





## International Conference on Science Engineering and Technology

Nagole, Hyderabad

27<sup>th</sup> - 28<sup>th</sup> September, 2019

Organized by:

Pallavi Engineering College (Formerly Nagole Institute of Technology & Science)

&

### **Institute For Engineering Research & Publication**

Unit of Technoarete Research and Development Association





#### **Rudra Bhanu Satpathy**

Chief Executive Officer Institute For Engineering Research and Publication.

On behalf of *Institute For Engineering Research and Publications* (*IFERP*) and in association with *Pallavi Engineering College*, Nagole, Hyderabad. I am delighted to welcome all the delegates and participants around the globe to *Pallavi Engineering College*, *Nagole*, *Hyderabad* for the "International Conference on Science Engineering and Technology (*ICSET -2019*)" Which will take place from 27<sup>th</sup> - 28<sup>th</sup> September'19

Transforming the importance of Engineering, the theme of this conference is *"International Conference on Science Engineering and Technology (ICSET -19)"* 

It will be a great pleasure to join with Engineers, Research Scholars, academicians and students all around the globe. You are invited to be stimulated and enriched by the latest in engineering research and development while delving into presentations surrounding transformative advances provided by a variety of disciplines.

I congratulate the reviewing committee, coordinator (**IFERP & Pallavi Engineering College**) and all the people involved for their efforts in organizing the event and successfully conducting the International Conference and wish all the delegates and participants a very pleasant stay at *Nagole, Hyderabad* 

Sincerely,

**Rudra Bhanu Satpathy** 

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Girija Towers, Arumbakkam, Chennai - 600106

#### Preface

The "International Conference on Science Engineering and Technology (ICSET-19)" is being organized by Pallavi Engineering College, Nagole, Hyderabad in association with IFERP-Institute for Engineering Research and Publications on the  $27^{th} - 28^{th}$  September, 2019.

*Pallavi Engineering College* has a sprawling student –friendly campus with modern infrastructure and facilities which complements the sanctity and serenity of the major city of Nagole in Hyderabad.

The "International Conference on Science Engineering and Technology" was a notable event which brings Academia, Researchers, Engineers, Industry experts and Students together.

The purpose of this conference is to discuss applications and development in area of "Science Engineering and Technology" which were given International values by *Institute for Engineering Research and Publication (IFERP)*.

The International Conference attracted over 125 submissions. Through rigorous peer reviews 74 high quality papers were recommended by the Committee. The Conference aptly focuses on the tools and techniques for the developments on current technology.

We are indebted to the efforts of all the reviewers who undoubtedly have raised the quality of the proceedings. We are earnestly thankful to all the authors who have contributed their research works to the conference. We thank our Management for their wholehearted support and encouragement. We thank our Principal for his continuous guidance. We are also thankful for the cooperative advice from our advisory Chairs and Co-Chairs. We thank all the members of our local organizing Committee, National and International Advisory Committees.

**ICSET-19** 

#### **Message from Chairman**



**Sri. Potla Nageswara Rao** Chairman PALLAVI ENGINEERING COLLEGE

We would like to express our deepest appreciation to the authors whose technical contributions are presented in these proceedings. It is because of their excellent contributions and hard work that we have been able to prepare these proceedings. The significance of the research presented in this conference represents a step further towards Innovations in all streams.

Sri. Potla Nageswara Rao

#### Message from Vice-Chairman



Sri.Malka Komaraiah Vice-Chairman PALLAVI ENGINEERING COLLEGE

Welcome to the Proceedings of the International Conference on Science Engineering and Technology (ICSET) in Hyderabad. Ensuring a high quality conference requires accepting papers that pass a rigorous review process. This year, a large number of papers were submitted to the conference. Each paper was subject to review by 2–5 reviewers of the program committee members. The conference lasts for 2 days and provides abundant activities including presentation on the first day, selection of the best research paper award and a fabulous social program during the 2 days.

Sri. Malka Komaraiah

#### **Message from Principal**



Dr.N.Satyanarayana Principal PALLAVI ENGINEERING COLLEGE

We would like to thank all our keynote speakers who made all the efforts to synthesize the materials and their wide and rich experiences to deliver distinguished talks. We would also like to thank all our tutorial presenters for their great efforts in delivering interactive and excellent tutorials that address the learning needs of all levels, undergraduates, graduates, and professionals. We are very grateful to our track chairs for their great efforts in reviewing the papers in their tracks and organizing to assign other volunteer reviewers, the conference technical program committee members, and the designated reviewers. Finally, we hope that the participants enjoy the outstanding conference program.

Dr.N.Satyanarayana

#### **Message from Vice-Principal**



**Dr. K. Nagajyothi** Vice-Principal PALLAVI ENGINEERING COLLEGE

We are happy to say that Pallavi Engineering College is conducting 1<sup>st</sup> International Conference on Science, Engineering and Technology (ICSET-2019) on 27<sup>th</sup> and 28<sup>th</sup> September 2019. This conference is a venue for researchers to deliberate and exchange new innovations in research areas of Engineering, Science and Management and its allied fields. The topics of the conference are very important and will help researchers to enhance their Knowledge. Congratulations to the Delegates for presenting their papers in the conference and publishing the best papers in the UGC refereed, Google Scholar and Scopus Indexed Journals. Best wishes to the Editorial Team for their determined efforts in bringing out the Conference Proceedings and Thanks to IFERP team for their invariable support.

Dr. K. Nagajyothi

#### **Message from Coordinator**



S. Swapna Coordinator, Assistant Professor-CSE, PALLAVI ENGINEERING COLLEGE

We are glad to invite all to International Conference on Science Engineering and Technology (ICSET-2K19) which provides a valuable forum for Practitioners and Experts to discuss and share knowledge and results in Recent Challenges in Engineering Technology. We consider this International Conference on Science Engineering and Technology (ICSET-2K19) to be an important platform where experts can share on how to tackle some of the world's most pressing challenges, and look forward to exploring further avenues of technologies .We thank the Pallavi Engineering College Management, Chief Patrons and Patrons who are always supportive for the Department to reach the pinnacle of perfection through various such activities.

S. Swapna

# **ICSET-19**

## International Conference on Science Engineering and Technology

# **Keynote Speakers**



#### Dr. VIJAY THARAD

Director Operations at Corporate Professional Academy for Technical Training & Career Development.

#### MESSAGE

I am extremely happy to note that IFERP- Institute for Engineering Research and Publications and Pallavi Engineering College, Nagole, Hyderabad is organizing the International Conference on Science Engineering and Technology (ICSET -2019) during 27<sup>th</sup>- 28<sup>th</sup> September 2019. I am also happy to know that the institute is bringing out a Souvenir on this occasion.

I hope this conference will provide an opportunity to all the participants to interact with each other & discuss on the issues related to the current research and latest advancement and Recent Challenges in Science, Engineering and Technology. The deliberation at this conference will, i am sure, enable Academicians, Practitioners, Consultants, Research Scholars, Industry leaders and other Experts to exchange ideas and suggest measures for meeting the evolving challenges and the exchanges will hopefully benefit the community.

I wish the conference a great success

(Dr. Vijay Tharad)



**Dr.C.V.GOPINATH** Principal BITS Visakhapatnam, India

#### **MESSAGE**

Glad to know that International Conference on Science Engineering and Technology (ICSET) 27<sup>th</sup> -28<sup>th</sup> September 2019 in association with IFERP has got overwhelming response from quite a good number of researchers worldwide.

The common goal of promoting technology for protection, conservation, restoration and sustainability can be greatly achieved by this type of conferences.

Happy be associated with IFERP and look forward to be associated in future also.

I congratulate all the members of the organizing committee, Pallavi Engineering College, Nagole for their excellent efforts in making the conference an impressive achievement.

I wish the deliberations of this International conference a grand success.

(Dr.C.V.Gopinath)

## International Conference on Science Engineering and Technology

Nagole, Hyderabad, 27<sup>th</sup> - 28<sup>th</sup> September, 2019

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## International Conference on Science Engineering and Technology

Nagole, Hyderabad

27<sup>th</sup> & 28<sup>th</sup> September, 2019

# ABSTRACTS

ICSET-19

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## Regulating of Loads in a Islanded Power Distribution System by Distribution Generators Using Mat Lab Programming

**A.Vani Priyanka**, M.Tech Student, Department of Electrical and Electronics Engineering, JNTUA College of Engineering, Pulivendula, Andhra Pradesh, India

**K.Vimala Kumar,** Assistant Professor, Department of Electrical and Electronics Engineering, JNTUA College of Engineering, Pulivendula, Andhra Pradesh, India.

T.Anil Kumar, Professor&HoD, Department of Electrical and Electronics Engineering, Anurag Group of Institutions, Hyderabad.

#### Abstract:--

This paper presents islanding of distribution system operating mode significant to use in distributed generators. Initial load priority is included within system segregation, and load cluster centers with respect to power balance and connecting to the network, are assigned to nodes with distributed sources. Second, quick energy flow calculation is conducted on the mainly shaped island to fix the interruption of loads from a energy quality point of view for operational feasibility of partitions. The impact of load changes in production is then examined on the sustainable operation of subsystems with different optimization targets. Moreover, the impact of network congestion and load control on the results of power losses are examined. This provides a mechanism for short-term energy regulation in the presence of a serious fault or disruption for post-segmentation energy distribution methods. Numerical results from the distribution System Pacific Gas&Electricity-69 bus show the proficiency of the developed model in load clusters for radial structure. This method also useful in transmission switching and Micro Grid functioning.

