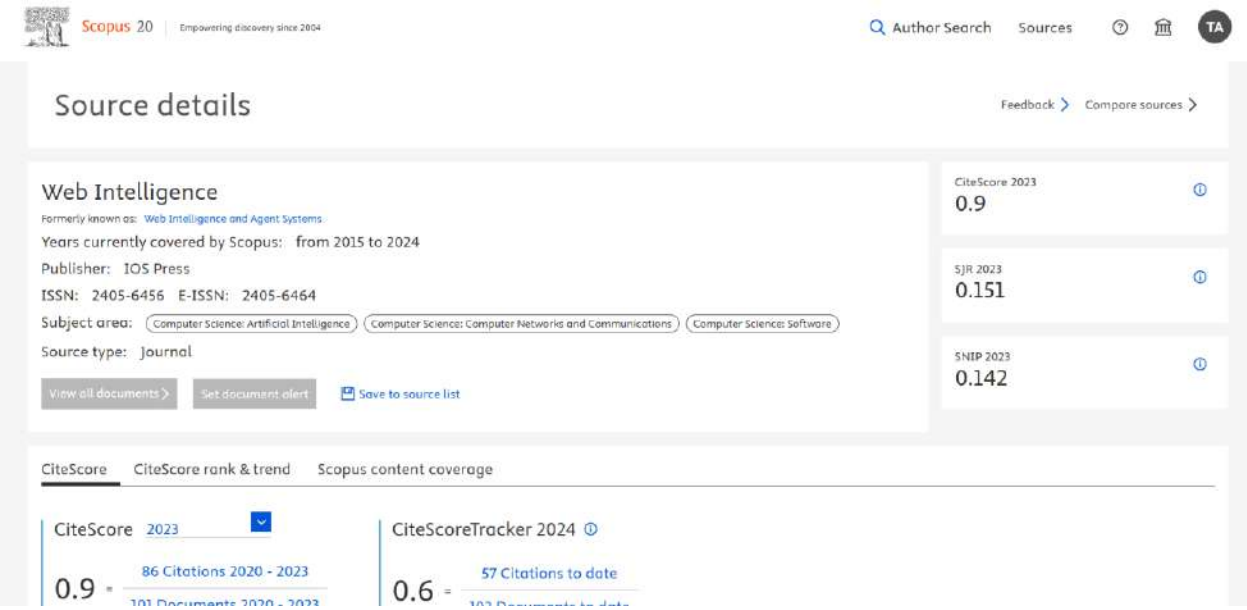

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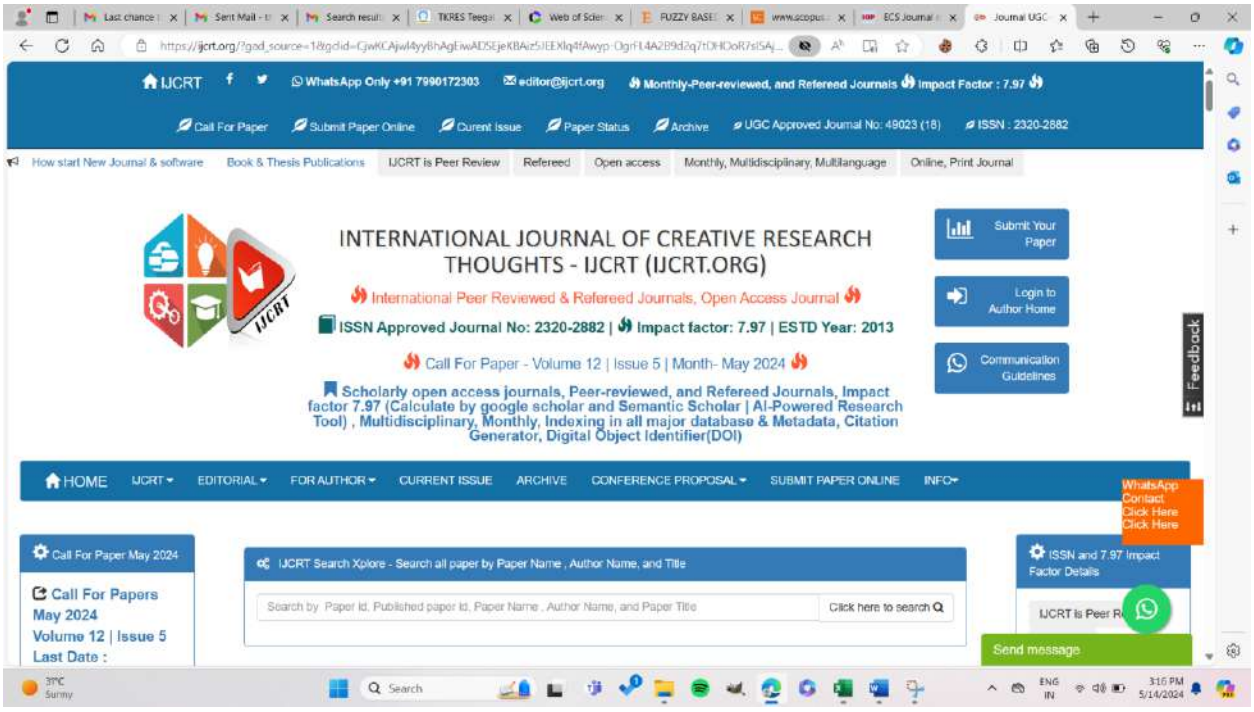

