

Language Detection Using Speech Processing

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ABSTRACT:

Language detection using speech, is the methodology drawn in with seeing a specific language from a short speech signal. It is used in various voice applications like multilingual client pack, given current globalization affinities in correspondence progression. Various dialects spoken discussion frameworks, conveyed record recovery, natural media mining designs, and human-to-human correspondence frameworks are instances of this progression. It includes Telugu and Hindi are among the Indian ordinary languages and English. These were besides spoken by neighborhood speakers, accomplishing results that are freed from the speaker. In different dazzling ways, language ID is related with speaker-autonomous talk confirmation, for example, whether individuals are furious, euphoric, or sad. Artificial Neural Networks are used for detecting the language for speech signal. Librosa, a Python library for sound sign evaluation, will be used. It goes with all that you'll expect to develop sound information recuperation structures. MFCC will correspondingly be used to isolate features from sound models.

Index Terms: MFCC (The Mel-recurrence cepstral coefficient), dialects, librosa, Artificial Neural Network.

A Novel Method to Enhance the Security using Machine Learning Models in Wireless Networks

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Abstract:

Wireless networks are becoming increasingly prevalent in today's world, and as a result, the security of these networks is becoming more important than ever. Machine learning can be used to enhance the security of wireless networks in a number of ways. One way in which machine learning can enhance the security of wireless networks is by detecting and preventing attacks. Machine learning algorithms can be trained to recognize patterns of behavior that are associated with attacks, such as a sudden increase in network traffic or a high number of failed login attempts. Once these patterns have been identified, the machine learning algorithm can be used to monitor network activity in real-time and alert security personnel to any suspicious activity. Another way in which machine learning can enhance the security of wireless networks is by improving access control. Machine learning algorithms can be used to analyze network traffic and identify devices that are not authorized to access the network. By doing so, the algorithm can help prevent unauthorized access to the network and protect sensitive information from being accessed by unauthorized individuals. Machine learning can also be used to identify and prevent threats posed by malware and other malicious software. By analyzing network traffic and identifying patterns of behavior that are associated with malware, machine learning algorithms can help detect and prevent these threats before they can cause significant harm. Finally, machine learning can be used to improve the overall security posture of wireless networks by identifying vulnerabilities and providing recommendations for how to address them. By analyzing network traffic and identifying areas of weakness, machine learning algorithms can help organizations take proactive steps to improve their security posture and reduce the likelihood of successful attacks. Overall, machine learning has the potential to significantly enhance the security of wireless networks by providing real-time threat detection, improving access control, identifying and preventing malware, and improving overall security posture.

Keywords: Security, Machine Learning, Wireless networks, network traffic.

A Study of IDS against DDOS Attack using Machine Learning Algorithms

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Abstract:

The resulting increase in cyberattacks and threats necessitates the use of cutting -edge technology to employ a creative and predictive security approach. Using the information available, a model will be built by analysing various data sets and monitoring trends. (DDoS) are one of the prevalent problems and assaults wreaking havoc on internet-connected computer equipment? This study compares the working of several ML-based classifiers for detecting DDoS attacks before they occur. The results show that feature selection methods can help domain experts understand the intrusion system's main hidden patterns and features during DDoS detection. The main challenges they faced are that DDOS attacks are more complex and attacks are coming from many places which makes them difficult to detect. The proposed sample learns to recognize regular network traffic to detect ICMP, TCP, and UDP DDoS traffic as it arrives. This experiment analysed data from the benchmark KDD-Cup-1999 DDoS attack. I have three distinct types of selection techniques to select essential features in the context of DDoS detection. Tests show that machine learning algorithms can correctly classify traffic into regular and DDoS. The finding has lasting implications for many industries, including defence, financial institutions, and healthcare, and because other businesses need sophisticated intrusion detection techniques. The future direction of the proposed method is to implement the model in different datasets. Data storage, bandwidth, and processing speed are all growing in the IT industry.

Keywords: Decision Tree; Distributed Denial of Service (DDoS); K-Nearest Neighbor; Machine Learning; Random Forest

Efficiency evaluation of HRF mechanism on EDoS attacks in cloud computing services

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Abstract:

This EDoS attacks use the cloud assets for creating administration inaccessibility to the clients. There is a mandate to diminish EDoS assaults. HRF is the most suitable and an effective mechanism to identify and diminish such assaults, in which assailant requests are recognised and dropped preceding arriving at the web server. This paper assesses and examines the cost and performance sway using queuing theory and assess experimental model in terms of key performance metrics which incorporate QoS and cost metrics. The conventional DDoS assaults can be transformed into an economic denial of sustainability (EDoS) assaults because of elasticity in the cloud services. Different scenarios appropriate to HRF mechanism are taken into consideration and examined. Performance is compared with existing approaches using game theoretical methodology. To get the systematic solution and calculation of game value, various probabilities of defending techniques and assaulting strategies through numerical outlines are done. .

Keywords: DDoS; distributed denial of service; economic denial of sustainability; EDoS; EDoS attacks; game theory; HRF mechanism' queuing theory; WAFs; web application firewalls

Review of IoT technologies and their constituents for smart and sustainable agriculture applications

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Abstract:

Traditional farming practices cannot meet the need for the food crop. Conventional farming methods use resources like land, water, herbicides, and fertilisers rather inefficiently. Due to the world's rapid population expansion, the demand for food is anticipated to increase significantly during the coming decade. When it comes to making the most effective and sustainable use of resources to increase production, automation in agriculture is garnering a lot of interest. How people and machines operate on farms has been changed by integrating the Internet of Things (IoT) with numerous sensors, controllers, and communication protocols. These sensors were continuously producing a significant quantity of data on the agricultural field. These data were transmitted to the central control unit for analysis to meet the demands for water, fertiliser, pesticides, etc. A comprehensive literature review of the key technologies involved in smart and sustainable agriculture, viz. various sensors, controllers, communication standards, IoT based intelligent machinery, were compared and presented. The findings provide support for the selection of IoT technologies for specific applications. The architecture and importance of data analytics in agriculture IoT, case studies of current agricultural automation utilising IoT, key challenges and open issues in agriculture IoT technology were discussed.

Keywords: Agriculture IoT; Controller; Data analytics; Farm automation; Smart sensor

Detection of Cyber Attacks Made Possible by Machine Learning Algorithms

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Abstract:

Attacks against cybersecurity are becoming more frequent and sophisticated over time. More development and ongoing innovation in defensive methods are required due to the complexity and level of sophistication that are rising. While still widely used and advised, conventional approaches to intrusion detection and deep packet inspection are insufficient to address the needs of evolving security threats. Machine learning is viewed as an extra means or defence against malware, botnets, and other threats as processing power and cost decrease. The ability of machine learning to categorise harmful network data is examined in this research as a potential solution. The original Netflow datasets are subjected to a thorough data analysis, which yielded 22 features that were extracted. Then, using a feature selection procedure, all of these features are evaluated against one another. The NetFlow dataset, which contains popular botnets, is then used to analyse five different machine learning techniques. In 8 of the 13 cases and more than 55% of the datasets, the Random Forest Classifier is successful in detecting more than 95% of the botnets. The results are then improved and made broader, notably using a bootstrapping technique.