#### Keywords:-

Islanding, Optimal Strategy, PacificGas&Electricity-69 bus system, Congestion.

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## Qunatum-Dot Cellular Automata Technology based Optimized Multiplexers Design

Adepu.Hrariprasad, Dept. of Electronics & Communication Engg, Kamala Institute of Tech and Science, Huzurabad, India

#### Abstract:--

Multiplexer plays a dynamic role in the optimization of a digital circuit (FPGA, ALU and memory circuits etc) implementations. Due to continuous Scaling of CMOS device, has already reached to the minimum transistor size, hence , it is not possible to reduce the transistor dimensions further without scaling issues and functionality affect. QCA is one of the emerging and promising new nanotechnologies and is suitable to replace conventional CMOS technology, and potentially able to solve the physical limitations and challenges of CMOS scaling issues. In this paper, the proposed 2:1 multiplexer structure makes the use of inherent characteristics of QCA cells to act as an efficient multiplexer. The proposed QCA based multiplexer architecture improves 50% of design area, 20% of cell count and 75% of the cost when compared with the earlier designed best multiplexer architectures. The design and simulation of circuits have been performed using software tool QCA Designer Version 2.0.3.

#### Keywords:

Scaling issues, Nanotechnologies, Quantum-dot Cellular Automata (QCA), Majority gate, QCA clock

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## Automatic Detection of Exudates Using SVM and DCNN Techniques

**A.Swetha Kumari,** M.Tech Student, Dept of Electronics and Communication Engineering, JNTUA College of Engineering Pulivendula, Andhra Pradesh, INDIA.

**Dr.R.Ramana Reddy,** Professor, Dept of Electronics and Communication Engineering, JNTUA College of Engineering Pulivendula, Andhra Pradesh, INDIA.

#### Abstract:--

Diabetic Retinopathy (DR) is the primary cause of vision loss and the early symptoms of this disease are exudates. Prior detection and treatment may prevent the vision loss. Automatic detection of exudate in retinal images is a challenging task. In this paper the two techniques Support Vector Machine (SVM) and Deep Convolution Neutral Network (DCNN) are used for retinal exudate detection and extraction. The SVM technique is applied to enhance and calculate the features of retinal image to recognize exudates. The DCNN technique extracts the blood vessels from the retina images. From these blood vessels the retina image is detected as exudate or non-exudate. Both the techniques are compared for area under the curve, specificity, accuracy and sensitivity. From the simulation results it is evident that DCNN technique is superior compared to SVM technique. The SVM and DCNN techniques are implemented using MATLAB software.

#### Keywords:--

SVM, DCNN, Exudate, Retinal Image, Enhancement

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## Fabrication of Mandibular Fracture Plate by Using 3d Printing and Casting Method

B.Kalyan, PG Scholar, JNTU, Pulivendula

Rameshwar Reddy, Assistant Professor, JNTU, Pulivendula

#### Abstract:--

Skeletal injury is a serious bone fracture due to accidents and fragility of the bones at a certain age. In order to heal the fracture, some locking plates are used to hold the bones to set in original position. The fracture is heeled by using temporary, permanent, and biodegradable fracture plates.

In general mandible locking plates are made up of titanium which is of high cost. I need to change the material and manufacturing process. In this I am using zamak 2 metal.

Fabrication of mandible locking plates by using 3D printing and casting process. The design and analysis of locking plates are performed by CATIA and ANSYS software. The product is developed in 3D-CAD data is sent to an additive manufacturing machine (fused filament fabricated) to generate master pattern using PLA and the mould were fabricated using Plaster of Paris. A metal ZAMAK 2 was melted and poured directly into the moulds and left it until completely harden. Analysis of the plates is performed in ANSYS software.

#### Index Terms:

zamak,casting,3D-Printing

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Organized by: Pallavi Engineering College (Formerly Nagole Institute Of Technology & Science) and

## Power Quality Enhancement in Two Stage Solar Power Conversion System Using Artificial Neural Networks

**B.Saritha,** M.Tech Student, Department Of Electrical And Electronics Engineering, JNTUA College Of Engineering, Pulivendula, Andhra Pradesh, India

**K. Vimala Kumar,** Assistant Professor, Department Of Electrical And Electronics Engineering, JNTUA College Of Engineering Pulivendula, Andhra Pradesh, India

**T. Anil Kumar,** Head of Department, Department of Electrical and Electronics Engineering, Anurag Institutions, Hyderabad, Telangana, India

#### Abstract:--

power quality plays a key role in recent power system networks. Now a day's grid associated solar energy plants are increasing in capacity and size. Due to incorporation of nonlinear electrical loads to the utility network, the foremost part of solar power conversion system is not only to generate determined power and also enhance the quality of power. This paper presents an Artificial Neural Networks for solar energy plants to increase the quality of real power by reducing total harmonic reduction. The ANN control network linked to the solar grid concluded a DC-DC boost chopper and three-phase PWM regulated inverter. This strategy controls the functional importance of SPCS, among real power, reactive power compensation and filters the harmonics thus to give assurance for smooth dc voltage, sinusoidal current and also system stability. besides, the entire network upper limits of real and reactive power has been decided in the PQ plane on the source of PV array's accessible power, ratings of converters and DC bus voltage. The entire topology is simulated on MATLAB/Simulink program and the simulation results confirm that SPCS can operate at its full load capacity with improved power quality by dynamic filtering and reactive power compensation.

#### Index Terms

Artificial Neural Networks (ANN), Solar Power Conversion System (SPCS), photovoltaic (PV).

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## Multi-objective optimal operation considering transient stability and FACTS devices

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#### Abstract:--

This chapter proposes a multi-objective adaptive unified differential evolution (MOAuDE) algorithm for solving optimal power flow (OPF) problem with transient stability constraints. The OPF problem is formulated as a non-linear constrained multi-objective optimization problem where different objectives and various constraints have been considered into the formulation in which the system transient stability is improved by minimizing several system behavior measure criterions considering different FACTS devices. Fast elitist non-dominated sorting and crowding distance have been used to find and manage the Pareto optimal front. Finally, a fuzzy based mechanism has been used to select a compromise solution from the Pareto set. The proposed MOAuDE algorithm has been tested on IEEE 30-bus and IEEE 39-bus systems with different objectives without and with transient stability constraints under the selected network contingency. To eliminate the line over loads present in multi-objective OPF solutions, an optimal line flow control with STATCOM and SSSC devices are also presented for further improvement in system security/line overloads. Simulation results are also compared with fast nondominated sorting genetic algorithm (NSGA-II) method and multi-objective harmony search (MOHS) method reported in the literature. It is clear from the comparison that the proposed method is able to generate true and well distributed Pareto optimal solutions for OPF problem without and with FACTS devices under the selected network contingency conditions.

#### Index Terms

Adaptive unified Differential evolution, optimal power flow, parallel computation, power system operation, power system transient stability

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### Fuzzy logic control for Bidirectional Battery converter for Solar PV applications

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V. Ganesh, Professor, Department of EEE, JNTUACEP

#### Abstract:--

This paper focuses on using battery storage systems for overcoming the problems in standalone solar photo voltaic systems. A dual active bridge based on the isolated DC-DC converter is used for the high power transfer efficiency, fast dynamic control, bidirectional power flow and for smaller size. A phase shift control modulation is used in DAB. Circulating current in the dual active bridge converter becomes a major problem. In this paper modified phase shift control algorithm is used to reduce the circulating power and to improve the battery operation for long time. Fuzzy logic control is used in the three phase converter side for the reduction in harmonics and to improve the switching performance. The performance of solar photo voltaic system with projected battery converter is verified by the PSCAD based simulation in both the charging and discharging mode.

#### Keywords:--

: Dual active bridge, phase shift modulation, fuzzy control and solar PV.

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### Modelling of SPV System to Charge a Battery by Operating At Maximum Point Using Artificial Neural Networks

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#### Abstract:--

In recent years, solar energy is an unavoidable resource, but due to intermittent nature, it gives a challenging task to establish an energy interconnect. So, Solar Photovoltaic (SPV) system in collaboration with batteries can have efficient and constant power output. This paper presents the modelling of SPV system to charge battery by operating at maximum point using Artificial neural networks. A PV array of 200W is designed and is simulated using varying insolation and constant temperature of 25°C. From the simulation of Fuzzy logic and Artificial neural networking based MPPT techniques, it is evident that the results obtained by ANN MPPT technique are better than fuzzy logic MPPT method. ANN based system reduces operational time and increases the efficiency of SPV module, and also gives appropriate current and voltages for efficient charging of battery, thus increasing the battery life span and reducing the ripples in output power.

#### Keywords:

Solar Photovoltaic (SPV) system, Battery charging circuit, Artificial Neural Network (ANN), Discrete-PID, MPPT.