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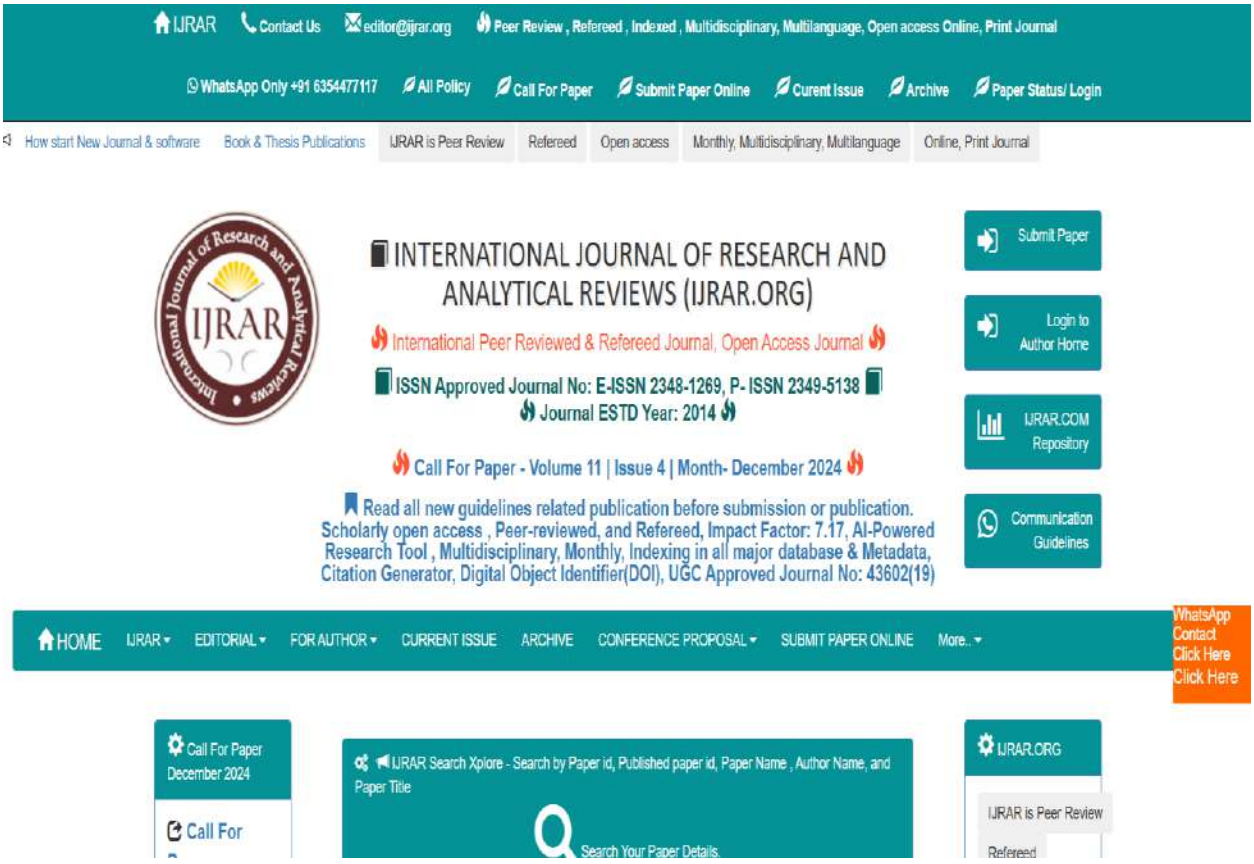