Keywords: Attacks, Cybersecurity, Frequency, Sophistication, Defensive methods, Conventional approaches, Intrusion detection, Deep packet inspection

Website Recommendation System

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Abstract:

One well-known application of recommender systems is the creation of playlists for video and audio services, product recommenders for online retailers, content recommenders for social networking platforms, and open web content recommenders. These systems can be configured to operate with a single input, such as music, or several inputs inside and between platforms, such as news, books, and search queries. For particular subjects like restaurants and online dating, there are also well-known recommender systems. Research papers, experts, collaborators, and financial services have all been explored by recommender systems that have been built. Therefore, this recommender method that directly compares the user and the product cannot be used with the collaborative filtering model. The acquisition and quantitative analysis of the content form the basis of the content-based algorithm. Many of the current content-based recommender systems produce recommendations based on the analysis of text information since research on the gathering and filtering of text information is advanced.

Index Terms: Machine Learning, Recommender., Application Recommender, Filtering Model, Content Based Recommender.

Autonomous UAV Sensor formation for the Mobile Sensor Cloud Environment

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Abstract:

In this paper, we propose on-demand autonomous UAV virtual sensor formation to address the auto reconfigure resource allocation (ARRA) problem in the mobile sensor cloud environment. ARRA mainly focused on the available mobile sensor nodes, Quality of Service (QoS), and the cost of the stakeholders participating in the mobile sensor cloud environment. Existing works on the virtual sensor formation in mobile sensor cloud do not consider on-demand reconfiguring of the resource allocation using UAV. We address this issue using two subproblems, first, we designed the greedy approach to form the virtual sensor formation in the mobile sensor cloud, and last we use evolutionary game theory to distribute the loads among the compatible sensor nodes. We have done the extensible simulation works with the benchmark model as Mobitrust and found out our proposed model outperforms the existing work.

Keywords: UAV, virtual sensor formation, auto reconfigure resource allocation (ARRA), mobile sensor cloud, Quality of Service (QoS), cost, stakeholders

Deep learning-based classification for Efficient segmentation of the lung carcinoma by adaptive fuzzy–GLCM (AF-GLCM)

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Abstract:

The significant difficulty is with the segmentation of images due to the blurred contrast and artifacts at the boundary edges. Image processing is an innovative method to convert the real image into a sharp digital image by applying various functions upon it. However, it is a difficult task for physicians in the medical field. Hence in this paper, an efficient and adaptive fuzzy-GLCM based segmentation method was proposed. The adaptive F-GLCM segmentation method enables the early and easy detection of lung cancer, which helps both the physicians and the patients for proper initial medication. The images derive from the process of bronchoscopy. The ultimate goal of the proposed methodology was the accurate recognition of the lung carcinoma, which undergoes segmentation. Then the classification was done with the help of the GoogLeNet CNN architecture, which will reveal whether the cancerous growth was in a benign or in a malignant stage. Then the performance analysis of the proposed method was measured by comparing it with the other existing methodology.

Keywords: Adaptive fuzzy-GLCM; Fluorescence bronchoscopy; GoogLeNet CNN architecture; Image processing; Image segmentation

Graph Attention Networks: Concept, Challenges, and Countermeasures

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Abstract:

Graph Attention Networks (GATs) are a class of Graph Neural Networks (GNNs) that have been shown to achieve state-of-the-art performance on a wide range of graph-related tasks. GATs use attention mechanisms to enable each node in a graph to selectively weigh the importance of its neighbors during message passing, resulting in more informative node representations. However, GATs also face several challenges that need to be addressed for their broader adoption. One challenge is the scalability issue, as GATs require significant computational resources to operate on large graphs. Another challenge is the generalizability issue, where the model may overfit to the training data and perform poorly on unseen graphs. To mitigate these challenges, several countermeasures have been proposed. One approach is to use efficient graph sampling techniques to reduce the computational burden of GATs. Another approach is to incorporate domain-specific knowledge, such as node attributes or edge weights, to improve the generalizability of the model. Additionally, regularization techniques, such as dropout and weight decay, can be used to prevent overfitting. Further research is needed to develop more efficient and effective GATs that can handle larger and more complex graphs. Nevertheless, GATs have shown great promise in various fields, such as social network analysis, recommendation systems, and bioinformatics, and they are expected to continue to advance the state-of-the-art in graph-based learning.

Keywords- Graph Neural Network, Graph, Graph attention Network

INNOVATION TOWARDS VALUATION OF INFORMATION RETRIEVAL

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ABSTRACT:

Recommendations are naturally queries, and they are typically obtained by means of analyzing query logs, for instance discovery of recommendations by means of clustering concerning queries or by means of recognizing recurrent re-phrasings. Ranking has plentiful applications in information recovery, and natural language processing. Novel advance, named Manifold Ranking with Sink Points that was introduced to tackle diversity in addition to relevance in a combined system. The system makes use of a manifold ranking procedure over data manifold, which assists in searching most pertinent and significant data objects. The manifold ranking algorithm is projected basis on assumptions such as close by data are expected to include close ranking score; as well as data on similar structure are probable to encompass secure ranking scores. Introduced system has not merely a nice convergence property, however also a fulfilling optimization elucidation. Based on essential manifold, ranking scores of additional objects secure to sink points will be obviously penalized throughout the ranking procedure. We can efficiently prevent outmoded objects from acceptance of a high rank by turning objects of ranked into sink points within data manifold. Manifold ranking with sink points system achieves finest performance in terms of the entire measures, which is reliable with results report in automatic assessment. It shows that by making use of built-in global query manifold organization and utilizing manifold ranking with sink points, we can suggest extremely diverse and extremely related queries.

Keywords: Manifold ranking, Natural language processing, Recommendations, Data objects, Sink Points..

Voting System Implementation using Public Blockchain

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Abstract:

Voting System using Ethereum Public Blockchain. It consists of mainly three components. First it displays “Account Number” from which your casting the vote, and it displays the message “you have already casted the vote” if you are trying to vote more than once. Second component is list of persons contesting in the election and their polled vote details. This polled vote details will be updated dynamically for each vote. The last component is Time component, it shows the remaining time to cast vote. It shows time count down for each second. For this project it requires 4 softwares to install that are node, react, hardhat and metamask. The Metamask which is a browser extension to create and maintain Ethereum accounts. The Hardhat tool is required to compile and run solidity smart contracts and to connect the public Ethereum Blockchain. The React and node softwares are required to prepare and execute front end DAPP (Distributed application).