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### **Topology Optimization of an Attachment Bracket of Aircraft Wing by Using Additive Manufacturing**

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#### Abstract:--

Optimization is a method by which optimizes the topology without compromising the strength but optimize the weight of the part. Accusing the same strength with less weight doesn't matter the choice of material (Aluminium, Titanium, Plastic etc) currently being used. As long as reducing the weight of the part of a given material without compromising the strength of the part can achieve Optimization.

A bracket is a small fitting or support used to attach system partly as duct, bundle, cable, and blanket keeping them in the intended positions. The brackets are to be designed such that they will not damage system, structure and insulation brackets during the life span of aircraft. Usually, these brackets are produced by the injection molding and other conventional processes. These methods of production can lead to decrease the payload of aircraft and also increases the fuel consumption.

This work focuses on low-cost consumption, using available technologies. Hence optimizing the few topologies. Proving the strength of the original bracket and optimized bracket will have the same strength. Hence it proves that whatever the material the optimized bracket will have the equal strength to the original bracket.

#### Keywords:

Optimization, weight, strength.

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### **Optimal Diagnosis of Lung Cancer using CT Images**

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#### Abstract:--

According to the American Cancer Society, lung cancer is the second most widespread cancer and the leading cause of cancer deaths in both men and women. The death rate of lung cancer every year is greater than that of colon, breast, and prostate cancers combined. CT scan is a non-invasive method for diagnosis of any ailment, and can be used to detect lung cancer as well. The proposed project involves cell detection using image processing techniques. Because the time is a very important factor in cancer treatment, especially in cancers such as the lung, imaging techniques are used to accelerate diagnosis. The image processing paired with data analysis techniques helps us diagnose the particular type of cancer by comparing the output of the CT scan to an available database of images. This improves accuracy and reduces the time required for the diagnosis. Features of the image under test are extracted and analysed, and the decision regarding the morphological characteristics of the image are made. This helps us arrive at a decision regarding the nature of the image.

#### Keywords:

CT scan, image processing, segmentation, feature extraction.

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### Python NLTK Sentiment Analysis Using Naïve Bayes Classifier

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**B. Mani Sai,** Department of Information Technology, Gokaraju Rangaraju Institute of Engineering and Technology, Hyderabad **Varagiri Shailaja,** Department of Information Technology, Gokaraju Rangaraju Institute of Engineering and Technology, Hyderabad **Singanamalli Renuka,** Department of Information Technology, Gokaraju Rangaraju Institute of Engineering and Technology, Hyderabad

Bharathi Panduri, Department of Information Technology, Gokaraju Rangaraju Institute of Engineering and Technology, Hyderabad

#### Abstract:--

The Web is one of the richest sources for gathering of consumer reviews and opinions. There are many websites which contains opinions of the customers in the form of reviews, blogs, discussion groups, and forums. This project focuses on customer reviews on the restaurants. It predicts whether the given comment is either a positive or negative using supervised machine learning techniques. The project makes use of a dataset from Kaggle website. The dataset consists of comment and the type of comment (i.e., either positive or negative). This project makes a study on classification algorithm and text mining approaches to identify the type of comment. Firstly, the data set which is taken is made free from duplicates. That is duplicates are removed then it is followed by text pre-processing that involves removal of punctuation marks, stop word removal and then conversion of the whole text into vector format would takes place. The conversion from text to vector is an essential step because the English cannot be directly used for the analysis as we are working with linear algebra. So, as to work with this data, it has to be converted to vector format and we are using CountVectorizer to convert the data to the vector format. And finally comes the classification part. We are using Naive Bayes algorithm for this classification. This classification makes the data set into two parts as mentioned above. Here we are taking 70 percent of the data to be train data set and 30 percent of the data to be test data set.

#### Index Terms

Multinomial Naïve Bayes, NLTK, text pre-processing, Count vectorizer, Classification, Django Web framework, Text blob, Confusion matrix, Accuracy.

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### Design and Analysis of Oxidizer Propellant Tank in Rocket

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#### Abstract:--

A propellant tank is a container which is a part of vehicle, propellant is stored prior to use. Propellant tanks vary in construction. In rocket vehicles, propellant tanks are fairly sophisticated since weight is on a premium. The main objective of this project is to reduce the occupancy in vertical direction and also finding a suitable material in order to design a propellant tank. This particular tank has been designed for storingDinitrogen tetraoxide ( $N_2O_4$ ), Nitric acid (HNO<sub>3</sub>) and Liquid oxygen(LO<sub>x</sub>). The 3D model of the propellant tank is constructed in the software CATIA V5R20 and analyzed in ANSYS Workbench. The material used is titanium Ti-6Al-4V against the AA2219. The already available dimensions of the tank are taken in view of the new dimensions made. Therefore, the oxidizer tank is made in elliptical shape. So that, the size of fuel tank can be increased allowing the rocket to travel longer distance.

#### Index Terms:-

Propellant tank; Ti-6Al-4V; AA2219; Optimum size;

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### A Framework for Fast and Efficient Cyber Security Network Intrusion Detection using Apache Spark

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#### Abstract:--

Due to increase in internet based services, the size of network traffic data has become so large and complex that it is very difficult to process with the traditional data processing tools. Fast and efficient cyber security intrusion detection is a very challenging problem due to big and complex nature of network traffic data. A realistic cyber security intrusion detection system should be able to process large size of network traffic data as fast as possible in order to detect the malicious traffic as early as possible. This paper used Apache Spark, a big data processing tool for processing the large size of network traffic data. In this paper, we have proposed a framework in which first a well-known feature selection algorithm is employed for selecting the most important features and then classification based intrusion detection method is used for fast and efficient detection of intrusion in the massive network traffic. In this work, we have used two well-known feature selection algorithm, namely, correlation based feature selection and Chi-squared feature selection and five well known classification based intrusion detection methods, namely, Logistic regression, Support vector machines, Random forest, Gradient Boosted Decision trees & Naive Bayes. A real time DARPA's KDD'99 data set is used to validate the proposed framework and performance comparison of classification based intrusion detection schemes are evaluated in terms of training time, prediction time, accuracy, sensitivity and specificity.

#### Keywords:

Cyber security, Intrusion Detection, Network Traffic Analysis, Apache Spark

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### Radio Frequency Fingerprint-Based Intelligent Mobile Edge Computing for Internet of Things Authentication

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#### Abstract:--

In this paper, a light-weight radio frequency fingerprinting identification (RFFID) scheme that combines with a two-layer model is proposed to realize authentications for a large number of resource-constrained terminals under the mobile edge computing (MEC) scenario without depending on encryption-based methods. In the first layer, signal collection, extraction of RF fingerprint features, dynamic feature database storage, and access authentication decision are carried out by the MEC devices. In the second layer, learning features, generating decision models, and implementing machine learning algorithms for recognition are performed by the remote cloud. By this means, the authentication rate can be improved by taking advantage of the machine-learning training methods and computing resource support of the cloud. The results shows that the novel method can achieve higher recognition rate when compare with traditional RFFID method by using wavelet feature effectively, which demonstrates the efficiency of our proposed method.

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### A Deep Insight into Fault Tolerance in Cloud Computing

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#### Abstract:--

Cloud computing is an emerging computing technology that provides users with the capabilities of it as a service and allows access to these services on the internet without having specialized information or controlling infrastructure. Fault is the one of the biggest challenges in making a system fault tolerant. To reduce the impact of failure on the system and application execution ,failures should be anticipated and proactively handled. Fault tolerance is used to predict the failures and take a proper action before failure occurs. Cloud virtualized system architecture using Haproxy has been proposed. In the proposed system automatic fault tolerance has been implemented. The results shows that the proposed system can deal with various software faults for server applications in a cloud virtualized environment.

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### Low Power Design of 0.8V based 8 Bit Content Addressable Memory using MSML implemented in 22nm Technology for Aeronautical Applications

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#### Abstract:--

Proposed Paper contains Master slave match line (MSML) architecture which is implemented in traditional Content Addressable Memory (CAM) cell for storing 8 bit of data. Objective of the proposed methodology is to improve searching speed with less power consumption. MSML operation depends on two things one is Master Match Line (MML) and slave match line (SML). Design is performed using SPICE in 22nm technology which is weightless and can be used in Aeronautical Equipment. Various parameters such as temperature, power and delay are calculated for various types of CAM cell. Proposed methodology power consumption is found to be 598mw with delay of 5.98ns for 22nm technology.

#### Key Words

CAM Architecture, NAND architecture, NOR Architecture, MSML design.

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### Analytical method for Optimal Sizing and Siting of DG in Electrical Networks

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#### Abstract:--

This paper presents a simple and efficient technique for determining size and site for single and also multiple Distributed Generation (DG) units in electrical distribution networks for real power loss saving and voltage drop reduction giving suitable weighing factors to each one of the considered objectives. For this purpose a methodology of analytic method has been developed and presented, which is based on change in real and reactive parts of branch currents caused by the DG located, and is applied on 69-bus electrical test network. Obtained results shows best real loss reduction and voltage profile improvement of the network under consideration. Among different power factors assumed, the DG operation at load power factor enhances the system performance greatly, compared to that at unity power factor.

#### Keywords:

Electrical Network, Distributed Generation, Sizing-Siting, Loss Saving, Voltage Drop Reduction.