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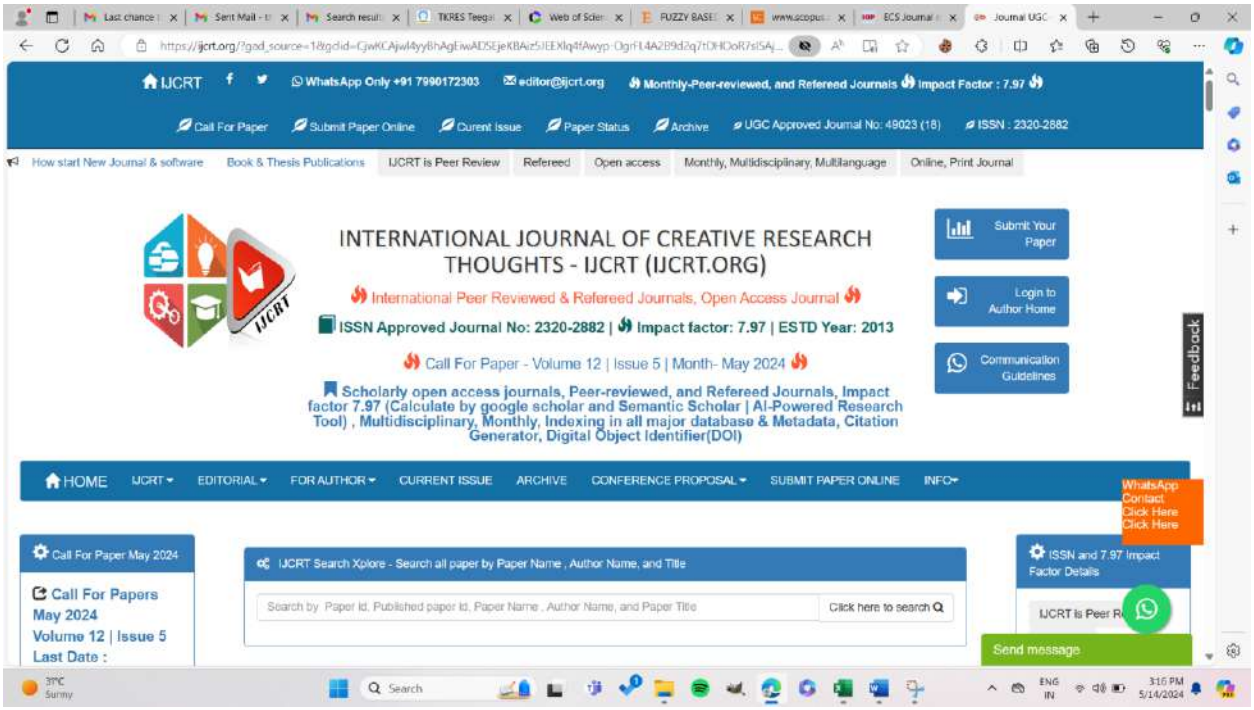

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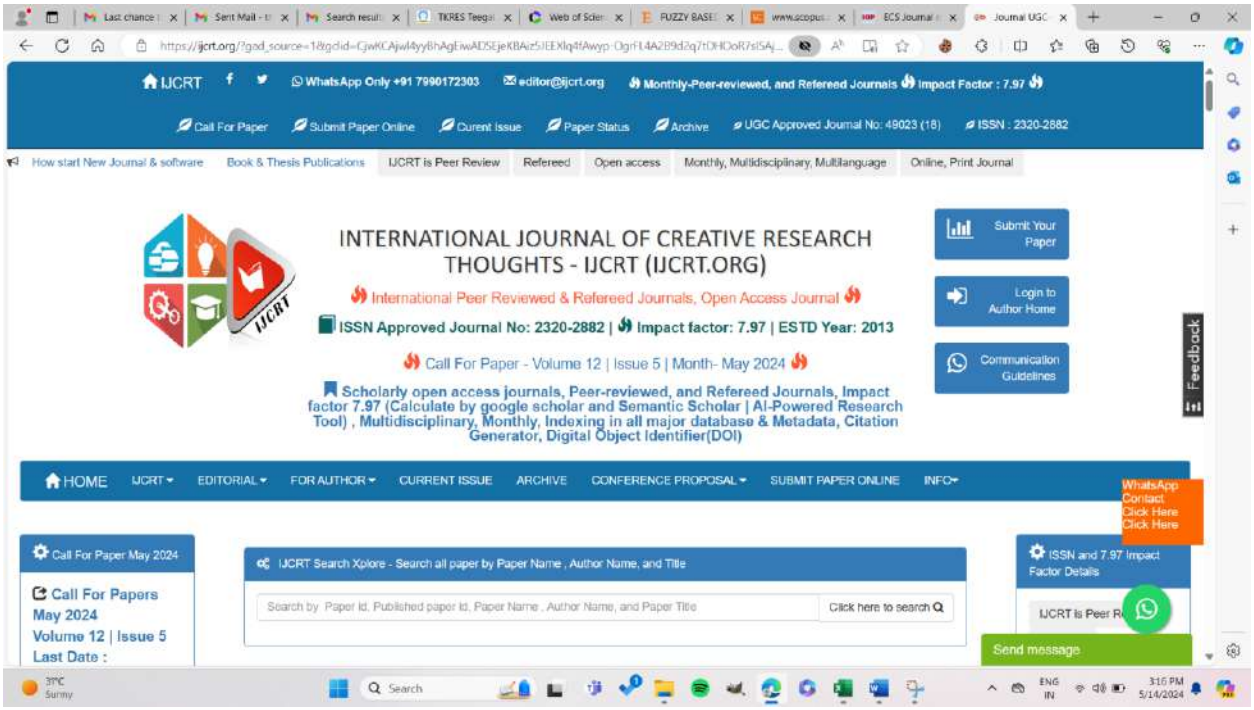

