

International Conference on Advanced Research in Engineering Science & Management

ICARESM-2018 Proceeding



26th & 27th April 2018

**Organized By
Melange Publications
Puducherry, India**

**PROCEEDINGS OF
INTERNATIONAL CONFERENCE
ICARESM-2018**

**INTERNATIONAL CONFERENCE ON
ADVANCED RESEARCH IN
ENGINEERING SCIENCE & MANAGEMENT**

26th & 27th April, 2018

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MESSAGE FROM KEYNOTE SPEAKER

I am indeed honoured to be invited as the keynote speaker of the International Conference on Advanced Research in Engineering Science & Management (ICARESM 2018) which is held at the SRM Inn-Hotel, Kattankulathur Campus, Chennai, Tamil Nadu, India, in collaboration with the M lange Publications. The ICARESM 2018 is a multidisciplinary conference that addresses technological advancement and rapid strides recently witnessed in the field of engineering, science and management in a common forum.

I am also pleased to witness that this conference brings together academicians, research scholars, and students from different parts of India and gives them a great opportunity to share their experiences, exchange new ideas, and establish scholarly relations. Last but not least, I would like to congratulate the ICARESM2018 organizing committees for their passion and valuable works in organizing this conference.

I wish the conference a great success!

Dr. Suhaidi Hassan
Professor & Chair
InterNetWorks Research Laboratory
Universiti Utara Malaysia, Malaysia

MESSAGE FROM ORGANIZING COMMITTEE

We feel happy and honored to welcome all the distinguished guests and participants for the International Conference on Advanced Research in Engineering Science & Management, ICARESM - 2018 to be held on 26th & 27th April 2018. This conference is hosted by Mélange Publications, Puducherry.

The aim of the conference is to provide an opportunity to the researchers by bringing academicians and eminent resource persons to a common platform to expose and share their experiences in the engineering field.

Lastly, We should thank all our submitting authors, who have toiled in the production of their work, and have chosen International Conference on Advanced Research in Engineering Science & Management in support with Melange Publications. The success and reputation of ICARESM - 2018 reflects the outstanding work by our reviewers and authors who are dedicated to publication of only the best quality papers.

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Sentiment Analysis of Twitter Data using CNN

¹Balika.J.Chelliah, ²Darshan Lathia, ³Sandeep Yadav, ⁴Meet Trivedi,
⁵Shubham Sagar Soni

¹Professor

^{1,2,3,4,5}Department of Computer Science and Engineering
SRM Institute of Science and Technology
Ramapuram, Chennai, Tamil Nadu

✉: ¹balika888@gmail.com, ²lathiadarshan@gmail.com,
³sandeepyadav11795@gmail.com, ⁴meet9trivedi@gmail.com,
⁵nov4shubham@gmail.com

Paper ID: CS-10

Classification of opinions through tweets and other micro-blogging sites entails a great scope of study and can yield interesting outcomes and insights on social behavior and public opinion towards different products, services, events, geopolitical issues and situations and scenarios that affect mankind at large. Through this paper, we propose a multidimensional sentiment classification method based on micro-blog emotion classification of twitter data through the use of Convolution Neural Networks. In this paper we will be using n-gram features on words with word-sentiment polarity score feature to form a set of tweets with sentiment feature where a large corpus of data would be obtained through unsupervised learning and this would be utilized as training set and testing set using cross-validation. Moreover, we shall be using these features to classify the emotion in five categories such as happiness, anger, sorrow, fear and surprise and differentiate data through geotagged information. The feature set is integrated deeply into convolution neural networks and its performance is compared with other methods such as SVM and Naive Bayes.



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**MODEL (More of Delivery) Framework for
Optimized Software Project Management**

¹Vidhya Sundararajan, ²N. Srinivasan

¹PG Scholar, ²Professor

^{1,2}Department of Computer Science and Engineering

^{1,2}Sathyabhama Institute of Science and Technology

✉: ¹rvidhya2@gmail.com, ²professorsrini@gmail.com

Paper ID: CS-13

In this changing world where change is the only thing that is constant will apply to the work products and services that we deliver to our client. Not only that, in this competitive and demanding world all the customers expect optimal output with less budget, maximized quality and increased time to market. But often project managers have to monitor and manage many projects concurrently. Unfortunately, some projects would be completed successfully but some would end up over time, over budget or being cancelled. Some of the reasons of these project failures are the challenges and complexities in the project management such as lack of user involvement, lack of planning, incomplete requirements, poor resource management, incorrect cost / Effort estimation, No risk alert, Improper dashboards, lack of metrics computation and analysis, Poor timesheet management. There are many project planning and scheduling techniques to manage & help to ensure project success. As the odage says “Timely and informed communication across all disciplines and involving key stakeholders is the key to the successful project delivery”, In our paper we are going to present to you the optimal framework named MODEL (More of Delivery) – One process, One Platform, One Team for managing the large, small, medium sized projects in terms of Schedule or size. This framework will overcome all the challenges described above with much early risks and alerts in terms of cost, effort, schedule, metrics, SLA, KPI. This has been institutionalized in our organization as project management framework & extraordinary results have been reaped.

An Energy Efficient Cluster Overlapping Routing Protocol (CORP) for Wireless Sensor Networks

¹Akhil Bhargava Ramiseti, ²KurakulaCharan Chandra, ³Jothi Kumar C

^{1,2}UG Scholar, ³Assistant Professor

^{1,2,3}Department of Computer Science and Engineering
SRM Institute of Science and Technology

✉: ¹ratedrsuperstarakhil@gmail.com, ²chandra.charan1997@gmail.com
³jothikumar.c@ktr.srmuniv.ac.in

Paper ID: CS-15

Wireless Sensor Network comprises huge sensor nodes that have very limited energy. The main objective of these protocols is to nullify the energy usage of the sensor devices present in the network. Energy consumption has been an important drawback in the Wireless Sensor Networks. Here, new Cluster Head (CH) is chosen by the existing CH instead of the Base Station based on high residual energy and short distance between the CH and a node among all the nodes in a cluster. Re-clustering transpires only when the residual energy of the current CHs lower than that of a threshold value. Here, the protocol renders lower cluster formation time and network failure with better network fault endurance and packet delivery ratio. The system is going to give a new mathematical mode for clustering technique and the clusters will be formed based on density of the nodes present in the network and the nodes having the higher degree will be the cluster head. Overlapping of clusters is done by using Cluster Overlapping Routing Protocol (CORP) at a saturation period due to Re-clustering, which will hereby further increase the lifetime of WSN increasing its efficiency and data transmitting capabilities. The data transmission from the nodes to the Base Station is done by Ant Colony Optimization. And this technique is implemented before and after CORP. Cluster Overlapping Routing Protocol (CORP) is used in performing the routing for wireless sensor networks by overlapping two or more clusters during the end of Re-clustering phase to accommodate more energy in a cluster.