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### **Design of Fuzzy Controller Based Boost Converter to Improve DWIG Speed Range in Wind Power System**

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#### Abstract:--

Due to lack of conventional energy sources, world is moving towards wind energy as a substitute for the energy need. In this paper, fuzzy controller based boost converter is proposed to regulate maximum power point of wind turbine. Generally, the alternator overload restricts the potential of DWIG at low rotor speeds; by using boost converter high dc voltage is produced during low potential and low speed. The duty ratio of boost converter is regulated by fuzzy controller. Fuzzy logic controller is able to step peak power for uncertain wind circumstances, and vigorous with respect to specification changes in turbine. The proposed system is very simple and effective. By adopting MATLAB/SIMULINK platform, the integrated arrangement is simulated and outcome make evident of variable speed range operation.

#### Keywords:

Fuzzy Based Boost Converter, Dual Stator Winding Induction Generator, Control-Winding Voltage Oriented Control, Voltage Source Converter.

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### Analysis of Aerofoil Blade Fabricated By Additive Manufacturing Process

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#### Abstract:--

3D Printing is a process which involves formation of a physical object from a three-dimensional digital model, typically by laying down many successive thin layers of a material. For many applications traditional design and production processes impose a number of unacceptable constraints, including the expensive tooling, fixtures, and the need for assembly for complex parts. In addition, the subtractive manufacturing processes, such as machining, can result in up to 90% of the original block of material being wasted. On considering the accuracy, functionality, high end products, material used and typical layer thickness FDM is the most appropriate and adaptive method for manufacturing the 3D printing objects. The Scope of the work is to design a 4515 airfoil to work under extreme conditions without undergoing failure. The analysis of the airfoil under a defined inlet velocity of 138 m/s in ANSYS FLUENT and a structural analysis is carried out to find whether it is structurally stable under the extreme conditions using ANSYS STRUCTURAL ANALYSIS. In this work, the analysis is done by fluid (air) flow over the NACA 4515 Airfoil and its Structural Analysis. The obtained values are within the desired limits according to NACA, hence the design is structurally stafe.

#### Keywords:

Additive Manufacturing, Airfoil, FDM, Subtractive manufacturing

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### **GSM and GPRS Based Health Monitoring System**

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#### Abstract:--

Human beings are becoming fatal due to various illness because of lack of medical care to the patients at right time. The primary goal is to develop a reliable health monitoring system using GSM and GPRS to enable the health care professionals to monitor their patients, who are either hospitalized or at home using and IOT based integrated health monitoring system. A mobile device based wireless healthcare monitoring system is proposed which can provide real time information about health condition of a patient. The system mainly consists of biomedical sensors, LCD display, LEDS, microcontroller and combined GSM &GPRS module. The patient's temperature, blood pressure, electrical activity of heart rate are monitored, displayed and stored in the cloud by the system. Facility to send message to the doctor's mobile during critical condition of the patient is also incorporated. The LED's are used to indicate the health conditions of the patients. The measured health parameters of the patient are displayed in LCD.

#### Keywords:

GSM& GPRS Module, Internet of Things, Temperature sensor, Blood pressure sensor, ECG sensor, LCD display.

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### **Stress Management at Workplace**

Kavitha Kotte, M.B.A (HR), Pallavi Engineering College

#### Abstract:--

Stress is normally unavoidable part of everyone's life living in this world. It portrays a negative notion that can have an impact on one's mental and physical well-being. This paper is aimed at helping members to understand the signs of stress and to develop strategies to deal with it, as well as building up their own personal resilience. This study provides practical advice on how to deal with work stress. This paper implies Work-related stress occurs when there is mismatch between the demands of the job and the resources and capabilities of the individual worker to meet those demands. Subjective and self-reported evaluations of stress are just as valid as 'objective data', such as statistics on presenteeism, absenteeism, and health (physical and psychological). It is intended that employers, managers use this booklet as part of an initiative to educate on the management of work stress. Discussed are the nature of stress at work, the causes and effects of stress, as well as prevention strategies. Also discussed are the roles of the organizational culture in this process and resources to be drawn upon for managing work stress.

#### Keywords

Organizational stress, Stress management, Work stress

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### **Survey in Business Intelligence**

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#### Abstract:--

Business Intelligence delivers a rich set of benefits that drive significant and tangible return on Investment. It removes the complexity of converting raw data into meaningful business intelligence by giving organizations the power to transform data from multiple sources into accurate, consumable information that can be shared securely throughout the enterprise. It enables users to make informed business decisions quickly and confidently by providing the query and reporting tools they need to find, share, manage, publish and analyze information. The goal of Business Intelligence is to enable management to make more intelligent decisions on the basis of knowledge extracted from data. Does this mean that having data is always good, that having more data and extracting more knowledge from it is better, that and that knowledge can be derived only from data?

The paper also aims at describing processes of building Business Intelligence (BI) systems. Taking the BI systems specifics into consideration, the author presents a suggested methodology for the systems creation and implementation in organizations. The considerations are focused on the objectives and functional areas of the BI in organizations. Hence, in this context the approach to be used while building and implementing the BI involves two major stages that are of interactive nature, i.e. BI creation and BI "consumption". A large part of the article is devoted to presenting Objectives and tasks that are realized while building and implementing BI.

#### Keywords:----

Business Intelligence, business decision-making, analytics, memory, monitoring

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# Hamilton Cycles and Spanning 2-Connected Sub graphs in Rectangular Grid Graphs

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#### Abstract:--

Graph theory concepts are widely used to study and model various applications in different areas such as computer graphics, electrical network analysis and operation research. A Hamiltonian cycle in a graph is a cycle that visits each vertex exactly once. These concepts helps in routing power gating design to reduce the leakage of power by break the flow of inactive circuit domains. A connected graph is 2-connected if at most one vertex is removed the graph remains connected. A spanning 2-connected subgraph is in which every vertex has degree 2. In this paper we studied Hamilton cycles and Spanning 2-connected sub graphs for 3-corner and 4-corner rectangular grid graphs.

#### Keywords:

Hamilton cycles, Rectangular grid graphs and Spanning 2- connected subgraph.

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# Synthesis and characterization of Ni<sub>3</sub>V<sub>2</sub>O<sub>8</sub> (Nickel metavanadate) as Electrocatalysts for Direct methanol Fuel Cells

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#### Abstract:

Fuel cells are good power sources in transportation and portable applications because of their high-energy density, low-operating temperature and easiness in transportation and storage. However, high cost, low activity and short durability of electrocatalysts are limiting the commercialization of fuel cells.  $Ni_3V_2O_8$  (Nickel metavanadate) have studied as anode catalysts for methanol electro oxidation due to its abundant sources, low price, high chemical and electrochemical stability, abundant hydroxyl groups on the surface, and strong interaction with metal nanoparticles. Through this paper we submit nickel vanadate mixed metal oxide composites synthesised by hydrothermal routes and characterized by Scanning electron microscopy (SEM), X-ray diffraction (XRD) and Fourier transform infrared (FT-IR) spectroscopy. The morphology of the synthesized sample  $Ni_3V_2O_8$  is examined by a scanning electron microscopy (SEM), metal nanoparticles exhibit well-uniform dispersion and size distribution. The XRD patterns of the products shown that most of the reflection peaks was well assigned to  $Ni_3V_2O_8$ . The electrochemical characterization i.e cyclic voltammetry will be performed for the synthesized Nano material ( $Ni_3V_2O_8$ ) toward methanol electro-oxidation and the current density will be examined.

#### KeyWords:

Nickel metavanadate, direct methanol Fuel Cells, Electro-oxidation.

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### A Review on Heat Transfer Enhancement in Heat Exchangers by Using Nanofluids

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#### Abstract:--

In daily life we come across many examples of heat transfer. Heat transfer is the energy interaction due to a temperature difference in a media. A heat exchanger is an equipment that is used to transfer heat from one fluid to another, usually through a separating wall. Heat exchangers are employed for different applications such as steam power plants, chemical processing plants, building heating, air conditioning, refrigeration systems, etc. In the field of engineering heat transfer enhancement is a major factor in the design of heat exchangers. Heat transfer enhancement in heat exchangers is done by using nanofluids. Nanofluids are the fluids in which nano-sized metallic powders( such as Al<sub>2</sub>O<sub>3</sub> TiO<sub>2</sub>, MgO, CuO..etc) are suspended in base fluids( such as water, ethylene glycol, and engine oil..etc). This paper reviews the recent developments in the field of heat transfer enhancement of various types of heat exchangers by using various nanofluids.

#### Keywords

Heat transfer, heat exchangers, heat transfer enhancement, nanoparticles, nanofluids, thermal conductivity, overall heat transfer coefficient.

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### **Revolution in the design of fashion apparel**

Mohamadhoseyn moazenzadeh, Imam Khomeini International University

#### Abstract:--

Both technology and putting them into practice have played an essential role in order to change our life since the beginning of time. However, we may consider to the technologic revolution as a stream causing deep changes in our world. To mention some of its superficial effects, we can point to industrial revolution, urbanization growth, development of producing procedure and so on. One of the most important and basic needs of human is clothing. Garment industry in traditional manner has myriad shortcoming. People need to surf different shopping malls to find their desirable clothes which may cost them a lot in time and money. What if people can use an application to design what they need and send it back to the store through the application? Later on their design will be prepared by fully electronica machines and finally it will be delivered to the customers.