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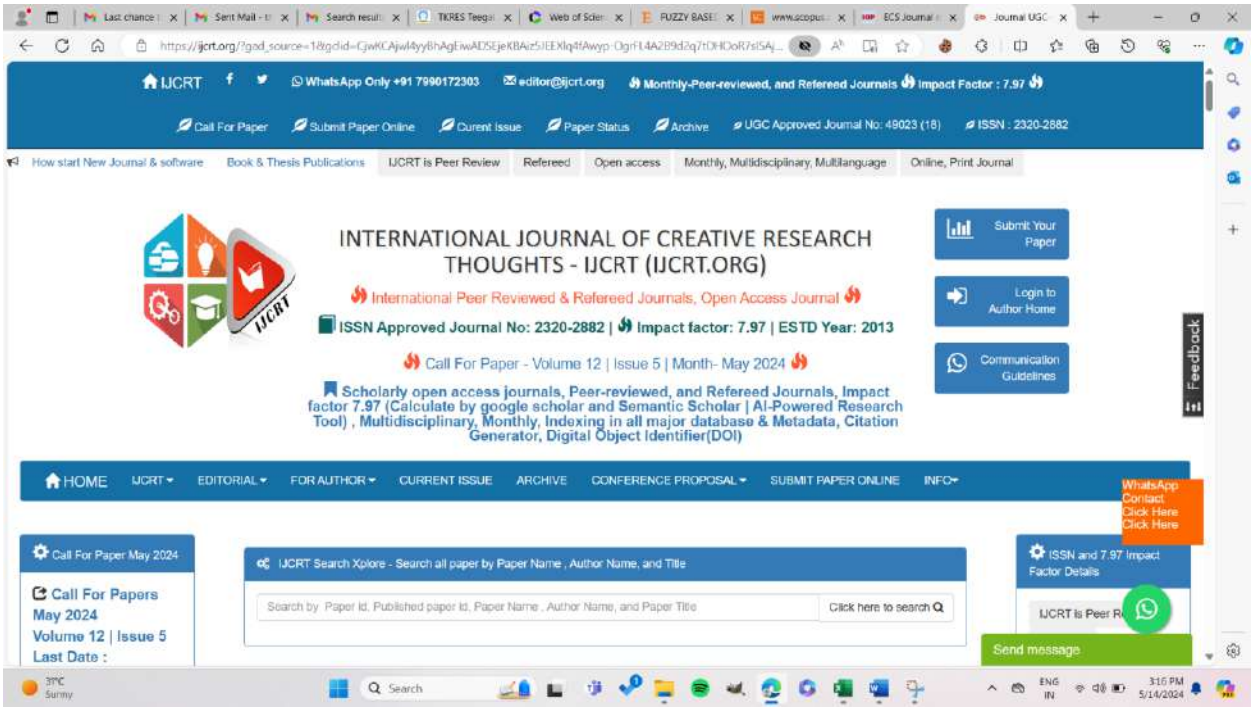

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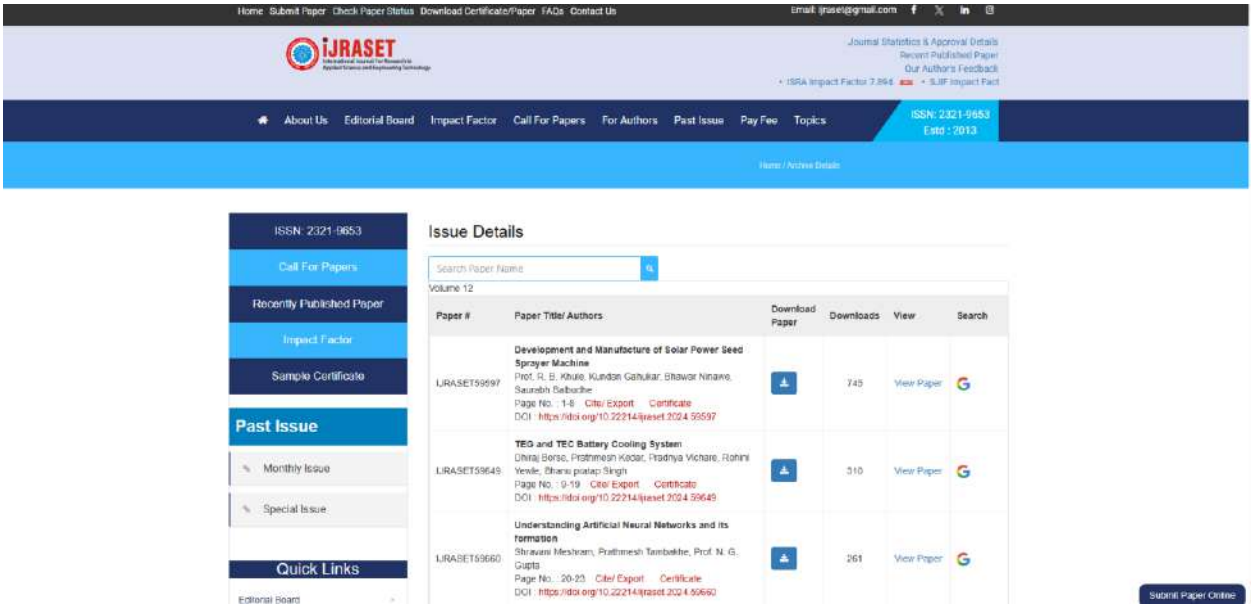