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**An Efficient Technique for Achieving Load Balancing
on SDN Based Data Centres**

**¹Yash Aggarwal, ²Deeban Chakravarthy, ³Vasundhara Jalan,
⁴Ruturaj Kadikr**

^{1,2,3,4}Department of Computer Science and Engineering
SRM Institute of Science & Technology, Kattankulathur Campus

✉: ¹yash20.09.1996@gmail.com, ²vdeeban@gmail.com

³jalanvasundhara.aiesec@gmail.com, ⁴rutu862@gmail.com

Paper ID: CS-20

Due to rapid growth of internet users congestion in the network has increased, to balance the load we can use software-defined network. In SDN, load balancing is used to distribute the load to optimize the working of the network. It makes the network reliable. Number of nodes between the client and server is not the only parameter to get the utmost efficiency of the network, it has different parameters too. We used different parameters to maintain the load efficiently. In the end result we can see that the efficiency of load balancing has been increased.

Implicating Machine Learning Towards Development of Intelligent System for Wart Treatment Therapy Identification

¹Sabita Khatri, ²Deepak Arora, ³Anil Kumar

^{1,2,3}Department of Computer Science and Engineering

Amity School of Engineering & Technology

Amity University, Lucknow, India

✉: ¹sabitaarora@gmail.com

Paper ID: CS-21

Warts are produced on the human body because of contamination caused by Human Papilloma Virus (HPV). The most affected areas of warts are hands and feet specifically, which is bit annoying and hard to recover in later stages. After massive literature survey, it is found that different treatments have been suggested for treating this illness. The basic problem found while treating that the treatment given to one patient may or may not be suitable for another patient, so it is hard to detect specific kind of treatment to be followed for faster recovery and effective customized treatment against this viral disease. The objective of this research work is to identify the ideal treatment method for both particular plantar and normal warts, between immunotherapy and cryotherapy treatment methods. Implications of machine learning techniques are now playing a vital role specifically in clinical diagnosis toward identifying different clinical patterns, disease classification and its predictions. In this research, work authors have implemented classifiers like Bayes Net, SVM, Multi-Layer Perceptron, k-NN, FURIA, Random Forest with the help of WEKA tool. The experimentation has been performed on data sets obtained from UCI Machine Learning Repositories. The experimentation was performed with total 180 patient instances having wart illness present in immunotherapy and cryotherapy datasets respectively. The result outcomes have been discussed and compared with existing methodologies mentioned in the literature. It was observed that the decision tree based classifier random forest is having the best classification accuracy among the chosen set of classifiers. The result shows highest classification accuracy in case random forest, 86% and 93% was noted for immunotherapy and cryotherapy treatment methods datasets. This research work is helpful for physicians in selecting the best treatment method for their patient suffering from wart illness in order to reduce overall treatment cost incurred and also improving the quality of treatment given to the patients.

Investigating Implications of Metric Based Predictive Data Mining Approaches towards Software Fault Predictions

¹Pooja Kapoor, ²Deepak Arora, ³Ashwani Kumar

^{1,2}Department of Computer Science & Engineering

^{1,2}Amity University, Lucknow

³Area of IT & Systems, IIM Lucknow

✉: ¹inkhanna@gmail.com, ²darora@lko.amity.edu

Paper ID: CS-22

Context: Since 1990, various researches have been working in the area of software fault prediction but yet it is difficult to assess the impacts and progressive path of this research field. Objective: In this research work, author's major objective is to investigate the context and dimensions of research studies performed by different researchers in the area of software fault prediction. This work also focuses on presenting a well defined systematic view of their findings and suggestions after a critical examination of all major approaches applied in this key research area. Method: This research work includes 112 total manuscripts published between 2009 and 2014. These studies are gathered from a pool of total 587 manuscripts. The selection criteria for these manuscripts are title, keywords and citation of that paper. Result: The results of this investigation shows that most of the research work related to software fault prediction have been performed on available data set from NASA repository. Most of the research work performed is basically confined to analysis or comparative study of various machine learning techniques based on their classification accuracy. Various research work published doesn't exhibit clearer representation of any specific prediction model. Conclusion: Still after years of development, there is a huge gap between the industry requirement and the research being performed by different researchers in the field of Software fault prediction. A better collaboration between industry academia is still required. This research work represents a critical investigative approach towards finding the exact gaps to be filled and explored more authentic future research areas in this field. All result finding have been critically examined and compared with existing literature work for better understanding and deep insight over identifying the major strengths of chosen research field.

Reducing Electrodes based on Decision Tree Classification for EEG Motor Movement Data

¹Jayesh Deep Dubey, ²Deepak Arora, ³Pooja Khanna

^{1,2,3}Department of Computer Science and Engineering

^{1,2,3}Amity University, Lucknow

✉: ¹jayesh.d.dubey@gmail.com, ²deepakarorainbox@gmail.com,
³pkhanna@lko.amity.edu

Paper ID: CS-23

Analysis of EEG data is one of the most important parts of Brain Computer Interface systems because EEG data consists of a substantial amount of crucial information that can be used for better study and improvements in BCI system. One of the problems with the analysis of EEG is the large amount of data that is produced, some of which might not be useful for the analysis. Therefore identifying the relevant data from the large amount of EEG data is important for better analysis. The objective of this study is to find out the performance of Random Forest classifier on the motor movement EEG data and reducing the number of electrodes that are considered in the EEG recording and analysis so that the amount of data that is produced through EEG recording is reduced and only relevant electrodes are considered in the analysis. The dataset used in the study is Physionet motor movement/imagery data which consists of EEG recordings obtained using 64 electrodes. These 64 electrodes were ranked based on their information gain with respect to the class using InfoGain attribute selection algorithm. The electrodes were then divided into 4 lists. List 1 consists of top 18 ranked electrodes and number of electrodes was increased by 15 [in ranked order] in each subsequent list. List 2, 3 and 4 consists of top 33, 48 and 64 electrodes respectively. The accuracy of random forest classifier for each of the list was compared with the accuracy of the classifier for the List 4 which consists of all the 64 electrodes. The additional electrodes in the List 4 were rejected because the accuracy of the classifier was almost same for List 4 and List3. Through this method we were able to reduce the electrodes from 64 to 48 with an average decrease of only 0.9% in the accuracy of the classifier. This reduction in the electrode can substantially reduce the time and effort required for analysis of EEG data.