#### Keywords

Smart Fashion Dress Mirror. Technology, Revolution, Clothing Industry, Traditional methods.

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### An Efficient Approach for Classification of Big Data Using the Deep Learning Enabled Spark Architecture and Machine Learning

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#### Abstract:--

At present the Big Data applications, for example, informal communication, therapeutic human services, horticulture, banking, financial exchange, instruction, Facebook and so forth are producing the information with extremely rapid. Volume and Velocity of the Big information assumes a significant job in the presentation of Big information applications. Execution of the Big information application can be influenced by different parameters. Expediently search, proficiency and precision are the a portion of the overwhelming parameters which influence the general execution of any Big information applications. Due the immediate and aberrant inclusion of the qualities of 7Vs of Big

information, each Big Data administrations anticipate the elite. Elite is the greatest test in the present evolving situation. In this paper we propose the Big Data characterization way to deal with speedup the Big Data applications. This paper is the review paper, we allude different Big information advancements and the related work in the field of Big Data Classification. In the wake of learning and understanding the writing we discover the holes in existing work and techniques. Finally we propose the novel methodology of Big Data characterization. Our methodology relies on the Deep Learning and Apache Spark engineering. In the proposed work two stages are appeared; first stage is include choice and second stage is Big Data Classification. Apache Spark is the most reasonable and predominant innovation to execute this proposed work. Apache Spark is having two hubs; introductory hubs and last hubs. The element choice will be occur in introductory hubs and Big Data Classification will happen in definite hubs of Apache Spark.

#### Keywords-

Big Data Classification, Deep Learning, Apache Spar

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# Power Quality Improvement using GI based Fuzzy Controller for Single Stage Grid Interfaced-Solar Energy Conversion System

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#### Abstract:--

Increased generation and grid interfacing of the renewable energy sources has impacted power quality concerns in the network. The abnormalities during grid interfacing has leads to maloperation of energy conversion devices which in turn leading to failure of other electrical equipment. This paper presents control methodology using fuzzy logic controller to improve the power quality for single stage grid interfaced solar energy conversion. To get the maximum power from solar photo voltaic MPPTtechnique is used. The proposed method is to increase the power quality by using fuzzy logic controller. This control technique can give the accurate results, reduction of total harmonic distortion in Grid side, fast response, unity power factor operation and smoothvoltage and currentwaveforms. This project is simulated on MATLAB simulink and the results are obtained. The THD analysis for the grid parameters are performed which evaluates the effectiveness of the control mechanism which results inimprovement of power quality and the system stability.

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### **Experimental Production and Comparison of Biogas** Using Co-Digestion of Organic Waste

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#### Abstract:--

Environmental pollution is one of the major problems plaguing the modern world today. The environment and the various elements in the environment need energy to meet their need. So there is a need to produce energy from different sources. Solid Waste is one such material that can be used as a source for deriving energy. The studies on conversion of solid waste to energy have resulted several alternatives including the biogas production from biodegradable organic waste. There are several alternatives in the estimation of biogas yield from bio degradable fraction of solid waste. The different types of biodegradable organic waste may comprises of cow dung, pig waste, poultry manure, food waste, vegetable waste, kitchen waste etc[9]. The present study focuses on production of biogas using cow dung with vegetable waste and poultry manure. In this study, by doing experimentation it is observed that the production of biogas is obtained from co-digestion of cow dung with poultry manure than co-digestion of cow dung with the vegetable waste. Waste produced after the production of biogas is used as natural fertilizers for the growth of crops and fields and it gives good yield. By experimentations like energy recovery from solid waste, the conservation of non renewable energy resources may be possible and it also helps to protect our environment [16].

#### Keywords:

Pollution, Biogas, Co-Digestion, Cow Dung, Poultry Waste, Vegetable Waste.

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### A Nought Conviction Way to deal, by means of System Sanctuary

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#### Abstract:

In the latest existence, we have see an extension in the bring into play of remote frameworks in view of new sorts of correspondence. The online sanctuary has transformed into an intensely talked about subject in the system. People need to approach most of your coatings and resources wherever, at whatever point. , by means of the extension in the usage of Distributed figuring and IoT, the amount of related contraptions extends that subsequently in like manner increase the destinations of cybercrime. A fundamental distinction in outlook can help guarantee statistics and the entire framework. This thesis delineates what a nought conviction System is and shows a couple of thoughts driving this plan/thinking. nought conviction is a structure that has a standard that the whole thing in the interior or faint the framework isn't trustworthy until checked.

#### Watchwords:

Dital sanctuary, Business digital Sanctuary, Nought Conviction System, Google Beyond Corp.

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### **IoT enabled Air Pollution Monitoring System**

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#### Abstract:--

Air Pollution is the major problem that we are facing now-a-days. Controlling air pollution in an area is becoming difficult and many people are facing a lot of health issues due to this increased pollution rates in the country. The increased amount of carbon monoxide (CO), smoke, carbon dioxide (CO2) have lead a severe impact on the human life. The growing number of vehicles and industries contributes to air pollution to a greater extent. This paper presents a model which helps in monitoring the air pollution through the use of internet of things (IoT) platform. Implementing it with sensors and arduino which will help the user to know about the temperature and the humidity level on the smart phone and accordingly the user can take preventive measures. Also the system detects air quality and if the amount of pollutants increased."

#### Keywords:

Air monitoring system, Arduino, Internet of Things(IoT), Sensor, Thing Speak, Wifi module

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### Upgrade- Data Security in Cloud by Machine Learning and Cryptography Techniques

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#### Abstract:--

Cloud computing is termed as the shared pool of configurable computer system resources and high level services that can be rapidly provisioned with a minimal management effort over the internet. Cloud computing has transformed the way organizations approach IT, enabling them to become more agile, introduce new business models, provide more services, and reduce IT costs. Cloud computing technologies can be implemented in a wide variety of architectures, under different service and deployment models, and can coexist with other technologies and software design approaches. The prevalent problem associated with cloud computing is data privacy, security, anonymity and reliability. Cloud computing provides the way to share distributed sources and services that belong to different organizations or sites. Since it shares distributed resources via network in open environment that makes it cause security issues. In this paper, the proposed work plan is to eliminate the concerns regarding to data privacy using encryption algorithms to enhance the security in the cloud. In this method some important security services including authentication, encryption and decryption, compression are provided in cloud computing system.

#### Keywords:

Cloud computing, Cryptography, Data Classification, Data Security, Decryption, Encryption, HMAC function, KNN technique, Machine Learning, RSA Algorithm

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### Design, Modeling and Simulation of Anfis Borne Mppt Controller for Fuel Cell Electric Vehicle Utilization

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**Dr.V.Ganesh,** Professor, Department of Electrical and Electronics Engineering, JNTUA College of Engineering, Pulivendula, Andhra Pradesh, India

#### Abstract:--

Owing to the strong and powerful directives on the release of carbon gas into the atmosphere and limited reserves of fossil fuels, Fuel Cell Electric Vehicles (FCEVs) has become a promising solution in the automobile industry. In this article, a neural-fuzzy framework bound MPPT controller is represented on 1.26kW PEM fuel cell prototype that is widely accustomed in electric vehicle usages. So as to draw the optimal power, we require a high voltage gain step-up converter that acts as an interface linking the PEM fuel cell model following Brushless DC motor. The power cycle of the propounded converter can be regulated with the neural fuzzy reference model, and hereby the optimal power then supplied to Brushless DC motor. And the behavior of the suggested controller is trailed to extending trivial running constraints in conjunction with abrupt shifts in the transposition of the fuel cell. Besides this, to inspect the efficacy and trailing behavior of the propounded controller, the outcomes were collated with those prevailed with the Radial Basis Function Network backed MPP Tracking controller in MATLAB/Simulink Platform.

#### Key Words: -

Adaptive Neuro-fuzzy Interface System (ANFIS), Fuel Cell Electric Vehicles (FCEV), High Voltage Gain Interlaced Boost Converter, MPPT, PEMFC.

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### Parametric Analysis of Titanium Alloy Using Abrasive Jet Machining Process

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Mishini Anil, Pallavi Engineering College, Kuntloor, Hyderabad
Anand, Aurora's Technological and Research Institute, Hyderabad
V Rajshekar, Aurora's Technological and Research Institute, Hyderabad

#### Abstract:--

Titanium has begun to be used widely in engineering applications due to their favourable properties such as good corrosion resistance, high specific strength and the highest strength to weight ratio of any metal. It has obtained widespread use in the aerospace and biomedical fields. However Titanium is highly reactive and has high hardness at elevated temperatures. This coupled with its low thermal conductivity and elastic modulus makes it a hard to machine material. In this paper an effort has been made to study and optimize the drilling process of a hole by making use of Abrasive jet machining (AJM) on a Ti-6Al-4V composite material. The effect of process parameters such as Pressure, Abrasive flow rate, standoff distance and material thickness on Material Removal Rate (MRR) and surface roughness has been studied. The experiments were designed and conducted on the basis of Taguchi's experimental design of L16.Apart from single level optimization, multi optimization was also performed by making use of Genetic Algorithm (GA).