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3.4.3 Details of research papers per teacher in CARE Journals notified on UGC website during the year

Name of the Author(s)	Department of the Author(s)	Title of the Paper	Name of the Journal	Month and Year of publicatio	Vol.No. Issue, Page.No.	ISSN	Link to the notification in UGC
Dr .S. Narasimha	EEE	Simulation of a new fuzzy controlled three phase grid connected pv system	IJAEMA	Aug-23	VolumeXV, Issue VIII,	0886-9367/	
Dr .S. Narasimha	EEE	Energy management system for hybrid renewable energy- based electric vehicle charging station	JES	Apr-24	Vol 15 Issue 04,	DOI:18.0002.IJAEMA.2023.V15I08.200001.01568597178742..	
Dr .S. Narasimha	EEE	Electric vehicle on-board fast charging through converter maximum switch utilization	JES	Apr-24	Page 303	0377-9254/DOI:10.15433.JES.2024.V15I4.43P.32	
Dr .S. Narasimha	EEE	Design and optimization of a phase-shifted full bridge dc–dc converter with ann control for photovoltaic mvdc networks	JES	Apr-24	Vol 15 Issue 04,Page 986	0377-9254/DOI:10.15433.JES.2024.V15I4.43P.111	
Dr .S. Narasimha	EEE	Design and simulation of improved hybrid electric vehicle charger	JES	2023	Vol 15 Issue 07, page 1336	0377-9254/DOI:10.15433.JES.2024.V15I7.43P.132	
Dr .S. Narasimha	EEE	Ann based fast charging architecture with v2g and g2v	IJAEMA	Aug-23	Vol 14 Issue 08	0377-9254/DOI:10.15433.JES.2023.V14I8.43P.124	
Dr .S. Narasimha	EEE	Electric Vehicle On-Board Fast Charging Through Converter Maximum Switch Utilization	JES	Apr-24	page 945	0886-9367/ DOI:18.0002.IJAEMA.2023.V15I08.200001.01568597178744	
Dr .K. Raju	EEE	Reliability assessment of distribution system with ann using python	Science, Technolo y and Develop	Apr-24	Volume XV, Issue VIII, Page No: 436	0377-9254/ DOI:10.15433.JES.2024.V15I4.43P.111	
Dr .K. Raju	EEE	Ideal scheming of lfc loop of hydrothermal system connected to wind farm by using fuzzy-pid controller through hvdc lines	JES	Apr-24	Vol 15 Issue 04	0950-0707/	