Comparative Study of Data Mining Methodologies for Prediction of Parkinson's Disease by Statistical Methods

¹M. S. Roobini, ²M. Lakshmi

¹Research Scholar, ²Dean

¹Department of Computer Science, ²School of Computing

^{1,2}Sathyabama Institute of Science and Technology

✉: ¹roobinims@gmail.com

Paper ID: CS-26

Nowadays Data Mining plays a very vital role in the field of Biomedical which is mainly used for prediction and Diagnosis of diseases. Parkinson disease is a neurodegenerative disorder which becomes one of the major challenges to the doctors and researchers in the current society. The prediction of this Parkinson's disease is very essential for a healthy environment. This study provides knowledge about some Data Mining Techniques to understand the diagnosis and also for the Classification and Prediction of Parkinson's Disease. The source of the disease was not exactly predictable, it is necessary to predict Parkinson disease before the severity level. Many data mining algorithms are applied to the selected dataset for classification and prediction. Before that Pre-processing was done to remove the missing values. The Pre-processed data was undergone for further classification and Prediction of the Parkinson Disease.



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**Interference-Based Topology Control Algorithm for
Noise Removal and Delay-Constrained Mobile
Ad Hoc Networks using Clustering Technology**

¹N.Praveen, ²Yelamanchili Harika

^{1,2}Department of Computer Science and Engineering
SRM Institute of Science and Technology

✉: ²harika250597@gmail.com

Paper ID: CS-27

A wireless sensor network (WSN) detects the changes in the physical or environmental conditions. A wireless sensor network system is a gateway that provides wireless connectivity. The wireless protocol selection depends upon application requirement. We can avoid data hacking by encrypting the original data so that performs secure data transmission. All this transmission is done with signature which is verified for the security of the data transmission. Following the group key broadcasting and rebroadcasting, the still-legal nodes can set new information in their public data, private key, hop counters, public parameters, and neighbor nodes set, which contains the public data and hop counter of other nodes.

A Dynamic Load Balancing Strategy For Data Centre Networks Using Integrating Concave Pricing

¹Adusumilli Bhavana, ²V.Deeban Chakravarthy, ³Maligaveli Poonam Jaha

^{1,2,3}Department of Computer Science and Engineering

SRM Institute of Science and Technology, Kattankulathur Campus

✉: ¹bhavanaadusumilli31@gmail.com, ²vdeeban@gmail.com, ³mpjaha@gmail.com

Paper ID: CS-30

Load balancing is a process that distributes the workload evenly over all the nodes dynamically. It is utilized for accomplishing a superior administration provisioning and asset usage proportion, subsequently enhancing the general execution of the framework. Approaching errands are originating from various area are gotten by the load balancer and afterward dispersed to the data centre, for the best possible load distribution. With the demand in Cloud Computing industry, the cloud service providers attract customers with various demands. The diverse price scheme safeguards the discount pricing strategy from the market of Cloud brokers. The Cloud brokers take the full advantage of Cloud service providers. The cloud service providers help every customer to utilize discount pricing strategy offered through online schedule. In this project, we present a SJF scheduling algorithm and K-means clustering algorithm. Finally, the data owner files are encrypted using RC4 algorithm and migrated into cloud for data recovery or data repository. In data recovery, the files are migrated from the virtual machines to cloud named Cloud Me for data backup.

ERA-EQ: Efficient Routing Algorithm using Effective Queuing in Wireless Sensor Network

¹Nishanth P, ²Akshay S, ³C.Jothikumar

^{1,2}UG Scholar, ³Assistant Professor

^{1,2,3}Department of Computer Science and Engineering

SRM Institute of Science and Technology, Kattankulathur Campus

✉: ¹nishu0202@gmail.com

Paper ID: CS-31

Wireless Sensor Networks (WSNs) comprise of small sensor nodes in a network which collects data by sensing the environment, processes the data and communicates it wirelessly. Power resource is limited to these nodes, so it is important to use energy-efficient routing protocols for communication. The cluster-based routing is an effective method to improve the performance of the system. LEACH is the most well-known hierarchical-based efficient routing approach which has been generally embraced and used to improve the life expectancy. However, latterly, its transmission range is restricted since it adopts direct communication between base station and the sensor node. To determine this issue, we present the state-of-the-art technique, where we propose a multi-hop routing protocol based on shortest path algorithm called ERA-EQ. Taking parameters such as energy required for transmission and the residual energy of nodes at both ends into consideration. Eventually, due to multi-hop routing the base station receives sensed and relayed data as well, from the sensor nodes. We use the proposed priority queue-based model to effectively avoid collisions.



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**Game Development Using Eyeball Movement With
Electroencephalograph**

¹S. Saravanan, ²Priyanka Manish Dasgupta, ³Priyanshi

¹Assistant Professor(Sr.G), ^{2,3}Scholar

^{1,2,3}Department of Computer Science and Engineering

SRM Institute of Science and Technology

✉: ²priyanka.dasgupta1002@gmail.com

Paper ID: CS-40

Human brain is one of the most complex organ of human body. It is responsible for all physical movement whether voluntary or involuntary movement, and for all the emotions. Brain determines the behavior of our body. Human brain contains million of neurons which are responsible to transfer messages, stimuli from the brain to other parts of the body and vice-versa. Their communication is based on the electrical impulses generated by them to send a message or signal. Here a BCI approach is taken into consideration in which we try to analyze the eyeball movement. BCI is an interface where human brain is connected to an external device. For this experiment subjects are asked to move their eyeball left side and right side.. In this paper eyeball movement for left and right side is taken. The data is taken from an EEG device called neurosky. This data are then taken as an input for a game where the character's movement in the game is controlled by the eyeball.