#### Keywords:

Titanium Ti-6Al-4V, Design of experiments, Orthogonal Array, Taguchi, AJM, Genetic Algorithm

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### Review on MAVLink for Unmanned Air Vehicle to Ground Control Station Communication

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Abhishek, Department of Computer Science and Engineering, Bangalore Institute of Technology Bangalore, India
Prakhar Agarwal, Department of Computer Science and Engineering, Bangalore Institute of Technology Bangalore, India
Suneetha K R, Department of Computer Science and Engineering, Bangalore Institute of Technology Bangalore, India

#### Abstract:--

This paper briefs on MAVlink(Micro Air Vehicle Communication Protocol), a protocol used for communication between UAV (unmanned air vehicle), drone to GCS (ground Control station) and intercommunication of subsystems of the vehicle. It can be used to transmit the orientation of the vehicle, GPS location and speed. The protocol follows modern hybrid publish/subscribe and point-to-point design pattern. Data streams are sent as topics while configuration subprotocols are point-to-point. It implements multiple subprotocol for operator's ease to control. Messages are defined within a XML file. it is designed as a header-only message marshalling library. It has Support for many programming languages, running on numerous micro-controllers/operating systems (including ARM7, ATMega, dsPic, STM32 and Windows, Linux, MacOS, Android and iOS. Allows up to 255 concurrent systems on the network (vehicles, ground stations, etc.). it has been a very reliable protocol. MAVLink has been used since 2009 to communicate between many different vehicles, ground stations (and other nodes) over varied and challenging communication channels (high latency/noise). It provides methods for detecting packet drops, corruption, and for packet authentication.

#### Index Terms: -

Micro Air Vehicle (MAVLink); Global positioning System GPS , Publish/Subscribe; Point-to-Point(PPP); XML; Unmanned Air Vehicle(UAV)

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## **Recognition of Violent Activity Response using Machine Learning Methods with Wearable Sensors**

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#### Abstract:--

In India, even though it has superpower and development in the economy, but still there are many cities where crimes occur against the woman. The barbarity against a woman can be brought to an end if any system will be built which will act as a deterrence for the culprit. Violent activity recognition is important for woman safety especially with activities such as chain-snatching, kidnapping, molestation, rape, assault, etc. being very common. In this context, a smart- jacket using stretch sensors, pressure sensors and accelerometer data (9 DOF) are used for generating body-movements data and to record different kinds of movement patterns during normal activity as well as during an assault. Two active sequence patterns (normal action and violent attack) recorded for the classification using machine learning models: Multivariate regression analysis and Decision Trees. It has been proved and concluded in the paper that multivariate Regression models cannot be applied to classify the data when the dependent variable does not change with time continuously. An alternative model, Decision Tree is suggested by changing the feature of the data only and not changing the values of the data. A novel method is proposed for the classification by a depiction of the data in terms of the length of ASCII characters. Finally the results demonstrate that the Decision tree is better than Multivariate regression analysis for the application.

#### Key Words: -

Multivariate Regression Analysis, Decision Trees, Physical Violence, Stretch Sensors, Smart jacket, Woman Safety.

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### Analysis of Rules and regulation of Construction and Demolition Waste Management (CDWM) in India

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#### Abstract:--

The rules and regulations on waste management in the construction and demolition sector are analyzed corresponding to the present scenario of C&DW in India. C&D waste from construction sites has emerged as a significant threat to India because of its severe footprint on the environment. Vast quantities of construction waste will have unfavorable consequences on the surroundings if they are not properly managed. Therefore it is necessary to manage the development of C&DW by the experts within the construction industry. The approach represented is specialized in rules and regulations on waste management so that the environmental impact of construction activities can be minimized.

#### Keywords:

Construction and demolition, Waste management, Environmental hazards, Health hazards, Rules and regulation, Framework for implementing the rule.

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### Reactive Current Support of PMSG Based Wind Farm Using Fuzzy Logic Controller during Severe Grid Fault

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#### Abstract:--

Wind energy conversion systems (WECS) are one of the most prominent clean renewable energy sources adopted by many countries due to its reduced maintenance costs and high reliable operations. Grid codes demand WECS to get synchronized with the grid and supply reactive current when any grid faults are subjected. Reactive power compensation devices like STATCOM are used in windfarms. Reactive currents are generated by coordinated controlled operation of WECS and STATCOM using Phase locked loops (PLL) based-vector control methods. Due to imbalance in the generation and demand WECS loses synchronism with the grid during severe faults conditions. In this paper coordinated control strategy is adopted using Fuzzy logic controller for WECS and STATCOM during severe fault condition is proposed. The synchronism is maintained by balancing the active powers at both the ends. Fuzzy logic control delivers optimal operation by supplying reactive power through STATCOM to the wind farm balancing the voltage profile during abnormal conditions. Effectiveness of the proposed method is evaluated using simulation studies.

#### Index Terms

Permanent magnet synchronous generator (PMSG), low voltage ride through (LVRT), wind farm, STATCOM, fuzzy logic controller (FLC)

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### **Logistic Growth Model with Immigration Effect**

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#### Abstract:--

The paper studied a logistic growth model with immigration effect. The material was characterized by the modified logistic growth equation. The simplified population models usually start with four key variables including Death, Birth, Immigration and Emigration. It is understood that birth rates and carrying capacity of the population are affected by the presence of immigrants. In each special case, equilibrium points are used to compute birthrate and carrying capacity. The criteria of stability (stable, unstable and neutrally stable) with small perturbations around and all trajectories (Population vs Time) are established.

#### Keywords

Logistic. Growth, growth model, population, timeseries, immigration effect.

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### **Signature Verification System Using Matlab**

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#### Abstract:--

Signature verification system is used as most biometric verification technique. There can be both online and offline verification system. Online Signature Verification is a procedure of confirming the author's personality by utilizing mark check framework. This framework can be use as a security framework, for example, confirmation for surveying section application and secret phrase substitutions. Mark confirmation innovation requires fundamentally a digitizing tablet and a unique pen associated with the all inclusive Serial Bus Port (USB port) of a PC. An individual can sign on the digitizing tablet utilizing the unique pen not with a standing his mark size and position. The mark is portrayed as penstrokes comprising x-y organizes and the information will be put away in the mark database as a txt.file. These attributes particularly recognize an individual and can't be emulated or stolen. In this venture, the strategy for Bolster Vector Machine (SVM) is utilized to centers in confirming the mark.

#### Key words:

SVM (support vector machine), threshold value, verification.

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### An Experimental Study on Friction and Wear Behaviour of Compact Graphite Iron at Various Temperatures

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#### Abstract:--

Compact Graphite iron (CGI) is used as automobile piston cylinders, brake drums which faces high wear at high temperatures. CGI has graphite morphologies in randomly oriented, elongated and interconnected. In automobiles CGI are exposed to friction including wear, abrasion, thermal stresses and fatigue. Friction and wear characteristics of CGI cast irons under the conditions of high temperatures are studied. Wear testing of CGI pin sliding on a hardened steel disk were carried out by using the pin-ondisk testing machine. The variations of the friction force, the wear rate under various temperatures are studied. It is observed that frictional forces and wear rate of CGI under were strongly influenced by variation in temperature conditions. The coefficient of friction also studied at various temperatures. It is observed that CGI is has more advantages than and spheroidal cast iron.

#### Keywords:

CGI, Wear, Coefficient of friction, High Temperature

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### Dielectric Studies of Some Bio-Materials at Microwave Frequencies and Correlation between Dielectric Parameters, Minerals and Vitamins Nutrient

Sanjeev Kumar, Professor, Pallavi Engineering College-Nagole. Ragna Reddy (Dist.), India.M. Sarada, Assist. Professor, Brilliant Institute of Engineering & Technology- Abddullapur Mettu R.R. (Dist.), India.

#### Abstract:--

An attempt is made to improve the Robert von Hipple measuring method and the Present work is concern with measurement of complex dielectric permittivity, conductivity, loss tangent and penetration depth of some bio-material. The measurement makes use of Robert Von Hipple technique or short circuited waveguide method. All the measurements were made in the microwave frequency range (Experiment is carried out at 9.9 G.HZ). In the present investigation it is interesting to note that the high dielectric constant is coupled with high dielectric loss in case of biological samples which contain large quantity of water but this is not the feature of a non biological materials. The influence of vitamins and minerals on the dielectric parameter is made using a correlation calculation is made between dielectric parameters, vitamins and nutrients.

#### Index Terms

Dielectric constant, dielectric loss factor, penetration depth, conductivity, microwave frequency and vegetables.

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# Interpretation of formal semantics from hand gesture to text using proficient contour tracing technique

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Jayaprakasan.M, Joint Director, Directorate General of Training, MSDE, Government of India, New Delhi.

### Abstract:--

As an assorted nation with numerous religion tongues, India has attempted to embrace an official, institutionalized gesture based communication. Where as in Indo-Pakistani communication through signing, is viewed as the prevalent sort utilized in South Asia. Many who are deaf or hard of hearing rely on sign language, to communicate. However the estimation of sign language are very unsophisticated and definitions of what counts as proficiency that varies depends on many factors. There are many existing systems which use shape parameters like orientation, palm centroid ,data gloves with 5 accelerometer sensors , and optical markers which reflect infrared light to recognise hand gestures of sign language. Background subtraction techniques used in these systems are K-means clustering ,boundary counters, Eigen backgrounds using Eigen values and wireless technology and bluetooth for connecting software for transmitting recognised hand gesture signals. They are not cost effective but, the accuracy is not met to the need. Whereas, In our proposed system we concentrate mainly to convert hand gestures to text using contour tracing technique to recognise hand gestures using normal webcam. The semantics are classified by support vector machine with trained datasets. The recognised hand gestures are displayed as text. Our main objective is to resolve the problem of facing interviewer for vocally impaired individuals. This helps them to build their confidence and eradicate their inferiority complex compared to other methods.