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Dr .K. Raju	EEE	Advanced Control Strategies For Interconnected Power Systems An Emphasis On Load Frequency Control By Using The Applications Of Artificial Intelligence	JI and CS	Apr-24	Page 986	DOI:24.18001.STD.2024.V1514.24.41226	
MD. Qutubuddin	EEE	Improved Control Method for Hybrid Reactive Power Compensation System Based on FC and STATCOM	JES	Apr-24	Volume XIII Issue IV Page No : 195	0377-9254/DOI:10.15433.JES.2024.V1514.43P.86	
M. Chinnalal	EEE	Efficient design and evalution of largesacle solar pv farms with dc battery systems	JES	Apr-24	Vol 15 Issue 04 Page 757	1548-7741/ DOI:10.12733.JICS.2024.V1410 4.535569.10061	
M. Chinnalal	EEE	A smart and flexible micro grid with a low cost scalable open source controller	JES	Apr-24	Volume14 Issue 04		
Sattar Pasha Shaik,	EEE	Quasi-Z-source boost DC-DC converter with high-voltage gain with supercapacitor and fuel cell-fed vehicles	JES	Apr-24	Page No 435	0377-9254/DOI:10.15433.JES.2024.V1514.43P.128	
P.VeeraRaghava Reddy	EEE	PV-STATCOM: A New Smart Inverter for Voltage Control in Distribution Systems	JES	Apr-24	Vol 15 Issue 04Page 1141	0377-9254/DOI:10.15433.JES.2024.V1514.43P.33	
P.VeeraRaghava Reddy	EEE	Power flow regulation for Integration of Electric Vehicles to PV based micro grid using fuzzy controller	JES	Apr-24	Vol 15 Issue 04	0377-9254/DOI:10.15433.JES.2024.V1514.43P.95	
A. Anjaiah	EEE	Efficient design and evalution of largesacle solar pv farms with dc battery systems	JES	Apr-24	Page 309	0377-9254/DOI:10.15433.JES.2024.V1514.43P.110	
A. Anjaiah	EEE	Ideal scheming of lfc loop of hydrothermal system connected to wind farm by using fuzzy-pid controller through hvdc lines	JES	Apr-24	Vol 15 Issue 04, Page 836	0377-9254/DOI:10.15433.JES.2024.V1514.43P.87	
A. Anjaiah	EEE	Enhancing load-frequency control in hydro-thermal power systems with wind farm integration using fuzzy-pid control via hvdc lines	JES	Apr-24	Vol 15 Issue 04, Page 979	0377-9254/DOI:10.15433.JES.2024.V1514.43P.59	

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A. Anjaiah	EEE	Speed regulation for a bldc motor employing a zeta converter	JES	Apr-24	Vol 15 Issue 04	0377-9254/DOI:10.15433.JES.2024.V 1514.43P.33	
A. Anjaiah	EEE	Design and implementation of speed control of dc motor using without controller & with pi controller mpc controller	JES	Apr-24	Page 765	0377-9254/DOI:10.15433.JES.2024.V 1514.43P.86	
B. Durga naik	EEE	Fuzzy logic-based control of nine-level inverter for solar applications	JES	Apr-24	Vol 15 Issue 04	0377-9254/DOI:10.15433.JES.2024.V 1514.43P.85	
B. Durga naik	EEE	Design of Active Fault-Tolerant Control System for Multilevel Inverters to Achieve Greater Reliability with Improved Power Quality	JES	Apr-24	Page 548	0377-9254/DOI:10.15433.JES.2024.V 1514.43P.7	
M.Devadarshanam,	EEE	Speed control of a bldc motor using fuzzypid and pid controller	JES	Apr-24	Vol 15 Issue 04	0377-9254/DOI:10.15433.JES.2024.V 1514.43P.1	
Dr.K. Prasada Rao,	EEE	Smart trolley with automatic billing system	JI and CS	Apr-24	Page 309	0377-9254/DOI:10.15433.JES.2024.V 1514.43P.94	
V. Sangeeta Sarali	EEE	Multi charging options of electrical vehicle solar pv-battery, grid connected and diesel generator based electrical vehicle charging station	JES	Apr-24	Vol 15 Issue 04Page 750	0377-9254/DOI:10.15433.JES.2024.V 1514.43P.18	
V. Sangeeta Sarali	EEE	renewable energy with grid connected for energy management statergy and simulation	JES	Apr-24	Vol 15 Issue 04	0377-9254/DOI:10.15433.JES.2024.V 1514.43P.67	
N. Kanchana	EEE	Design and implementation of efficient multioutput for dc-dc converter for ev's application	JES	Apr-24	Vol 15 Issue 04 Page 50	1548-7741	
A. Mamatha	EEE	Load frequency control of two-area power system with a stand alone micro grid based on adaptive model predictive control	JES	Apr-24	Vol 15 Issue 04, Page 1	0377-9254/DOI:10.15433.JES.2024.V 1514.43P.27	

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

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. B. RAJINI KANTH	PHYSICS	Synthesis and characterization of flower like Cobalt doped ZnO Nanostructures for Ammonia Sensing Applications	ECS Journal Solid state science & Technology	February, 2024	doi.10.1149/2162-8777/ad26a3	
A. Premalatha	Chemistry	Recent Advances in Drug Discovery: Innovative Approaches and Targeted Therapeutics	European Chemical Bulletin	September, 2023	2063-5346	https://www.researchgate.net/publication/374000424_Recent_Advances_in_Drug_Discovery_Innovative_Approaches_and_Targeted_Therapeutics
Dr. M. Koteswara Rao	English	MULTILINGUAL TEACHING TO BE ADOPTED IN THE SCHOOL CURRICULUM	Langlit International Journal	August, 2023	2349-5189	

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Dr. M. Sudha Menon	English	MULTILINGUAL TEACHING TO BE ADOPTED IN THE SCHOOL CURRICULUM	Langlit International Journal	August, 2023	2349-5189	