Sentiment Analysis of Tweets Using Hadoop

¹Pranav Seth, ²Apoorv Sharma, ³R.Vidhya

^{1,2,3}Department of Computer Science Engineering

SRM Institute of Science and Technology, Kattankulathur Campus

✉: ¹pranav_sanjeev@srmuniv.edu.in, ²apoorv_sharma@srmuniv.edu.in

³vidhya.r@ktr.srmuniv.ac.in

Paper ID: CS-41

Blogging and networking platforms like Facebook, Reddit, Twitter and LinkedIn are social media channels where users can share their thoughts and opinions. Since online chatter is a vital and exhaustive source of information, these thoughts and opinions hold the key to the success of any endeavour. Tweets which are posted by millions all over the world can be used to analyse consumers' opinions about individual products, services and campaigns. These tweets have proven to be a valuable source of information in the recent years, playing key roles in success of brands, businesses and politicians. We have tackled Sentiment Analysis with a lexicon-based approach for extracting positive, negative, and neutral tweets by using part-of-speech tagging from natural language processing. The approach manifests in the design of a software toolkit that facilitates the sentiment analysis. We collect dataset, i.e. the tweets are fetched from Twitter and text mining techniques like tokenization are executed to use it for building classifier that is able to predict sentiments for each tweet.

Intelligent Lighting System And Garbage Monitoring System

¹U.M.Prakash, ²Priyanshu Madan, ³K.R. GokulAnand, ⁴S.Prabhakaran

^{1,2,3,4}Department of Computer Science and Engineering

SRM Institute of Science and Technology

✉: ¹Prakash.mr@ktr.srmuniv.ac.in

Paper ID: CS-51

This paper aims at designing a system that focuses on two major societal issues in India i.e. improper garbage management and loss of energy from existing street lighting systems. We designed an intelligent lighting system Using embedded systems and machine learning algorithm we predict the environmental lighting conditions and accordingly change the behavior of the street lights. The present street lighting systems use timer or manual interaction to turn on and off the lights. But these methods are not energy efficient. In our model, we used Light Dependent Resistor LDR and algorithm to eliminate those drawbacks. In Garbage monitoring system, alerting the concerned authorities about the level of garbage collected was the most important aspect. In this system, an Ultrasonic sensor along with machine learning algorithm was used to solve the above situation.



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Intelligent Wearable Device for Coal Miners

¹P.Prabhu, ²Umang, ³Jyothi Jayakumar, ⁴ChPhanindra Kumar

¹Assistant Professor, ^{2,3,4}UG Scholar - Embedded System Technology

^{1,2,3,4}Department of Electronics & Communication Engineering
SRM Institute of Science and Technology, Chennai

✉: ¹prabhu.p@ktr.srmuniv.ac.in, ²umg.0515@gmail.com,
³jyothi.jayakumar@rediffmail.com, ⁴chphani2014@gmail.com

Paper ID: EC-03

In this paper we are designing an intelligent wearable device for coal miners. This proposed system not only helps the workers in telling about the poisonous gases that are present but also tracks them if any mishap occurs. The device is provided with methane and carbon monoxide gas sensor. It ensures the supervision based on IoT (Internet of Things). We make use of mainly NRF module and RFID technology. RFID can easily track a person in case of an accident. Use of IoT helps us to make the database as well as helps us in communication to the nearest hospital if help needed.

Secured Communication in Defense Using Li-Fi Technology

¹Aman Kumar, ²Utkarsh Yadav, ³Sayak Roy, ⁴T.Saminathan

^{1,2,3,4}Department of Electronics & Communication Engineering

SRM Institute of Science and Technology, Kattankulathur Campus

✉: ¹amankunjilwar12@gmail.com, ²yadavutkarsh12345@gmail.com

³sayakroy.1996@gmail.com, ⁴saminathan.t@ktr.srmuniv.ac.in

Paper ID: EC-06

Li-Fi stands for Light Fidelity. LI-FI is a developing innovation for remote systems administration in view of obvious light correspondence (VLC). Nowadays, internet is used to fulfill several tasks through wired or wireless medium. The rate of data transmission in the wireless network is decreased due to the increased number of users. WI-FI provides us speed near about 150Mbps as per IEEE 802.11n standards. Therefore, to obtain an improved speed performance, an improved version of LI-FI is proposed in this study. According to the German physicist Harald Hass, LI-FI provides an optimal data rate of 1GBps. It uses visible light for its transmission. Hence, a analysis is performed for the LI-FI/WI-FI. Haas has proved that D-LIGHT which is an integral part of LI-FI, produces data rates faster than average broadband connection. A comparative analysis is performed for LI-FI and WI-FI. Further, a solution to the network jamming problem is introduced.

Stock Market Price Forecasting By Using Deep Learning

¹Madhusudan Reddy, ²Arun Gade, ³Sreekarreddy, ⁴P.Prabhu

^{1,2,3,4}Department of Electronics and Communication Engineering

SRM Institute of Science and Technology, Kattankulathur Campus

✉: ¹1822madhu@gmail.com, ²arungade@live.com, ³srikarreddy958@gmail.com,

⁴prabhu.p@ktr.srm.unib.ac.in

Paper ID: EC-11

Stock market forecasts are an attempt to determine the future value of corporate capital or other financial products consumed in the stock market. If the future stock price forecast succeeds, you can gain great profit. The efficient market presents all the current stock price information, which shows that price fluctuations are not the basis for unnecessary new information. Others disagree that people who have these ideas have many methods and techniques to help them get future information.



**International Conference on Advanced Research In
Engineering Science & Management**

(ICARESM-2018)

**Impact of Demographic Factors on Consumers Trust
Towards Mobile Shopping Apps**

Rhytheema Dulloo

Assistant Professor (S.S), School of Management,
Hindustan Institute of Technology and Science, Chennai, India
✉: dulloo.rhytheema@gmail.com

Paper ID: MS-05

Mobile e-commerce is growing at a prolific rate. As per a latest Forbes study, mobile shopping app usage is on the increase than any other category of apps. But out of one third of global merchants' online traffic that originate from mobile devices, only 11 percent of actual sales takes place on those mobile devices. Trust is critical to success of mobile e-commerce. Aim of this paper is to study impact of demographic factors on consumers trust towards mobile shopping apps. Cross sectional research design is used for the study. Data is collected through structured questionnaire on a sample of 100 respondents from metropolitan cities. The results of the study reveal that trust towards mobile shopping apps in India is significantly affected by demographic factors like age, educational qualification, professional status and monthly family income. Results of factor analysis reveal integrity, benevolence and competence of mobile e-commerce vendors play significant role in making decision of purchase via mobile shopping apps.