### Key words:

Contour Tracing, Hand gesture, SVM, Feature Extraction, TOF, IoT

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# Awareness of Ransomeware Attacks-Detection and Prevention Parameters

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### Abstract:--

In this paper, cybercrime activities have grown significantly, compromising device security and jeopardizing the normal activities of enterprises. The profits obtained through intimidation and the Limitations for tracking down the illegal transactions have created a lucrative business based on the of users' files. In this context, ransomware takes advantage of cryptography to compromise theuser information or deny access to the operating system. Then, the attacker extorts the victim to pay a ransom in order to regain access, recover the data, or keep the information private. Nowadays, the adoption of Situational Awareness (SA) and cognitive approaches can facilitate the rapid identification of ransomware threats. SA allows knowing what is happening in compromised devices and network communications through monitoring, aggregation, correlation, and analysis tasks. The current literature provides some parameters that are monitored and analyzed in order to prevent these kinds of attacks at an early stage. However, there is no complete list of them. To the best of our knowledge, this paper is the first proposal that summarizes the parameters evaluated in this research field and considers the SA concept. Furthermore, there are several articles that tackle ransomware problems. However, there are few surveys that summarize the current situation in the area, not only regarding its evolution but also its issues and future challenges. This survey also provides a classification of ransomware articles based on detection and prevention approaches.

### Key-words:

Information Security; Prediction; Ransomware; Situational Awarenes

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# A First Look at the Future of Gaming-Stadia

Swapna Siddamsetti, Assistant Professor, Department of CSE, Pallavi Engineering College G.V.Krishna, B.Tech-CSE, Pallavi Engineering College

### Abstract:--

Cloud gaming is a new way to deliver high-quality gaming experience to gamers anywhere and anytime. In cloud gaming, sophisticated game software runs on powerful servers in data centers, rendered game scenes are streamed to gamers over the Internet in real-time, and gamers use light-weight software executed on heterogeneous devices to interact with the games. Due to the proliferation of high-speed networks and cloud computing, cloud gaming has attracted tremendous attentions in both the academia and industry since late 2000's. In this article, we survey the latest cloud gaming research from different aspects, spanning over cloud gaming platforms, optimization techniques, and commercial cloud gaming services. The readers will gain the overview of cloud gaming research and get familiar with the recent developments in this area.

### Index Terms

Clouds, distributed computing, video coding, quality of service, computer graphics.

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# An Cyber Threat Prediction Mechanism Based on Behavioral Analysis

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### Abstract:--

Detection of insider cyber threats is a challenging problem that cannot be solved by existing approaches because insider attackers have already bypassed security systems like firewalls, Intrusion detection & prevention systems, etc. [1].With the traditional security systems rendered completely ineffective there is a need for a newer mechanism that based on the original traditional security systems that approaches insider threat as a new kind of cyber threat and helps prevent it.

### Keywords:

Insider cyber threats, threat detection, cyber threat prediction.

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### **The Innovative Mobile Operating System: Strakz OS**

Thopucherla Revanth Rao, Computer Science Department, Pallavi Engineering College Naresh Kumar Vuppulanchi, Computer Science Department, Pallavi Engineering College Hari Krishna, Computer Science Department, Pallavi Engineering College Panuganti Pavani, Computer Science Department, Pallavi Engineering College Gowreddy Preethi Reddy, Computer Science Department, Pallavi Engineering College

#### Abstract:--

We have designed and implemented the Strakz OS an AI-powered operating system. Which concentrates on the user-friendly and User-Controlled policies. This Operating system is based on Linux Kernel which is an open-source Kernel invented by Linus Torvalds. The OS is also adapted from the Google's Official Mobile Operating System Android OS. The main Motto's for the creation of the Operating System are Battery Efficient and optimization on proper Resources utilization. The Operating System is released in two variants one with Google Services included and the one without Google Services. The entire OS is under the Control of AI where the turning on/off of the transmitters, like Bluetooth, WIFI and the Radio Power. The Operating System can also calculate the sleep time of the User with the help of the hardware like Smart Watches.

#### Keywords:

Operating System, Mobile, Smartphone, Google, Android, Artificial Intelligence

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### **Testing Of New Catalytic Converter** (Current Trends in Automotive Emission Reduction)

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#### Abstract:--

Due to deteriorating environmental quality caused by increased emission from uncontrolled combustion of conventional fuels from petroleum sources and day-by-day depletion of these petroleum resources have made the world wide attention on development of Emission Reduction Systems & Alternative Fuels for Motor Vehicles.

As we know that reduction in engine out emissions through combustion optimization and electronic management of engine & fuel system, & exhaust gas after treatment have been main contributors to achieve the specified low emission targets.

Each of above said system has its own contribution towards eliminating or minimizing pollutants from automobiles.

Now, we will glance on one system i.e., exhaust gas after treatment. It means filtration of exhaust gases, which needs mainly a device known as catalytic converter.

In a new catalytic converter a mixture of cooper oxide & cerium oxide (CuO+ CeO2) has been tried in this work as a catalyst for exhaust treatment. Since it is much cheaper than the precious metals, platinum & rhodium, now used in the three way catalytic converter (TWC). A reactor was designed for this catalyst & tested on a multi-cylinder automotive S.I. engine. Secondary air was injected into the reactor to aid oxidation of HC & CO.

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# Design Of An Aircraft Wing Structure For Static Analysis & Fatigue Life Prediction

**Raju T,** Assistant Professor, Jayamukhi Institute of Technological Sciences **Kishore kumar K,** Assistant Professor, Kakatiya Institute of Technological & Sciences

#### Abstract:--

A wing is a type of fin with a surface that produces aerodynamic force for flight or propulsion through the atmosphere, (o r) through another gaseous or liquid fluid. As such, wings have an airfoil shape, a streamlined cross-sectional shape producing lift. A wing's aerodynamic e quality is expressed as its lift-to-drag ratio. The lift a wing generates at a given speed and angle of attack can be one to two orders of magnitude greater than the total drag on the wing. A high lift-to-drag ratio requires a significantly smaller thrust to propel the wings through the air at sufficient lift. The requirements for the aircraft wing are High stiffness, High strength, High toughness and Low weight.

In design and finite element analysis of aircraft wing is designed and modeled in 3D modeling software CATIA. The wing is modified by three major plan form geometries relating to taper ratio are rectangular, trapezoidal and delta shape. In order to increase the strength of the wing Trapezoidal most preferable for out of three shapes. So Trapezoidal shape air craft wing is used in these work. In this the NACA-4 digit series is used for making wing skeleton structure and later we made modeling, Fatigue and structural analysis on wing Skelton structure by using ANSYS WORK BENCH. The materials used for aircraft wings are mostly metallic alloys. In this thesis, the materials are replaced by composite materials S2 Glass and Kevlar 49.

Static analysis is done to determine the deformation stresses and strains produced by applying loads. Fatigue analysis to estimate the life damage and safety factor of the wing. Modal analysis is done on the aircraft wing to determine the deformations and frequencies, stress due to frequencies. Analysis is done in ANSYS.

### Index terms:

Aero dynamic force, lift-to-drag ratio, 3D modeling software CATIA, Metallic alloys,S2 Glass, Kelvar49, ANSYS.

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# Fabricating an Advanced Low Cost Bionic Arm using Electromyography (EMG)

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### Abstract:--

There is an increasing number of people with traumatic and congenital hand amputations or reductions. Children's bionic needs are complex due to their small size, constant growth, and psychosocial development. Families' financial resources play a crucial role in the prescription of prostheses for their children.

This project utilizes recently acquired skills in Electro-Mechanical Engineering Technology to lower the price of a bionic hand. The mechanical parts that make up the hand are designed using 3D CAD software and then created on a 3D-printer. Using 3D-printing, the hand can easily be scaled to any size much more cheaply than using traditional methods. The project also lowers cost by designing and creating its own EMG circuit. This is the most important part of the whole system because it gives the user control over the hand. Without it, the hand is just for looks. The EMG circuit measures voltage across an arm muscle. When the muscle contracts, the circuit sends signals into a microcontroller (arduino UNO) that operates the 3D-printed hand with the help of a few servos.

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# Identification of the Factors, Barriers, and Motivations That Influence the Construction and Demolishing Waste Generation and Management

Vidyasekar, Prist University Selvan, Prist University

### Abstract:--

Because of the fast urbanization around the globe, a huge quantity of waste is generated. Inadequate processing of these wastes results in severe environmental damage. To minimize waste, effective waste management is necessary for the construction industry. This research paper evaluates and categorizes these variables based on their attitude, critical success factors, obstacles, motivations and factors that affect building and demolition waste management procedures.

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# Closed Loop Control of Two Switch Buck Boost Converter with Low Voltage Stress

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Shaik. Hussian Vali, Assistant Professor, Department of Electrical and Electronics Engineering, JNTUA College of Engineering, Pulivendula, Andhra Pradesh, India.