A Influential Convolutional Neural Network (CNN) for Modelling Coronary Heart Disease

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Abstract:

I provide an effective neural network for categorising convolutional layers in this work. The National Health and Nutrition Examination Survey (NHANES), which tries to predict the development of coronary artery disease (CAD), is the source of the clinical data revealing class imbalance. A straightforward two-layer CNN offers within-class fairness while the majority of the current machine learning models employed for this data class are still susceptible to class imbalance even after changing the class-specific weights. Harmony suggests adaptability to performance-specific imbalances. As the size of the test data increases, it becomes increasingly challenging to simultaneously attain high class 1 accuracy (real CHD prediction rate) and high class 0 accuracy due to very unbalanced datasets. Using the two-step procedure: I first evaluate the feature weights using the least absolute shrinkage selection operator (LASSO), then we employ a majority vote to identify the important features. Then, as a crucial step prior to the output of layers into subsequent convolution stages, unify significant characteristics with completely connected layers. To improve classification accuracy, we also suggest an epoch-by-epoch training approach that is analogous to the simulated growth process. The proposed CNN architecture had a classification performance of 77% to accurately detect the presence of CHD and no CHD cases in the test data, which had an 81.8% class imbalance in the NHANES dataset, according to the study. Make sure the full dataset is accurately classified. According to this finding, the proposed design can be used to other healthcare studies with comparable functions and imbalances. Recall scores from other machine learning methods like SVM and random forest are equivalent to those from the proposed CNN model, but the model is more accurate at predicting negative (non-CHD) situations. Our model architecture demonstrates how intelligent diagnostic systems can be incorporated into healthcare systems to improve treatments, create better diagnostic tools, and decrease diagnostic costs. The model's balanced accuracy (79.5%) outperforms SVM or random forest classifiers' single accuracy. High specificity, test accuracy, recall, and area under the curve (AUC) values are attained using the CNN classifier.

Keywords: Coronary heart disease, Machine learning, LASSO regression, Convolutional neural network, Artificial Intelligence, NHANES.

Financial Fraud Detection Using a Graph Neural Network

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Abstract:

In this paper, we propose a novel approach for financial fraud detection using a GNN-based model. Our model considers the complex interconnections among financial entities and identifies patterns of fraudulent behavior in these networks. We use a combination of graph convolutional networks (GCNs) and attention mechanisms to model the relationships among entities and extract relevant features from the graph structure. We evaluate our approach on a real-world financial dataset and compare its performance to traditional machine learning algorithms. Our results show that the GNN-based model outperforms traditional methods in detecting fraudulent transactions with higher accuracy and better precision. Furthermore, our model provides interpretable results by highlighting the most significant entities and connections in the graph that contribute to the detection of fraudulent behavior. Overall, our work demonstrates the potential of GNN-based models for financial fraud detection and highlights the importance of incorporating the structure of financial networks into the modeling process. Our proposed approach can be applied to various financial domains, including banking, insurance, and e-commerce, to improve fraud detection and prevent financial losses.

Keywords: Graph Neural Network, Graph, Graph attention Network, Financial Fraud Detection

Auto-mail tracker: Predicting the users online and their current location

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Abstract –

In mails, writing mails and receiving mails require an advanced feature which analyzes the genuinely of the user. There are many online chats are existed but they show only users who are online with symbol like green colored very tiny circles. The mails in the inbox should also be indicated with tiny green colored circles at the beginning of the mail subject header. Along with this, location of covering internet providing tower location to be specified. These two add-ins to each mail, would help the user to know device used such gadget or institute name inherent in the symbol when user clicks it. These features give genuine report to the analyzer on their employees. Any organization supposed to analyze their employees work attitude. It is one platform. Any genuine report to be required to show up to any officials, it may be considered as one. The features such as online prediction, location, usage device and etc. are helpful information for any user. The novel procedure is defined to incorporate these features to deliver the expected environment. These kinds to know to be provided for a common man who are in their contacts. This leads to track illegal mail owners to be caught and every citizen be disciplined in social media.

Keywords: Social media, tracking, features, novel procedure, mail owners, spam, and genuine data.

Driver Drowsiness Detection Using Machine Learning

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Abstract:

This project work carried out within the field of computer engineering to develop a method for detecting driver drowsiness in order to avoid accidents related to driver exhaustion and sleeping. The study offered findings and recommendations for the project's limited application of the various methodologies. While the project's implementation provides a practical understanding of how the system functions and the adjustments that may be made for improving the system's overall utility. The report also summarizes the authors' observations in order to support further optimization in the relevant field and generate the utility with more efficiency for a safer road using machine learning techniques.

Keywords: Machine Learning, Detection, Optimization

Service Now Based Course Registration System

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Abstract:

In the past few decades, Course Registration for a particular student in an university is a very difficult task. It consumes lot of time and manpower to complete the task manually. This is because of the increase in the number of students in the university every year. So to reduce all the effort we implemented this project using a cloud based platform called ServiceNow. The main theme of the project Course Registration System is to develop a registration system that will completely automate the process of a new student registration in an university. The system will be cloud based and will have two implementations i.e client side(Student) and server side(Admin).The server side implementation can be accessed over the university only when the student starts registration for the particular course. Johnson and Manning (2010) explicit that the two biggest variations between registering on-line and mailing in your work square measures time and technology. It will take time once users ought to fill in the form manually, and then submit it in other places. Rather than taking time, technology has helped us to create the registration procedure into the next level. You will be able to notice additional data regarding the courses you wish to acquire and in the same time fill up the form, pay the fees, etc. The management that receives registration data most probably will process the information in same system, so by using online course registration and management system, we can save time

Keywords: Service Now, course registration,

Future trending retail store gadget: Digital Basket

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Abstract –

There are good number of people are visiting the super markets, big bazars, and retail stores for purchasing the goods or items. Here, one major issue considered is lot of rush and lengthy time to wait to get our turn to pay the bill and move out from the store. Hence, an innovative approach is identified and defined in which the trolley or basket the user is using for their goods to keep for billing, that utility is refined in such a way that a digital display cum scanner would be incorporated, such design would list the number of items and accumulated price of all goods in that digital trolley or digital basket. In this proposed approach, scanner is one module and display is another module attached to the basket or trolley. The design may be customized as per trending nature of the users. According to the perception and tastes of user, they may use appropriate customized design baskets. The machine learning also plays a key role in this process to forecast the pricing with the recommendation of discounted items close to pick up of the goods in the basket.

Keywords: Digital Trolley, Digital Basket, Display, Scanner, Pricing, Recommendation, and Forecasting.