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Impact of Security and Privacy Issues in Internet Marketing

¹KoppisetiDurgabhavani, ²A.R Krishnan

¹Research Scholar, ²HOD – Marketing, Faculty of Management

¹Bharathiar University

²SRM Institute of Science and Technology, Kattankulathur Campus

✉: ¹kpdurgamba@gmail.com, ²drarkrishnan@gmail.com

Paper ID: MS-06

The purpose of the study is to analyses the security issues which has an impact on the online shopping buying behavior of the customer. Also highlights the factors which helps in retaining the online customer. Survey was conducted with 175 consumers. The questionnaire was designed with five points Likert scale (Strongly agree - 1 to strongly disagree – 5) and ranking. This article is also to understand the relationship and the significance between security versus online purchasing. For effective analysis statistical tools like factors analysis and correlation test are performed.

Cluster Status Monitoring Using Middleware Technologies

¹Siddharth Chakravorty, ²J.V.Vidhya

¹Scholar, ²Assistant Professor

^{1,2}Department of Computer Science and Engineering

SRM Institute of Science and Technology, Kattankulathur Campus

✉: ¹siddharth.chakravorty025@gmail.com

Paper ID: CS-01

This survey paper discusses some of the middleware technologies used in distributed computing environment and gives a brief on their utilities, architecture, pros and cons. Remote method calling plays a very important role in the field of distributed computing. It is widely used for the purpose of remote server monitoring by using log collection or conduct periodic health checkup on all the servers of the cluster. Middleware technologies have not only made the client side application lightweight but also made it easier to deploy any updates on the web application. Not just for a web application, middleware technologies are used in any client-server architecture or even peer to peer architecture. Database services which act as an interface between application and the actual stored data can also be categorized under middleware services. Middleware technologies gained popularity in the 1980s when the internet growth gained momentum. A cluster is a collection of many servers each attributed to a specific function (in most cases) and these servers communicate with each other using a middleware technology which converts the input data into a common understandable format and sends it over the underlying network infrastructure to the destination node where again a middleware is used to convert that data into another format understandable by the application running at that node. So, using these technologies, we can automate many tasks of the network engineers like running scripts that automatically collect the status information of servers using a networking API (to connect to the server) and pass data from the server to the script using a middleware technology which implement sockets to pass information. Then it is up to the client code to decide on the way to parse and display the information. Using middleware technologies reduces the time to code a program as the architecture and its library of functions is already present and the client/server code just needs to interact with it using technology specific function calls.

Effective Cluster Based Protocol For Data Accumulation And Routing

¹Shalini C, ²Aman Patidar

^{1,2}UG Scholar

^{1,2}Department of Computer Science and Engineering

SRM Institute of Science and Technology, Kattankulathur Campus

✉: ¹shalini_c@srmuniv.edu.in, ²amanpatidar_jagdish@srmuniv.edu.in

Paper ID: CS-28

Wireless Sensor Network comprises of large number of sensors in a network that have very limited energy. The main motive of these protocols is to minimize the energy usage of the sensor devices present in the network. Energy consumption has been an important drawback in the Wireless Sensor Networks. Data Accumulation and Routing (DAR) Algorithm consider parameters like transmission distance and the residual energy of the node to reduce the energy consumption of the node when on transmission to the Base station. The security plays an important role in the ability to deploy and retrieve trustworthy data from a wireless sensor network. However, because of limited resources of a sensor node, the development of a mechanism that ensures security is a real design challenges. While those with rotating cluster heads, such as LEACH, have also advantages in terms of security, the dynamic nature of their communication makes most existing security solutions inadequate for them.

An Energy Aware Cluster-based Routing Protocol for Data Accumulation and Transmission in WSNs

¹A.M.J.Muthukumaran, ²B.Abrar Ali Khan, ³Renuka G

^{1,2,3}Department of Computer Science and Engineering

SRM Institute of Science and Technology, Kattankulathur Campus

✉: ¹muthu.a@ktr.srmuniv.ac.in, ²abrar_barkathalikhan@srmuniv.edu.in

Paper ID: CS-32

Multi-level clustering offers the scalability that is essential to large-scale ad hoc and sensor networks in addition to supporting energy-efficient strategies for gathering data. The optimality of a multi-level network largely depends on two design variables: 1) The number of levels, and 2) The number of node operating at each level. We characterize these variables within a multi-hop, multi-level hierarchical network of variable size that gathers and aggregates data at each level. Our network communication cost model (EEHC-VA) is parameterized by the size of the data forwarded at each level. We minimize the communication cost to obtain the optimal probabilities of distributed and independent selection of level-(n+1) nodes from level-n nodes. Interestingly, we have identified intervals—based on the number of nodes and aggregated data sizes—within which single- or two-level hierarchies are optimal. The results have been numerically verified for a wide range of parameters and validated with network simulations. Finally, the impact of these results on the network architectures is discussed for selected applications and aggregation schemes.

GSM Controlled Energy Meter

¹Veni N, ²Ankita Paul, ³Shiny Bhatnagar, ⁴Ankit Giri

¹Assistant Professor, ^{2,3,4}UG Scholar

^{1,2,3,4}Department of Electronics and Communication Engineering
SRM Institute of Science and Technology, Kattankulathur Campus

✉: ¹veni.n@ktr.srmuniv.ac.in, ²ankita_suba@srmuniv.edu.in,
³shinybhatnagar_ajay@srmuniv.edu.in, ⁴ankit_giri@srmuniv.edu.in

Paper ID: EC-08

India is third largest producer and fourth largest consumer of electricity in the world. It has surplus power generation capacity but lacks adequate infrastructure for supplying electricity to all needy people. Presently the demand of electricity is on the higher end when compared to the supply and with the increase in usage of electronic gadgets we are boosting the demand.

It becomes our duty as responsible citizens of this nation, to consume energy in an ethical way and sustain it for our future generation. Energy meter is a tool using which amount of electricity consumed can be measured. Nowadays the amount of electricity consumed can be inspected in two ways, either by using the mechanical energy meter which involves human inspection or by using digital meter in which the amount of units consumed are directly forwarded to the station or authorities and the bill is being generated. In places where human inspection is needed bills are made on the basis of assumption which tend to be inaccurate, cumbersome and at the same time error prone. Our project deals with the idea and application of prepaid recharging of energy meter as an initiative to conserve energy and with the help of GSM the user would directly receive message regarding balance. To detect various meter tampering issues, a detection mechanism is being implemented and any theft will be directly reported to the station through an inbuilt code. Prepaid energy meter is an automated system which is being built by using Arduino and GSM module, in which power supply connection is disconnected if there is low or zero balance in the system. An app is being developed which will be operated using IOT, it would contain all the information such as meter reading and corresponding bill and would also allow the user to manage the load. By implementing this technology we are putting a step forward to sustain energy.