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Department of Information Technology

Details of research papers per teacher in CARE Journals notified on UGC website during the year 2023-24

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.N.Satyanarayana	IT	A Secure and Practical Scientific computation outsourcing Application in Cloud Computing	Springer	Nov-23	2193-1801	https://link.springer.com/chapter/10.1007/978-981-99-5652-4_9
Dr.M.Dhasaratham	IT	Secured and Efficient Fiber Optic Based Data Signal Transmission	IEJ	Aug-23	0970-2555	http://journal-iiie-india.com/1_aug_23/68_online.pdf
Dr.M.Dhasaratham	IT	Mlora-CBF: efficient cluster-based routing protocol against resource allocation using modified location routing algorithm with cluster-based flooding	Wireless Networks	Oct-23	1572-8196.	https://www.researchgate.net/publication/374418075_Mlora-CBF_efficient_cluster-based_routing_protocol_against_resource_allocation_using_modified_location_routing_algorithm_with_cluster-based_flooding
Dr.M.Dhasaratham	IT	Detection and Advanced PhototherapyTtreatment of Skin Cancer through Boosting Immunogenic Cell Death	Material Science and Technology	Nov-23	1005-0299	https://materialsciencetech.com/mst/uploads/2023-41782.pdf
Dr.M.Dhasaratham	IT	Dermatological Detection and Classification using Machine Learning Techniques	IJRITCC	Aug-23	2321-8169	https://ijritcc.org/index.php/ijritcc/article/view/8704
Dr.M.Dhasaratham	IT	Detection of Fake Currency Using Machine Learning Models	IJRSE	Dec-23	2394-8299	file:///C:/Users/TKRCET/Downloads/IJRISE-2023-1091.pdf
Dr.M.Dhasaratham	IT	Design A High Speed Scenario Interface of Modified Universal Filtered-OFDM for 5G	Material Science and Technology	Oct-23	1005-0299	file:///C:/Users/TKRCET/Downloads/paper%203.pdf
Dr.M.Dhasaratham	IT	Classification of SARS Cov-2 and Non-SARS Cov-2 Pneumonia Using CNN	Prevention, Diagnosis and Management of Human Diseases	Nov-23	2799-1202	https://hmjournals.com/ijaap/index.php/JPDMHD/article/view/3406
Dr.M.Dhasaratham	IT	Big Data Network Optimization for Mobile Cellular Networks in 5G	IJRITCC	Aug-23	2321-8169	https://sdit.ac.in/upload/Criteria3/331c/8=11.pdf
Mrs.N.Mounika	IT	Advancing Social Media Platforms Through Machine Learning: A Comprehensive Study	JES	Aug-23	0377-9254	https://scholar.google.co.in/scholar?q=Advancing+Social+Media+Platforms+Through+Machine+Learning:+A+Comprehensive+Study&hl=en&as_sdt=0&as_vis=1&oi=scholart

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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 analyses the disease severity and predict the outcome. However, if the trained images are more complex, the noise pruning results have decreased, which has tended to gain less prediction exactness score. So, a novel Chimp-based Boosting Multilayer Perceptron (CbBMP) 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 pruning outcome. Henceforth, the feature analysis and the tumor prediction process were executed accurately with the help 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 CbBMP model has recorded the finest tumor forecasting rate.

Keywords-component; 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, those 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 imagining system [10]. Different sequential models have been executed in the imaging system to find the present statistical features in the trained image [11]. Using those 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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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

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A Machine Leaning Framework For Improving The Efficiency Of Health Systems

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Abstract: Due to the ever-increasing demands for high-quality medical treatment, the ever-increasing expenses, and the imperative to make effective use of available resources, healthcare systems all over the world are confronted with issues that have never been seen before. Taking this into consideration, machine learning (ML) has emerged as a potentially useful instrument that has the potential to improve the efficiency and efficacy of health systems. This article proposes a complete framework for employing machine learning techniques to address critical difficulties in the healthcare industry. The primary aim of this framework is to improve operational efficiency, resource allocation, and patient outcomes from a healthcare perspective. In order to demonstrate how machine learning may be smoothly incorporated into healthcare processes, the framework that has been suggested incorporates data gathering, preprocessing, model creation, deployment, and continual improvement. This is our novel. In addition to shedding light on its characteristics, the technique enables users to study and analyse the user needs and determine what they need. both the function of objects associated to the system and the machine learning methods that must be implemented to for the dataset. In the course of our investigation, we made use of a dataset that included actual data that was first obtained from a medical facility. run by the government of Palestine for the past three years (since the beginning). The SEMLHI technique contains seven There are several phases, including designing, implementing, maintaining, and designing workflows; organizing information; and ensuring The release of the software applications, as well as the testing and assessment of performance, security, and privacy.