An Approach for Anomaly Detection in Attributed Networks by Merging Attribute and Structure Information

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Abstract

Integrating knowledge of network architecture with that of attributes is crucial to anomaly detection in attributed networks. The Homophily assumption, which states that connected nodes would have comparable attributes, is the foundation of the great majority of current efforts. However, this assumption is not feasible in practice due to the presence of noisy and structurally irrelevant features, which might have a negative impact on the efficacy of anomaly detection. Recent attempts have used subspace selection to tackle this problem, but these algorithms typically split subspace selection and anomaly identification into two distinct phases, resulting in less-than-ideal outcomes. In this research, we explore ways to more synergistically merge attribute and network structure information to mitigate the negative impacts of noisy and structurally irrelevant qualities. We present a new combined architecture for attribute selection and anomaly detection that utilizes CUR decomposition and residual analysis as its foundational techniques. We perform anomaly identification with the remaining representative attributes after filtering out noisy and unnecessary node attributes. The usefulness of the suggested framework is supported by experimental findings on both synthetic and real-world datasets.

Keyword: Anomaly Detection, Attributed Networks, CUR decomposition.

Deep learning models for prediction of snowfall

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ABSTRACT:

Snowfall prediction is an essential task for various industries, including transportation, agriculture, and energy production. Deep learning regression techniques provide a powerful tool for building predictive models that can forecast the amount of snowfall given historical data on relevant features such as temperature, humidity, wind speed, and precipitation. The steps involved in building a deep learning regression model for snowfall prediction include collecting and preprocessing data, splitting the data into training, validation, and test sets, choosing a deep learning architecture such as Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), or Long Short-Term Memory (LSTM) networks, training the model using a large dataset, fine-tuning hyperparameters, evaluating the model's performance, and deploying it to make predictions on new data. While predicting snowfall accurately is a challenging task, deep learning regression models can provide valuable insights for planning and decision-making purposes.

Keywords: prediction, neural networks

An Unsupervised Approach for Detection of Fake News in Social Networks by using Self-Attention Layer Autoencoder

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Abstract

The proliferation of fake news on social media has serious consequences for people's daily lives and can even provoke widespread panic. The autoencoder is a simple unsupervised learning technique that can be applied to the problem of detecting fake news on social networks. In light of this need, we propose using an autoencoder-based unsupervised false news detection approach. This research first takes into account specific types of news on social networks, integrates the text content, photos, propagation, and user information of posting news, and finds that the results are significantly better at detecting fake news. The next step in the process involves incorporating a Bidirectional GRU layer and a Self-Attention layer into the autoencoder in order to get the hidden information and internal relationship between features, and finally reconstructing the residual in order to spot bogus news. The experimental results on two real-world datasets reveal that our proposed model achieves the better outcomes when compared to the other four existing approaches.

Keyword: Fake News Detection, Autoencoder, Self-Attention Layer.

A Cloud Computing system for Group Data Sharing That Preserves Privacy and Is Untraceable

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Abstract:

Due to the growth of cloud computing, a significant volume of data must be shared in a secure and effective manner. In order to preserve data privacy during multiparty storage data sharing, first, the confidentiality of shared data is guaranteed. Second, data storage is made secure. In other words, when stored shared data are frequently accessed, the address sequence or access pattern of the data is concealed. So it can be difficult to figure out how to make sure that saved data cannot be traced or how to effectively mask the data access pattern while sharing stored data. A privacy-preserving and untraceable method is put forth to facilitate many users sharing data in cloud computing by utilising the proxy re-encryption technique and oblivious random access memory (ORAM). On the one hand, group members and a proxy utilise the key exchange phase to acquire keys and, if necessary, thwart multiparty collusion. Members of the group can implement access control, store data, and complete secure data sharing using the ciphertext they got from the proxy re-encryption phase. On the other hand, using a one-way circular linked table in a binary tree (OCLT) and an obfuscation operation, this article achieves data untrace ability and a hidden data access pattern. Additionally, malicious users are located and data tampering is stopped using the pointer tuple and designed structure. According to the security analysis, the protocol developed in this article is capable of achieving the security standards set by proxy re-encryption and ORAM. The proposed approach is effective and secure for group data sharing in cloud computing, as shown by theoretical and experimental investigations.

Keywords: untraceable, preserve, data sharing

Artificial Neural Network hybridised with Genetic Algorithm Models for River water discharge Prediction

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Abstract:

Water flow forecasting is crucial in hydrology and water resource engineering for obtaining knowledge about river engineering, dam structure design, and water-related inflow demand management. Maintaining a sufficient outflow from a barrage is necessary to avoid flooding on the river's downstream side during the rainy season. Due to the nonlinear and fuzziness of hydrological activity and the dearth of pertinent data, it is very challenging to predict the desired water flow using conventional regression-based methods. In order to predict monthly water flow in the Mahanadi river system, this study aims to develop an intelligent hybrid artificial intelligence model called a genetic algorithm-based Artificial Neural Network (GA-ANN). Using a Genetic Algorithm (GA), all parameters related to the artificial neural network (ANN) model are automatically and simultaneously optimised for the prediction of the water flow. For the creation of this GA-ANN model, monthly data from the Indian river Mahanadi has been gathered for twenty years. At the extreme downstream station of the Mahanadi River basin in India, Tikarapara Gauging Station, an ANN prediction model of Water Flow is developed using the hydro-climatological parameters of Rainfall, Water Level, Sediment yield, and Temperature. To test the model's ability to estimate, the GA-ANN model's performance was compared to that of an Artificial Neural Network (ANN) model. The results obtained showed that the proposed novel GA-ANN model outperformed the ANN model in its ability to predict river flow with satisfactory performances.

Keyword: Artificial neural network, Water flow, Genetic algorithm, Mahanadi River, Rainfall.

Survey on Key management solutions for IoT security

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Abstract: About internet of things named (IoT) is that technology that allows apparatuses which are completely distinct from linking via the internet through information interaction. Examples of such devices are a toy that child uses, car stereo system, or kitchen materials. About the root cause is the super paced adaptability of the customers. The discouraging characteristic of transmitting this prevalence data between various IoT gadgets. Moreover, if this information proceeds into the pointers of corrupt users, that can efficiently compromise whole community that holds that information. Our paper, originally investigated the safety conditions for the IoT, organized in representations of key management resolutions. Behind the depth research and necessary for safety conditions, we examine key management viewpoint of IoT. The preliminary security problems in that designs are too confidentiality and authentication. Among these problems, key management is complex because of the differences in the existing cryptographic primitives. However, the current state of the art needs to be improved in the comprehensive study on key management in IoT. This paper surveys the various protocols for key management in the existing literature and discusses the research challenges. This paper discusses IoT architecture, possible attacks, and the importance of key management schemes, their comparative analysis, and future research directions.

Keywords: IoT security, IoT security architecture, IoT requirements, Key Management.