EEG-Based Study Of Emotional Identification Between A Musician And A Non - Musician

¹Saravanan S, ²Shourish Biswas

¹Assistant Professor, ²UG Scholar

^{1,2}Department of Computer Science and Engineering
SRM Institute of Science and Technology

✉: ¹sar_nag07@yahoo.co.in, ²shourishbiswas@gmail.com

Paper ID: CS-55

Music has always been a way to relieve stress for generations, years of experience show that music triggers emotional changes in the listener. But what changes how, is it different for a musician and a non musician? is it the same? Or does this have no relevance? The following project aims to deal with these questions and come up with an answer to it. Using EEG, the brainwaves can be studied and responses can be noted likewise. Using the Neurosky Mindwave the data was collected and was processed to show meaningful data. The study aims to bridge the knowledge gap between science and applied music that can be used in a multiple of places like treatment of sick patients, a good workspace a calm mind etc. In this study we focused on the approach for recognizing music-induced emotional responses from brain activity. A comparative study was conducted to testify the feasibility of using musical stimulus to improve the performance of individuals both musician and non - musicians as compared with nonmusical techniques. For this case study, data was taken from both musicians and non-musicians to see if any anomaly in results appear. Emotion recognition was proposed through a 2D emotion model. Music could change our emotions, could have an influence on our mood, and finally could affect our health. Music therapy is one of the oldest methods used for treating some diseases. Since music therapy is proved to be the helpful approach, we proposed to combine music therapy process with the real-time EEG-based human emotion recognition algorithm. By this, we could identify the user's current emotional state, and based on such neuro feedback we could adjust the music therapy to the patient's needs. The proposed emotion recognition algorithm could recognize in real-time six emotions such as fear, frustrated, sad, happy, pleasant, and satisfied. In this paper, we proposed a general EEG-enabled music therapy. It allows us to listen to the sound samples and gives the EEG readings corresponding to the particular musical note being played.



An Approach to Implement Cryptographic Protocol Version Downgrade Within a Secure Internal Network: TLS 1.x to SSL

¹Elango Govindaraju, ²Ganeshkumar S

^{1,2}Department of Computer Science and Engineering

SRM Institute of Science and Technology, Kattankulathur Campus

✉: ¹g.elango@gmail.com, ²sganeshkumar78@gmail.com

Paper ID: CS-05

The end to end encryption of connections over the internet have evolved from SSL to TLS 1.3 over the years. Attacks have exposed vulnerabilities on each upgraded version of the cryptographic protocols used to secure connections over the internet. Organisations have to keep updating their web based applications to use the latest cryptographic protocol to ensure users are protected and feel comfortable using their web applications. But, the problem is that, web applications are not always standalone systems, there is usually a maze of systems that are integrated to provide services to the end user. The interactions between these systems happens within the controlled internal private network environment of the organisation. While only the front ending web application is visible to the end user.

It is not often feasible to upgrade all internal systems to use the latest cryptographic protocol for internal interfaces/integration due to prohibitive cost of redevelopment and upgrades to infra and systems. Here we define an algorithm to setup internal & external firewalls to downgrade to a lower version of the cryptographic protocol (SSL) within the internal network for the integration/interfacing connections of internal systems while mandating the latest cryptographic protocol (TLS 1.x) for end user connections to the web application.



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Survey on Surging Technology: Cryptocurrency

¹Swathi Singh, ²Suguna R, ³Divya Satish, ⁴Ranjith Kumar MV

¹Research Scholar, ^{2,3}Professor, ⁴Assistant Professor

^{1,2,3,4}Department of Computer Science and Engineering

^{1,3}SKR Engineering College, Chennai

²Vel Tech Rangarajan Dr.Sagunthala Institute of Science and Technology, Chennai

⁴SRM Institute of Science and Technology, Kattankulathur, Chennai

✉: ¹vk.swathisingh@gmail.com

Paper ID: CS-61

The paper gives an insight on cryptography within digital money used in electronic commerce. The combination of digital currencies with cryptography is named as cryptocurrencies or cryptocurrencies. Though this technique came into existence years ago, it is bound to have a great future due to its flexibility and very less or nil transaction costs. The concept of cryptocurrency is not new in digital world and is already gaining subtle importance in electronic commerce market. This technology can bring down various risks that may have occurred in usage of physical currencies. The transaction of cryptocurrencies are protected with strong cryptographic hash functions that ensure the safe sending and receiving of assets within the transaction chain or blockchain in a Peer-to-Peer network. The paper discusses the merits and demerits of this technology with a wide range of applications that use cryptocurrency.

A Novel Approach on Communication Between Blind, Deaf and Dumb People Using Flex Sensors and Bluetooth

¹Kasi Viswanathan G, ²Sathya Seelan C, ³S.Praveen Kumar

^{1,2}UG Scholars, ³Assistant Professor

^{1,2,3}Department of Electronics and Communication Engineering
SRM Institute of Science and Technology, Chennai, Tamilnadu, India
✉: ¹kasiviswanathan0505@gmail.com, ²mail2sathya411@gmail.com,
³praveenkumar.se@ktr.srmuniv.ac.in

Paper ID: EC-13

The recent development in many technologies have been playing a major role in satisfying people's lives for their daily need. But still few people are suffering due to some problems. They are blind, deaf and dumb people who are unable to communicate properly with others or among themselves. And we know that there are millions of people who are blind, deaf and dumb in this world. And we know that they use sign language to communicate but only few people can be able to understand. So this project introduces a system that can be used to improve the communication among blind, deaf and dumb people. This project introduces an idea that communication can be done using flex sensors and Bluetooth using ARDUINO boards. Flex sensors are fixed with the gloves such that it can be bent along with the movement of fingers and then it is connected to ARDUINO. Then LCD and Audio Playback Recorder module is connected to ARDUINO and then coding is done such that if flex sensor is bent, a specified message is displayed on LCD and can be played in speaker through APR module. Here coding is done using a software ARDUINO IDE. We can also send text message through android smart phone which will be displayed on LCD, this can be done by connecting Bluetooth module to ARDUINO and message can be sent through an app by connecting to Bluetooth. We are also using GPS module to track the present location which will be displayed on LCD in terms of latitude and longitudinal degrees.