Keywords: Health dataset analysis, machine learning, methodology, software development management, software engineering.

I.INTRODUCTION

A paradigm change is currently taking place in the healthcare business as a result of the introduction of tools that utilise machine learning. The optimisation of processes, the prediction of disease outbreaks, the improvement of patient outcomes, and the reduction of costs are all potential results that may be attained with the implementation of these technologies. The purpose of this article is to present a comprehensive machine learning framework that is intended to improve the effectiveness of health systems, which will ultimately lead to the successful delivery of healthcare services that are of high quality, easily accessible, and cost-effective.

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Iot Driven Machine Learning Platform For Real Time Environmental Monitoring

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Abstract: The environment faces real problems due to a number of variables, including radiation, water, and air pollution. Sufficient oversight is required to ensure that a healthy society and sustainable global growth are maintained. Thanks to developments in the internet of things (IoT) and the creation of contemporary sensors, environment monitoring has evolved into a smart environment monitoring (SEM) system in recent years. People are becoming more aware of their surroundings in the last several years. It is because of this awareness that a trustworthy environmental monitoring system has to be created. There are industrial uses for environmental air quality monitoring systems as well. The air in heavy industries like mining may get contaminated by several dangerous gases. An environmental monitoring system may be able to save workers' lives in such dangerous circumstances. There are problems with data collecting, data administration, connections, and power consumption in such large-scale sensor deployments. IoT technology is ideal for this kind of requirement. This article proposes an Internet of Things (IoT) based architecture that uses sensors, microcontrollers, and IoT based technologies to efficiently monitor changes in an environment. The suggested module allows users to keep an eye on temperature, humidity, and the presence of hazardous gases in both indoor and outdoor environments. Through an internet connection, the user may access the data stored on the web server from anywhere in the globe. The suggested work develops a web application to give the user essential information. Additionally, a notification for significant changes in the sensor data may be set up by the user. In contrast to other systems that are closely comparable, the suggested method is accurate, affordable, and easy to use. In addition, it features modules for simple data visualisation and monitoring and is cloud-based. The system has undergone many phases of evaluation. Following extensive testing under various circumstances, it demonstrates a high level of accuracy and dependability.

Keywords: IoT, environmental monitoring, air pollution, water pollution, sensors, machine Learning.

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BioGecko

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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 FromModel, 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 Trustworthy Privacy Preserving Framework For Machine Learning In Industrial Iot Systems

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Abstract: Because Industrial Internet of Things (IIoT) devices are becoming increasingly integrated into contemporary manufacturing procedures, there has been an increase in the demand for machine learning models that are both reliable and secure inside these contexts. On the other hand, due to the sensitive nature of industrial data, a rigorous approach to the protection of their privacy is required. The purpose of this study is to offer a framework that is trustworthy and protects privacy, with the intention of facilitating machine learning applications in Industrial Internet of Things systems while simultaneously protecting sensitive information. The framework makes use of a variety of encryption methods, federated learning, and differential privacy in order to guarantee the secrecy of data, the correctness of models, and the protection of privacy. The performance of object data interchange may be improved by the utilisation of device-to-device (D2D) communication mechanisms, which can be utilised by the Internet of Things (IoT). It is the goal of Internet of Things networks to provide a vast array of services of a high quality, and a significant proportion of the devices that are responsible for providing these services are mobile. Wearables, sensors, drones, and smart cars are examples of devices that require ongoing communication despite their movement patterns. As a result, an Internet of Things design should take into consideration both Quality of Service (QoS) and mobility. By enabling devices to connect with one another directly, D2D makes it possible for them to exchange material and functionality, such as access to the Internet. In order to improve the performance of Internet of Things (IoT) communication and to provide better quality of service (QoS) for data exchange services between mobile Internet of Things devices, this article presents REMOS-IoT, which stands for a REIay and MObility Scheme. The effectiveness of the suggested architecture and algorithms was demonstrated through simulation-based testing, which demonstrated how the performance of electronic devices improved in a number of different circumstances.

Keywords: Internet of things (IoT), smart gateways, D2D, QoS, performance analysis, mobility. Industrial IoT, Machine Learning, Privacy Preservation, Decentralized Processing, Secure Communication, Data Anonymization.

I.INTRODUCTION

Through the use of Internet of Things technology in industrial settings, hitherto unattainable prospects for efficiency and optimisation have been made available. In order to fully use the potential of the enormous datasets that are produced by IIoT systems, machine learning models are an extremely important component. On the other hand, due to the intrinsically sensitive character of industrial data, it is necessary to build frameworks that protect privacy in order to guarantee the confidentiality of private information.

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ORIGINAL ARTICLE

An effective hierarchical image coding approach with Hilbert scanning

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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

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