Developing Software for Automatic Color-Mixing Combination for Cars

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Abstract:

Automated color mixing combination for cars using CAD/CAM (Computer-Aided Design/Computer-Aided Manufacturing) technology is an innovative and efficient solution for the automotive industry. This technology enables the creation of unique and customized colors for cars by using computer software and hardware to mix paint in a controlled and precise manner. With CAD/CAM technology, car manufacturers can input specific color codes and formulas into the system, and the software will automatically mix the required pigments and paint components in the right proportion. The system can also adjust the mix based on the amount of paint needed and the type of surface it will be applied to. The use of CAD/CAM technology for color mixing in cars provides several benefits, including: Increased accuracy and consistency: The automated mixing process ensures that the paint is mixed accurately and consistently every time, eliminating human error and resulting in a more uniform color finish. Customization: Car manufacturers can create unique and customized colors for their cars that are difficult to achieve manually. This allows them to offer more options to customers and differentiate themselves in the market. Time-saving: The automated process saves time and reduces production time, allowing manufacturers to produce more cars in less time. Cost-effective: The technology reduces material waste and paint mixing errors, resulting in cost savings for manufacturers.

Keywords: software, time saving

Hybridizing artificial intelligence approaches for sediment yield forecasting with single- and multi-objective optimization

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Abstract:

Rivers play important roles in ecosystems and society, such as domestic use, industry, agriculture, and power generation. Forecasting suspended sediment yield (SSY) is critical in river system design, management, and planning, as well as in preventing natural disasters. Modelling SSY with traditional methods is always difficult because they are incapable of dealing with the complex non-linearity and non-stationarity. The goal of this research is to create a single objective genetic algorithm based artificial neural network (GA-ANN) and a genetic algorithm based multi objective optimisation with hybrid models to forecast the SSY at eleven gauge stations in the Mahanadi River basin using 20 years of data. The GA-MOO-ANN model was used to optimise two competing objective functions: mean error (bias) and error variance. The GA-ANN model, on the other hand, optimises the mean square error (MSE) objective function. In this study, two different hybrid models' objective functions (GA-ANN and GA-MOO-ANN) are tested and their performances are compared. The developed models' accuracy is evaluated using root mean square error (RMSE) and correlation coefficient (r) statistical measures on a testing data set. Among all comparative GA-MOO-ANN, auto regressive (AR), and multi variate auto regressive (MAR) models, the GA-ANN model has the lowest RMSE (0.01103) and highest r(0.689). The proposed hybrid GA-ANN and GA-MOO-ANN models were found to be more accurate than AR and MAR forecasting models.

Keywords: Artificial neural network; single and multi objective Genetic algorithm; Sediment yield; Mahanadi River.

ADVANCEMENT TOWARDS DIVERSIFICATION OF SEARCH RESULTS

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Abstract:

Summarization is the most effectual ways to combine information to keep away from information overload. There is a huge body of research in making structured representation in support of news event like timeline summarization. Query recommendations are significant tool that assist search engines users in information looking for activities, moreover known as search mission. Query recommendation is a mainstay mission for huge industrial search engines. Most of exertion on query recommendation spotlight on method of query resemblance, where query log data is extensively used. Ranking has plentiful applications in information recovery, and natural language processing. Manifold Ranking with Sink Points that was introduced to tackle diversity in addition to relevance in a combined system. The system makes uses a manifold ranking procedure over data manifold, which assist in searching most pertinent and significant data objects.

Keywords: manifold ranking with sink points, query recommendation.

Early Melanoma Cancer of Skin Diagnosis Using Efficient Netb6

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Abstract:

Melanoma is the skin cancer that causes death out of all the others that are known to exist. The majority of skin cancer-related deaths are caused by melanoma. It develops in melanocytes, which are skin cells that create the pigment melanin, which gives the skin its colour. Prior to the cancer spreading, it is critical to identify and treat any malignant changes. When a patient experiences melanoma symptoms and sees a dermatologist, the dermatologist use a dermoscopy procedure to more clearly identify skin spots. Dermatologists have to put in a lot of work, and the procedure can take a while. The dermatologist-level screening for melanoma is followed by a biopsy if the spread seems serious. Dermoscopy typically takes a long time and is not always accurate. Using the proposed Algorithm, we suggested a thorough learning approach to solving the issue. The primary justification for using proposed Algorithm is that, when compared to other lasting CNNs at ImageNet and other Efficient Net models, the Efficient Net models achieved higher precision and more productivity. Considering this work, we therefore suggest the Deep Learning approach for non-invasive computer vision-assisted clinical diagnosis in medicine.

In order to detect melanoma at an early stage, the suggested system leverages the proposed Algorithm, which has been trained on five-folds over a dataset of thirty thousand skin lesion images.

Keywords: - Skin cancer, Image augmentation , Deep learning, , EfficientNetB6, CNN , melanoma,

A novel approach of Security using Blockchain Technology

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Abstract:

In rapid growth of internet technology in recent years, blockchain technology has very important considerable attention. It is a public ledger of transactions or events recorded and stored in chronologically- and linearly-connected blocks. Later blocks maintain the hash code of previous blocks. It records cryptographic transactions in a public ledger or book that is difficult to alter and compromise because of the distributed consensus. As a result, blockchain is believed to resist fraud activities and hacking. Although blockchain technology resists several types of malicious attacks and reduces many associated risks, it does not eliminate all attacks. Its preventative mechanisms (e.g., distributed consensus, cryptography, and anonymity) may impair its resistance to some types of frauds and maliciousness. In this research article, it has been used blockchain technology in file transfer system. Since blockchain provides only the authentication, There have be focused to provide confidentiality to the data by encrypting it with the encryption algorithm, DES before hashing. Thereby, we can ensure the security of data and can make it trustworthy for the users Data is any type of stored digital information. Security is about the protection of assets. Data security refers to protective digital privacy measures that are applied to prevent unauthorized access to computers, databases and websites. Cryptography is evergreen field in online transaction of information. Cryptography. protects information by providing functionality for the encryption of data and authentication of other users but it is very length process to key generate and encrypt using different encryption technique but in this article we have approaches to block chain technique which is more secure. In the article there also have been discuss about Compression technique so that high payload capacity will be achieve.

Keywords: Blockchain, AES, Hashing, Encryption, File transfer, Cryptography, DES.

Design and Implementation of Machine Learning model for Brain Tumours Classification.

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Abstract:

The Computed Tomography scans are implemented to identify the status of the Brain Tumour. Brain Tumours affect the humans badly, because of the abnormal growth of cells within the brain. Two types of brain tumours have been identified as Benign tumours and Malignant tumours. Benign tumours are less harmful than malignant tumours as malignant are fast developing and harmful while benign are slow growing and less harmful. Artificial Intelligence plays a major role in classification of the Tumour which helps doctors and medical practitioners for identification of level of tumour. We concentrated on Scanning methods and machine learning algorithms. CT scans, X-rays, and Magnetic Resonance Imaging (MRI) are the sources of identification of level of tumour, Abnormal growth of tissues in the brain which affect proper brain functions is considered as a brain tumour. The main goal of medical image processing is to identify accurate and meaningful information using images with the minimum error possible. These tumours can be segmented using various image segmentation techniques. The process of identifying brain tumours through MRI images can be categorized into different sections, pre-processing, image segmentation, feature extraction and image classification. The data will be stored in a data set and these data sets will be analysed using different machine learning algorithms.