Driver Assistance and Passenger Safe System for Accident Prevention Through Sensors Integration

¹Ramesh Krishnamoorthy, ²R. Pranav Srinivas, ³R. Surej,
⁴Sankirtana Kumar Tharamel

^{1,2,3,4}Department of Electronics and Communication Engineering
SRM Institute of Science and Technology, Kattankulathur Campus

✉: ¹rameshk.tn@gmail.com, ²r.prnavsrinivas@gmail.com, ³mail2surej@gmail.com,
⁴sankirtana.kumar@gmail.com

Paper ID: EC-18

World Health Organization's Global Status Report on Road Safety has outlined severity of road accidents. Traffic accidents happen due to various factors such as driver's declined alertness, drunk driving, racing and disobeying traffic regulations. Current systems have partially helped in preventing accidents from happening, but there has been no extensive research on the situation of post-accident course of action. In this article, the design and implementation of an on-board unit for vehicle safety monitoring system with a network of sensors is elaborated. With the data provided by the various sensors, the on-board unit directs a restorative course of action to the vehicle to supersede any human involvement to prevent the accident. A vehicular network is established where vehicles can communicate with each other. The Data collected in our centralized infrastructure can be analyzed to geotag various locations that are prone to a particular type of accident. In case of an accident, the nearby hospital that can provide immediate help is identified to mitigate the trauma undergone by the victims. The article discusses the vehicle safety monitoring system which is built using ATmega2560 microcontroller and Arduino integrated development environment (IDE) tool is used to develop necessary program for monitoring various sensors.

Multi Feature Based Classifier for Spectrum Sensing in Cognitive Radio

¹V.C.S Kaushik, ²S. Kolangiammal, ³B.E Manoj Kumar

^{1,2,3}Department Of Electronics and Communications Engineering
SRM Institute of Science and Technology, Kattankulathur Campus

✉: ¹vcskaushik1@gmail.com, ²kolangiammal.s@ktr.srmuniv.ac.in,
³manojkumarbe.1997@gmail.com

Paper ID: EC-10

Cognitive Radio (CR) is an important technology which can enable the implementation of Dynamic Spectrum Access, which is a paradigm shift from the static spectrum access model. It is an intelligent wireless communication system which can sense the environment and can take decisions to effectively use the available radio resource without creating any interference to the Licensed Primary Users. Hence sensing of the spectrum plays a very important role in the effective implementation of this technology. We propose a new spectrum sensing algorithm in this paper which is based on machine learning and uses a Multi Feature based Classifier (MFC) model for classification of the spectrum.

Efficient Attendance Management System Based on Facial Recognition

¹SetuChoudhary, ²Kusuma Pranay, ³AayushKakaji, ⁴P.Prabhu

^{1,2,3,4}Department of Electronics and Communication Engineering
SRM Institute of Science and Technology, Kattankulathur Campus

✉: ²pranaykusuma1996@gmail.com

Paper ID: EC-12

A Face recognition system is an application of computer vision which is capable of performing two major tasks identifying and verifying a person from given data base. The objective of this paper is to design an effective attendance system which is based on facial recognition and intend to reduce the manual efforts of the teacher. In the conventional attendance system there are several issue like fake attendance, time consumption, manipulation of attendance. The algorithm used is named fisher face algorithm, which is already in use but it gives an accuracy of 5-6% and the amount of faces it can detect is comparatively less, Here we intend to use fisher face algorithm with the help of support vector machine(SVM). The system is trained with database faces. The data gets updated in the portal which is accessed by the faculty and the students. This paper is a speculative model of attendance management system using facial recognition.

Performance Enhancement and IoT Based Controlling For Smart Home

¹S. KayaIvizhi, ²K. Pradeep Kumar, ³S. Sai Akhil, ⁴T. Vinay

¹Assistant Professor, ^{2,3,4}UG student

^{1,2,3,4}Department of Electronics and Communication Engineering
SRM Institute of Science and Technology, Kattankulathur Campus

✉: ¹kayalvizhi.s@ktr.srmuniv.ac.in

Paper ID: EC-07

Automation is becoming vastly used due to its numerous advantages. Building automation refers to control any type of building appliances by using mobile network or the local area network. It is a process of operating or controlling electronic appliances by reducing the basic human requirments.

IOT Based Smart Garbage Alert System And Public Awareness Intimation Using Wireless Sensor Networks

¹S.KayaIvizhi, ²S. Mahendra Reddy, ³M.Mahidhar, ⁴G. Raja Reddy

¹Assistant Professor, ^{2,3,4}UG student

^{1,2,3,4}Department of Electronics and Communication Engineering
SRM Institute of Science and Technology, Kattankulathur Campus

✉: ¹kayalvizhi.s@ktr.srmuniv.ac.in

Paper ID: EC-09

Squander administration is one of the essential issue that the world faces regardless of the case of created or creating nation. The key issue in the waste administration is that the trash receptacle at open spots gets flooded well ahead Of time previously the beginning Of the following cleaning process. It thus prompts different perils, for example, terrible smell and grotesqueness to that place which might be the main driver for spread of different sicknesses. To maintain a strategic distance from all such dangerous situation and keep up open tidiness also, wellbeing this work is mounted on a brilliant waste framework. The primary subject Of the work is to build up a brilliant wise waste ready framework for a legitimate junk administration.

Analysing Efficiency Of Locality Sensitive Hashing (LSH) Over Different Encryption Standards

¹V.V.Ramalingam, ²Richa Jindal, ³Sparsh Pandey

¹Assistant Professor (SG), ^{2,3}UG Scholar

^{1,2,3}Department of Computer Science and Engineering

SRM Institute of Science and Technology, Kattankulathur Campus

✉: ¹ramalingam.v@ktr.srmuniv.ac.in, ²richajindal99@gmail.com,

³sparsh_pandey@srmuniv.edu.in

Paper ID: CS-52

Lately, because of the engaging highlights of cloud processing, extensive measure of information have been put away in the cloud. In spite of the fact that cloud based administrations offer numerous favorable circumstances, protection and security of the delicate information is a major concern. To alleviate the worries, it is alluring to outsource sensitive information in encrypted form. Encryption secures the information against illicit access, however it muddles some essential, yet vital usefulness, for example, the search on the information.