Keywords: Machine Learning, Magnetic Resonance Imaging (MRI), Deep learning.

Prediction of Cluster tendency in High Dimensional Student data using ML Technique

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Abstract:

High Dimensional data is data with large number of attributes. The following challenges need to be faced during clustering of high dimensional data. Curse of Dimensionality, Concentration Effects, Local Feature Relevance Problem. The main aim of the proposed work is to develop a model which can predict the clustering tendency of high dimensional student dataset. Usually clustering tendency will loose when number of attributes are increased. Inorder to grouping of student dataset first we need to decide whether the given dataset is having clustering tendency or not. The proposed work aimed at developing a machine learning model to predict clustering tendency of high dimensional data. Further the model has been evaluated with artificial dataset and the results show that the model is able to predict clustering tendency up to 90%.

Keywords: curse of Dimensionality, Concentration Effects, clustering tendency, local feature relevance

A novel approach for Communication related to suicidal detection on Twitter Data

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Abstract:

Suicide is not an individual phenomenon, but it is also affected by factors of social and environmental significance, it is a serious problem for public health around the globe. While effective early diagnosis and treatment may lead to several positive health and behavioral results. Suicide-persists undiagnosed, untreated for many reasons, including denial of sick, cultural and social disgrace. Through the ubiquity of social media, by expressing opinions, thoughts and everyday struggles by mental health on social media, millions of people are sharing their online identity. Unlike conventional retrospective studies carried out via self-reported surveys and questionnaires, the reliable identification of suicidal symptoms from Twitter tweets attained for more than a year period using different online web-blogging sites as reference are analyzed in this paper. To recognize tweets containing suicidal thoughts, three set of features are used to train the dataset by using base and ensemble classifiers; proposed baseline Rotation Forest (RF) algorithm and Maximum probability voting decision method is applied on seven different labeled classes related to suicide communication and class exhibiting suicidal ideation, this enhanced model achieved an F-measure: 0.82 (including suicidal contents for all seven classes) and 0.76 for suicidal ideation class. The results obtained are summarized by focusing on predictive principle component of classes with suicidal communication to offer awareness to the languages that are used to expel suicidal ideation in Twitter.

Keywords: Suicide, Public health, Twitter tweets, Social disgrace, Rotation Forest, Maximum probability, decision method, suicidal communication, principle component.

Ensemble Clustering for Disease Prediction with Microarray Dataset

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Abstract:

The measured expression levels of hundreds of genes are simultaneously stored in microarray data, which aids researchers in understanding biological and prognostic information. Cancer is a fatal condition that progresses over time and is brought on by the unchecked division of bodily cells. Numerous genes regulate cell division and proliferation in cancer. However, different sets of genes are responsible for causing various types of cancer. Therefore, it is crucial to identify which genes in the cancer cells are functioning improperly in order to better understand, diagnose, and treat cancer. The difficulties researchers had in creating computationally efficient models to recognise the new class of diseases and create targets for diagnostic or therapeutic interventions have been solved by breakthroughs in data mining, machine learning, soft computing, and pattern recognition. The genetic algorithm is used in the suggested technique along with prior learning to classify the properties of microarrays. The genetic algorithm used by the proposed algorithm to handle microarray datasets employs rule set mining. The suggested model extracts the attribute features from the dataset using a framed rule set. The microarray dataset was finally identified for processing using the ensemble classifier model. For the compiled microarray dataset of diabetes, breast cancer, and hepatitis, the suggested algorithm performs similarly to traditional classifiers. The proposed algorithm demonstrated enhanced performance in the categorization of microarray datasets, according to a comparison of the proposed algorithm with the traditional classifier.

Keywords: Diseases, ensemble classifier, Microarray datasets, classification, genetic algorithm, .

Performance Review of Malware CICMalMem 2022 Dataset

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Abstract:

The process of detecting threats and malicious activities in-memory analysis is a critical and complex process. Memory analysis will try to analyse the characteristics and behaviour patterns of malicious activities. There are some technical obstacles to in-memory malware detection, such as modern malware detection approaches, rate of detection, and accuracy levels of detection techniques. Because modern malware attempts obfuscation and other ways to avoid detection, an effective framework that focuses on identifying obfuscation and hidden malware is critical. The objective of this research is to review the CICMalMem 2022 dataset. The performance of the dataset is measured by applying machine learning approaches like Naive Bayes, Random Forest, support vector machines, Decision trees, and Linear regression. The metrics such as Accuracy, precision, recall and F1-score are used to measure the performance of the proposed system.

Keywords: CICMalMem, Obfuscated Malware, Memory Analysis, Malware Detection, Machine Learning.

An Optimized cloud-based Convolution Neural Network Model for classification of Covid symptoms.

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Abstract:

The wave of Novel Corona virus revolutionized the lifestyle of humans since its Pandemic traces from 2020. Especially the second wave of covid opened its claws in India, which resulted in loss of hundreds of lives. India have witnessed a huge loss of its youth population in this 2nd wave with unpredicted and sudden downfall in recovery rates as the virus projected its impact mainly on age groups of 30 to 45. In this regard our work contributes a cloud-based Convolution neural network Model for identifying and predicting whether a patient suffering from symptoms similar to covid is identified as covid patient or a one with general disease. This process is assured to overcome other traditional methods as it digs deep into the nature of the virus and also the symptoms by training the machine with better training data sets and algorithms. Our method promises an improved accuracy levels of 0.97 when compared against other approaches.

Keywords: networks, classification

Energy Efficient Routing protocol using Threshold based Segmentation in Mobile Wireless sensor network for Precision Agriculture

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Abstract:

Wireless Sensor network (WSNs) is one of the prominent technologies in Internet of Things (IoT) era, is capable of sensing and communicate the sensed information from the different applications. WSN has the resource limitation i.e., energy and processors, so it is required to develop energy efficient routing protocol. Cluster based routing protocol plays an important role in reducing the energy consumption and prolonging the network lifespan. In cluster-based routing protocol, cluster head selection of the different clusters is key for minimization of energy consumption. In this paper, energy efficient routing protocol using threshold based for precision agriculture is proposed. The threshold-based segmentation approach is used for cluster formation. To minimize the energy consumption, cluster heads is decided based on the k-means algorithm in optimal number of clusters. Furthermore, a novel cluster head selection algorithm was constructed based on the residual energy and optimal location of cluster heads. Simulation results show that the proposed method improves the network performance.

Keyword: Wireless sensor network, Routing protocol, Clustering, Cluster Head, Segmentation.

Implementation of an Efficient framework of Data Governance in Banking System using Federated Learning

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Abstract:

Today, an efficient data governance framework is essential for effective data management for any industry. The framework describes the policies, procedures, data quality, security, privacy of database. In banking, it is very important, data should be secure and follow the regulatory norms as per instructions. The main purpose to set up and implement the data governance ensure the compliance of regulatory, create awareness of market for newcomers, establish the culture of best customer service. For improving the service of banking system, monitor the data risks, data quality, security attack and customer satisfaction by using Federated Learning.

Keywords: Data governance, Federated learning

Smart Office Room Automation using Random Forest Algorithm

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Abstract:

The proposed smart office room application utilizes the Random Forest machine learning algorithm to automate various tasks and provide a seamless user experience. Random Forest is a powerful algorithm capable of analyzing complex datasets, making it ideal for the application's requirements. The proposed application controls various office room systems, such as lighting, temperature, and audiovisual systems, based on user preferences and environmental conditions. The application incorporates Random Forest algorithm to analyze user behavior and environmental data to optimize the office room's conditions automatically. The algorithm also helps predict user preferences and suggest suitable settings to ensure maximum user satisfaction. The smart office room application has been implemented using IoT sensors, Random Forest algorithm, and a mobile application. The IoT sensors collect data from various sources, such as temperature sensors, occupancy sensors, and light sensors, and transmit the data to the Random Forest algorithm. The Random Forest algorithm analyzes the data and provides real-time insights to the application. The application then uses this data to control the various systems within the office room, providing a comfortable and productive environment for the user.

Keywords: Random Forest, analyzer, IOT

Prediction of foetus health during implantation of embryo in In vitro fertilization using Machine Learning Algorithms.

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Abstract:

In Vitro Fertilization, a complex series of procedures are used to handle problems related with infertility and also predict genetic problems during the conception of a child. The resultant of this Assisted Reproduction Technique is the embryo that is developed in the laboratory which is then transferred into the female reproductive system also known as uterus. The problem that compels immediate research attention is that, the further development of the fetus in the womb is seized due to numerous reasons. Also the embryo that was developed in the lab may also be defective and hence is unable to grow further. To avoid such unhealthy implantations, Machine Learning algorithms can be used to predict the embryo growth considering various parameters such as quality of the embryo and other genetical properties.

Keywords: Machine Learning, Fertilization

Study and Development of Bluetooth Controlled Arduino Robocar Using IoT

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Abstract:

we know that the interaction between human and machine interfaces will increase significantly, bridging the gap between machines and humans, making standardized lives much easier. Robocar is an Arduino controlled car that runs on an Arduino. In fact, this is the archetype of open architecture. Cargobot: Bluetooth-controlled Arduino Robocar performs a variety of functions. Provides powerful and versatile robotic vehicles and reduces labor. The development of flexible and intelligent Arduino-controlled vehicles is critical to supporting the physical distribution of goods. Wi-Fi module technology is designed for wireless communication over a certain distance.

Keywords: Arduino Uno, Cargobot, Architecture, Wi-Fi module, Luggage Carriers.

Lung Cancer Prediction using Jaya tunicate swarm algorithm based generative adversarial network

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Abstract:

Cancer is one of the major complex disease which occurs mostly owing to the growth of abnormal cells which has the potential to grow further or spread all over the body. There are more than 100 category of cancer diseases absorbed by the medical sector and treatments are carried out across the world. Lung cancer is one amongst the major disease that cause critical health issues to human beings as per the survey of world health organization(WHO) in the year 2015 and its subsequent years. Prediction of lung cancer at its early stage poses a major challenge in the research and medical field. Effective prediction mechanism using jaya tunicate swarm algorithm with generative adversarial network (GAN). Segmentation of lung lobes has been accomplished by Bayesian fuzzy based clustering which in general provides the boundary regions. Optimal result can be achieved by adopting appropriate training GAN with the proposed jaya tunicate swarm algorithm. Proposed model gives better performance in terms of specificity, accuracy and sensitivity while compared with other traditional models.

Index Terms: Lung cancer, Optimization algorithm, GAN

Graph Neural Network for Automatic Code Summarization

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Abstract:

Graph Neural Networks (GNNs) are a type of deep learning technique that has been shown to be effective in natural language processing tasks, including text summarization. One important application of GNNs in software engineering is automatic code summarization, which aims to generate a brief but informative summary of a given code. In this work, GNNs is used to capture the structure and relationships within code, which can improve the accuracy and efficiency of code summarization. In this approach, a graph representation of the code is constructed, with each node representing a code token and edges representing the relationships between them. The GNN is trained on this graph to extract relevant features and map them to a summary output. Different techniques, such as attention mechanisms or sequence-to-sequence models, can be used to generate the summary. Studies have shown that the use of GNNs for automatic code summarization has produced promising results, outperforming traditional machine learning approaches. By leveraging GNNs, developers can quickly generate concise summaries of code, which can improve the efficiency and accuracy of decision-making in software development. In conclusion, GNNs are a powerful tool for automatic code summarization, leveraging the structure and relationships within code to generate informative and accurate summaries. The use of GNNs in software engineering is expected to grow in the future, as the technology continues to advance.

Keywords: Graph Neural Network, Code Summarization.

Secure MQTT Protocol for Interoperable Exchange of Information using Block chain Network

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Abstract:

The Internet of Things (IoT) has been evolving for more than a decade and it became a part of our daily life. The conventional used device is becoming smarter and more autonomous due to the advancement of the technology. The connected devices are increasing exponentially, and it leads to the more security issues. Blockchain plays a crucial role to address these security related issues. Many people have realized that the use of blockchain is beyond the crypto currency. Some organizations, such as Ethereum and Rootstock, have built decentralized application platforms at the top of block Chain. These decentralized platforms also have the ability to run blocks of code, so there is a chance to create decentralized software programs. In this article, we discussed the various issues like inter operability and security issues in the current IoT infrastructure, and a detail literature survey in implementation of Blockchain using various approaches and their adaptation with IoT. This article is mainly focused for testing the capacity of ethereum blockchain to check the constrained equipment and it is possible to implement the management of the access management aspect whether it is globally or not. This is done through the implementation and evaluation of simplified block chains in Python. Finally we discussed the limitations and future scope of the proposed system.