To accomplish search over encrypted information without bargaining the protection, extensive measure of accessible encryption plans have been proposed in the writing. Be that as it may, every one of them handle exact query matching however not similarity search; an essential prerequisite for true applications. Albeit some modern secure multi-party calculation based cryptographic methods are accessible for closeness tests, they are computationally tedious and don't scale for extensive information sources. In this paper, we analyze LSH approach over different popular encryption standards like Advanced Encryption Standard AES, Data encryption Standard DES, and Rivest-Shamir-Adleman RSA algorithm to see the efficiency on encrypted data and determine which algorithm is the best to use in conjunction with it. Time and other metrics will be measured to ensure comprehensive results.

Using Mapreduce Techniques To Predict And Examine Crime Pattern

¹Anushka Kumar, ²Vishnudas S, ³R. Kayalvizhi

^{1,2,3}Department of Computer Science and Engineering

SRM Institute of Science and Technology, Kattankulathur Campus

✉: ¹anushka.kumar96@gmail.com, ²vishnueloordas@gmail.com,
³kavikkayal@gmail.com

Paper ID: CS-59

The evolution of computer structures and networks has created an alternative set for crook acts, extensively known as the crime. Crime incidents occurrences of specific criminal offenses lead to a heavy risk to the world economy, protection, and well-being of society. This paper provides complete information of crime incidents and their corresponding offenses combining a sequence of strategies in line with the appropriate literature. Initially, this paper evaluates and identifies the alternatives to crime incidents, their individual components and proposes a combinatorial incident-description schema. The schema offers the chance to systematically blend various elements or crime traits. Moreover, a complete listing of crime-associated offenses is provided in this paper. So, to increase the performance of crime detection, it is essential to choose the data mining strategies appropriately. Hadoop enables to solve the crime as a radical expertise of the repetition and underlying criminal activities. Using Hadoop, we can locate the specific city and analyze the crime patterns, based on that give preventive measures to people.

Analysis of Investor's Risk Perception and Investment Decision Towards Mutual Fund Investment in Chennai

¹T. Velmurugan, ²R. Arivazhagan, ³G. Kumar

¹Research Scholar, ^{2,3}Assistant Professors, Faculty of Management

¹Research & Development Centre, Bharathiar University, Coimbatore

^{2,3}SRM Institute of Science and Technology, Kattankulathur Campus

✉: ¹velmuruganmba79@gmail.com

Paper ID: MS-07

Mutual fund investment is becoming one of the preferred long term investment method among the people those who seeking long term savings with reasonable returns. People are thinking that, mutual fund investments too having some risks and challenges as other mode of investments. In this scenario, the trade-off between risk and returns is the most absorbing and challenging job for most investors. Hence this study attempts to analyze the investor risk perception towards mutual fund investment and their expectation in mutual fund investment. It also attempts to measure the factor that taken to consider while investing in mutual fund as well as awareness of the investor in different types of risk. The sample study has been conducted in Chennai city during October 2016 to December 2016. A sample of 105 individual mutual fund investors has been chosen as their convenience and surveyed through structured questionnaire. Collected data were analyzed by using suitable statistical tools. The results of this study highlighted that the age between 30 to 40 year people showing more interest; comparing female, male participation is more; the level of income 3lakhs to 4lakhs showing more interest in mutual fund investment. This study would add value to new investors as well mutual fund manager and distributors.

Wake-up Stroke Alert System and Prognosis Through IOT

¹M.Vijayalakshmi, ²S.Ullash Raj, ³SarthakKudawla

^{1,2,3}Department of Computer Science and Engineering

SRM Institute of Science and Technology, Kattankulathur Campus

✉: ¹Vijayalakshmi.ma@ktr.srmuniv.ac.in, ²ullash_raj@srmuni.edu.in,
³sarthak_kudawla@srmuniv.edu.in

Paper ID: CS-50

The Stroke - one of the health hazards faced globally due to depriving physical activity among the human beings due to the rapid technological advancements and also the genetic factor too. So the stroke prognosis framework which is based on the health monitoring of the individuals is used to detect the stroke activity. It proposes a Stroke Prognosis System (S.P.S), a innovative computer program to resolve the ambiguity of experiencing a stroke by determining the stroke risk factor. This software module is composed of four layers which are, the data observation, data assembler, interpretation of the collected data and the implementation of the algorithm. The Stroke Prognosis System sights, stores and interprets the vitals of the individual by using easily detachable sensors and the suitable application module in order to connect the patient and the physician . When the vitals of an individual reaches a critical limit , the stroke prognosis system warns the related authorities; the patient , the physician , and the emergency staffs . The Patient's unique profile is created and updated to the cloud storage to keep the patient records classified . The role of Internet Of Things (IOT) enables the monitoring of intensive care individuals easily , and eliminates the need of staffs , the remote monitoring feature comes handy with the stroke prognosis system as well . Thus the stroke prognosis system (S.P.S) drastically develops the possibilities of detecting the stroke at an earlier stage and thereby it becomes the remedy for detecting the various stroke diseases.

Fire Estimation In Aerial Images

¹Samatham Ganesh PavanManikanta Kumar, ²M. Neelaveni Ammal

³ViswanadhulaSai Thrinath, ⁴Gorlamandala Sai Rohith

²Assistant Professor(Sr.G), ^{1,3,4}UG Scholar

^{1,2,3,4}Department of Electronics and Communication Engineering
SRM Institute of Science and Technology, Kattankulathur Campus

✉: ²mi_veni@yahoo.co.in

Paper ID: EC-22

The control of forest fires has formed into an autonomous and complex science. The employment of present-day strategies - correspondences, quick air and ground transport, and new sorts of firefighting device - are decreasing the quantities of hectares of timberlands consumed every year. Anticipating fire conduct is a workmanship as much as it is a science. Indeed, even prepared firefighters experience difficulty perusing fire conduct and anticipating flame's potential risk to property and lives. When they cannot, the outcome might just prompt catastrophe. The proposed system uses Computer Vision, Machine Learning and Data Analytics to an effective usage. The video feed taken from the camera will be used. Fire in the feed will be quantized using feature extraction technique and segmentation is applied with machine learning algorithms, and by keeping the wind data in mind the fire coverage and likelihood of spreading can be found using data analytics.



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