Keywords: Internet of Things, Blockchain, MQTT, Ethereum

ANALYSIS AND DESIGN STRATEGY TO IMPROVE QUALITY OF SERVICE AND IOT SECURITY

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Wireless sensor networks (WSNs) suffer from some limitations such as energy constraints and the cooperative demands essential to perform multi-hop geographic routing for the Internet of things (IoT) applications. Quality of Service (QoS) depends to a great extent on offering participating nodes an incentive for collaborating. WSNs are the most vulnerable of all the wireless devices due to the massive damage caused by disrupting these networks. A good number of attacks have been launched in wireless networks, which are prevalent in the antagonist world. However, the most difficult of all the attacks is the identification and prevention of the unreliable nodes. The optimization algorithm utilized in our proposed method is Enhanced Bacterial Foraging Optimization (EBFO) Algorithm. EBFOA computes the optimal rate among cluster members and then selects the CH and discover the optimal route. Elliptic Curve Diffie–Hellman (ECDH) provides mutual authentication and resistance to a man-in-the-middle attack. Compared with previous schemes that use public-key cryptosystem with certificates, ECDH scheme is more efficient. The implementation is done in NS2 platform and the results to prove the efficiency of our proposed technique.

Keywords: Wireless sensor networks, Enhanced Bacterial Foraging Optimization Algorithm, Elliptic Curve Diffie–Hellman algorithm, Quality of Service, Internet of things.

INVESTIGATIONS ON SECURITY CONCERNS FOR DATA COMMUNICATION IN WIRELESS SENSOR NETWORKS

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Abstract:

Wireless Sensor Networks have proliferated rapidly with their applications flowing into every possible stream of our daily lives. With the increasing number of applications, the number of notorious activities also increases simultaneously by some antagonists. To fight such anti-social activities, rigid security schemes are a demand for both data integrity and to prevent illegitimate access from the malicious node. Re-programming architectures of WSNs have been effectively under research that exclusively uses hash algorithms for data security and privileged nodes to re-program sensor nodes. The major limitation of this technique is that it does not transmit the data to a reliable and energy-efficient route. To overcome this limitation, we propose a novel Secure Data Accessing to securely access the data from sensor nodes and communicate the data to a Base Station. To achieve a new security framework is developed for network simulator simulations. The performance of the proposing system is contrasted with the existing techniques to evaluate packet obtained rate, packet drop rate, energy consumed, detection rate using simulation tools. The flow of the research work is given in the flowchart below.

Keywords: Wireless Sensor Networks, security schemes, data integrity, malicious nodes

PREDICTION OF STILLBIRTH RATE USING MACHINE LEARNING

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Abstract—

Foetal movement counts have long been used as a degree of foetal well-being but with advancing generation, such counts were supplanted because the number one measure. Despite the brand-new technologies used in popular scientific exercise, the stillbirth charge has not decreased substantially global. Each method of assessing foetal motion has boundaries with special techniques acting higher in distinct conditions. No one technique is universally advanced. This paper targets to introduce the reader to the wide range of assessment methods, both capacity and actual, used to determine foetal motion. Those assessment strategies are assembled into a taxonomy: maternal involvement, clinician involvement, technology-assisted, and Automatic generation. A brief historic and technological evaluation and the predicted measurements of every assessment method are defined. In addition, studies are required to evaluate the suitability of Foetal movement evaluation and the response to it.

Key Words—Stillbirth, foetal Death, foetal movement, Risk prediction, Ultrasound, Deep Learning.

Paddy Leaf Disease Detection using Convolutional Neural Networks

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Abstract:

Paddy leaf disease is a major concern for farmers worldwide, as it can significantly reduce crop yield and quality. Traditional methods of detecting paddy leaf diseases are costly and time-consuming. To address this problem, researchers have started using machine learning and deep learning techniques. Convolutional Neural Networks (CNNs) are particularly useful for image recognition and classification. In this study, the proposed approach uses CNNs to classify paddy leaf diseases. The approach has two stages, namely preprocessing and classification. In the preprocessing stage, image processing techniques are applied to enhance the quality of the input image. In the classification stage, the CNN model is used to classify the input image into one of several categories of paddy leaf diseases. The proposed approach achieves high accuracy and is fast and efficient. It does not require extensive expertise in agriculture and can be easily integrated into existing systems.

Keywords: Paddy leaf disease, Image recognition, classification, convolutional neural network.

Malignant Blood cell Detection using Machine Learning

Madupu Ram Kumar

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Abstract:

Machine learning can be a valuable tool in detecting malignant blood cells and diagnosing blood cancer such as leukemia. With advancements in technology, machine learning algorithms can analyze large amounts of data quickly and accurately to identify patterns and anomalies in the blood cells. One approach to detecting malignant blood cells using machine learning is to train a model on a large dataset of blood cell images, which are labeled as either benign or malignant. The model can then be used to predict the likelihood of malignancy in new blood cell images. Several machine learning techniques can be used for this task, such as deep learning algorithms, decision trees, or support vector machines. The choice of technique depends on the size of the dataset, the complexity of the images, and the desired level of accuracy. Deep learning algorithms, such as convolutional neural networks (CNNs), have shown promising results in detecting malignant blood cells. These algorithms can learn complex features from the blood cell images and identify patterns that may not be visible to the human eye.

Keywords: Machine Learning, neural networks

PREDICTION OF STILLBIRTH RATE USING MACHINE LEARNING

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Abstract—

Foetal movement counts have long been used as a degree of foetal well-being but with advancing generation, such counts were supplanted because the number one measure. Despite the brand-new technologies used in popular scientific exercise, the stillbirth charge has not decreased substantially global. Each method of assessing foetal motion has boundaries with special techniques acting higher in distinct conditions. No one technique is universally advanced. This paper targets to introduce the reader to the wide range of assessment methods, both capacity and actual, used to determine foetal motion. Those assessment strategies are assembled into a taxonomy: maternal involvement, clinician involvement, technology-assisted, and Automatic generation. A brief historic and technological evaluation and the predicted measurements of every assessment method are defined. In addition, studies are required to evaluate the suitability of Foetal movement evaluation and the response to it.

Key Words—Stillbirth, foetal Death, foetal movement, Risk prediction, Ultrasound, Deep Learning.

Predicting the Risk of Heart Attacks with Deep Learning: A Convolutional Neural Network Approach

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Abstract:

The usage of deep learning algorithms to predict heart attacks is a promising field that has gained significant attention. This proposed Deep Learning model is based on Convolutional Neural Networks (CNNs), which is highly effective in image recognition tasks. The input data is pre-processed and transformed into images, allowing the CNN to extract relevant features and patterns from the data. The model architecture consists of multiple layers of convolution, pooling, and fully connected layers, allowing for the extraction of increasingly complex features from the data. The training process involved optimizing the model's weights and biases using the backpropagation algorithm and minimizing the cross-entropy loss function. The model was trained using the Adam optimizer, which is a variant of stochastic gradient descent that uses adaptive learning rates. The training was stopped after 100 epochs, or when the validation loss stopped improving. The precision, recall, and F1-score were also calculated, showing that the model achieved high values for all three metrics. These results indicate that the proposed Deep Learning model is highly effective at predicting the risk of heart attacks.

Keywords: Deep Learning, CNN, Entropy, stochastic gradient, precision, recall, and F1-score