#### Abstract:--

This paper presents the comparison of single switch and conventional continuous buck boost converter over proposed two switch buck boost converter for reduction of voltage stress across semiconductor devices and improvement of efficiency. In single switch converter voltage stress is high which is sum of input voltage and output voltage. Even though conventional TSBB converter reduces voltage stress, but increases the conducting losses. The proposed TSBB converter which have similar number of both active and passive components to conventional TSBB converter, decreases voltage stress and also there is decrease in conducting components losses. So efficiency of proposed TSBB converter is increased. The open loop proposed TSBB converter is made into closed loop control converter using PID controller of 48 V constant output voltages. The proposed closed loop converter using PID controller enhances the dynamic stability performance of buck boost DC-DC converter. So that vigorous output voltage obtained against variations in the circuit components and changes in load disturbances.

#### Keywords:

Two switch buck boost Converter (TSBB), reduced voltage stress, single switch buck boost converter (SSBB), low conducting losses, PID controller.

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# Stability Enhancement of Micro-Grid Using Fuzzy Logic Controller in Coordination with SMES, SFCL and Distributed Generation Units

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#### Abstract:--

Now days, the contribution for Stability of a micro-grid under fault conditions is very important. In order to enhance the stability of micro- grids, this paper proposes fuzzy logic controller in coordination with SMES, SFCL and Distributed generation units. This coordination control smoothly separate the micro-grid from main network in case of severe faults and assist the micro-grid to achieve the faultridethrough(FRT) when the faults are minor faults. In this paper, the fuzzy logic controller is used which is more accurate than any other conventional controllers. The details of modelling, architecture and control strategy are presented. The simulation analysis of micro-grid along with fuzzy logic controller, SMES, SFCL and distributed generation units is implemented in MATLAB. Pertaining to the performance interpretation of coordination control for severe and minor faults and the output results confirm the robustness and effectiveness of the coordination control.

### Keywords:

Coordination control, fuzzy logic controller, distributed generation, micro-grid, super conducting fault current limiter (SFCL) super conducting magnetic energy storage (SMES)

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# A Survey on Different Pattern Matching Algorithms of Various Search Engines

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### Abstract:--

In Real-time world problems need fast algorithm with minimum error. Now a days many applications are use for searching results on web. There are many algorithms which are used for searching the results. Pattern matching method is one of them. In web application people deals with the different types of data, for example text searching, image searching, audio searching and Video searching. Every search engine uses different search algorithms for handling different types of data. This paper proposes an analysis and comparison of four algorithms for full search equivalent pattern matching like complexity, efficiency and techniques. The four algorithms are Naive string search algorithm, Rabin Karp String Search Algorithm, Knuth–Morris–Pratt algorithm, Boyer–Moore string search algorithm. This paper provides an analysis of above algorithms.

### Keywords

Pattern matching, Text searching, Image searching, Audio searching, Video Searching, Search Engines

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# A Comprehensive Study of Market Status and Purchasing Decision Influencing Parameters for Electric Vehicles: Indian Context

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 Akash Gholap, Department of Mechanical Engineering, Veermata Jijabai Technological Institute (VJTI), Mumbai,India.
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### Abstract:--

In the prospect of transforming the transport sector to green mobility which is surely estranged from harmful tailpipe emissions and fuel price hike, vigorous efforts and aggressive steps has been taken by the Indian Government by promoting National Electric Mobility Mission Plan 2020 (NEMMP 2020) and schemes such as Faster Adoption and Manufacturing of Electric Vehicles (FAME I & II). Before leaning towards a commercial aspect, the barriers for this budding technology which is at a nascent stage in India must be contemplated. This paper focuses on the potential barriers and possible remedies which researchers and manufacturers must cogitate about. In order to predict the complete penetration of E-vehicles in India and check its feasibility, a market survey along with public opinion is carried out in this paper. This market survey and public opinion will help E-vehicles to share a substantial part of the transport sector in the near future and overcome the social-economic barriers.

### Keywords:

Electric Vehicles, Market Study, Public Opinion Survey, NEMMP 2020, FAME.

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# An Automated Apartment Management Desk

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- D. Sarika, B.Tech-CSE, Pallavi Engineering College

#### Abstract:--

This is a Web based Application. The main purpose of this application is to solve the problems of the residents in the apartments. The problems based on Electricity, Water damage, Apartment inspections, drilling into walls, Violations. It consists of two modules Admin and User. Here admin will receive the complaints from particular apartment residents and also common problems among the users with their flat details. Users send his complaints of their flat with the flat details and user can also give his review or feedback. By accessing this application we can solve the residential problems easily instead of meeting the workers related to the particular problem. This is mostly beneficial for job holders for their time saving purpose.

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# A Framework on Text Mining and Structural Data Mining Techniques for the Detection of Grievances in Social Media

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#### Abstract:--

The social nuisance is an inhuman act of the individual causing damage to the whole community and burdens the society which is punishable by law. Structural data mining followed by sentiment analysis on online social media helps to detect the grievance patterns on texts. Taking on social networking sites, enables users to post their views and convey information about the author. Electronic media allows extraction of information and data from various databases which combines solutions from various fields. Aggregating and integrating the data to judge the opinion uses geospatial analysis which establishes correlations between the posts and crimes in various cities and towns.

Sentiment analysis techniques has to be conducted to analyse the vocabulary and intensity of grievance of a post of a particular location which reveals the crime rate of a location in real-time and helps to detect the patterns of crime. When analysing data, natural language processing techniques are used to process the unorganised data. They have to be refined by the experts making it clear. For the data analytics we employ machine learning techniques to create a traditional programming on the data automation. We employ machine learning algorithms for

1. Representation of knowledge including datasets, rules, decision trees, vector machines etc.

2. Evaluation must be done on candidate programs for accuracy, prediction, probability, cost, margin etc

3. Optimization of programs generated for the process of searching.

Sentiment analysis requires NLP, Text analysis to extract information from social sites, determining author's attitude and contextual popularity of the text. Geographically analysing crime related tweets/posts identify crime prone areas and used data mining techniques to study and detect the data. Measuring emotions in online texts is done by opinion mining by NLP and ML techniques for the automation of sentiments in the knowledge from different resources. Adopting a dictionary based approach for determining sentiments uses a new approach with 3 dimensions of valence, arousal and dominance. Matching techniques uses mapping of data, pattern matching etc to clearly identify the sentiment in the text. The methods employed are arithmetic mean and normal distribution to calculate mean valence and arousal. Then the values have to be plotted in a 2D circumflex emotional model to determine the position within the model. Video-to-text processing, image-to-text processing, and data from various online sources would also help improve accuracy. This type of study would help with informing others of the crime pattern both within and around their location, ultimately assisting them with staying in a safe zone by monitoring various social media outlets. The term sentiment classification is defined as detecting sentiment classification and multi-class sentiment classification.

i) Binary sentiment classification involves classifying sentiments either positive or negative.

ii) Multi-class sentiment classification involves classifying sentiments into one of five categories: strong positive, positive, neutral, negative and strong negative.

The most common machine learning techniques used for sentiment classification include naive Bayes, maximum entropy, and support vector machine. Most sentiment analysis algorithms use simple terms to express sentiment. However the cultural factors, linguistic nuances, and differing contexts prevent researchers from drawing the sentiment accurately.

By using the combinations of above methods, valence or polarity of a subjective sentences can be generated, which can be used to detect the reliability of words

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# Coordinated V-f and P-Q Control of Solar Photovoltaic Generators with MPPT and Battery Storage in Microgrids

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MK Vijay Kumar, Assoc.Professor, Dept of EEE, BELLARY INSTITUTTE OF TECHNOLOGY AND SCIENCE, BELLARY, KARNATAKA,INDIA.

#### Abstract:--

The microgrid concept allows small distributed en-ergy resources (DERs) to act in a coordinated manner to provide a necessary amount of active power and ancillary service when re-quired. This paper proposes an approach of coordinated and in-tegrated control of solar PV generators with the maximum power point tracking (MPPT) control and battery storage control to pro-vide voltage and frequency (V-f) support to an islanded microgrid. Also, active and nonactive/reactive power (P-Q) control with solar PV, MPPT and battery storage is proposed for the grid connected mode.

The control strategies show effective coordination between inverter V-f (or P-Q) control, MPPT control, and energy storage charging and discharging control. The paper also shows an effective coordination among participating microresources while considering the case of changing irradiance and battery state of charge (SOC) constraint. The simulation studies are carried out with the IEEE 13-bus feeder test system in grid connected and islanded microgrid modes. The results clearly verify the effectiveness of pro-posed control methods. The simulations are carried out in Matlab and Simpowersystems.

### Index Terms

Active and reactive power control, distributed energy resource (DER), distributed generation (DG), maximum power point tracking (MPPT), voltage and frequency control, solar photovoltaic (PV).

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### Sales Forecasting using Supervised Learning Methods in Artificial Intelligence

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#### Abstract:--

Sales Forecasting is the process of estimating future sales. Accurate sales forecast enables Companies to make informed business decisions and predict short – term and long term performance. Companies can base their forecasts on past sales data, industry-wide comparisons, and economic trends. A sales forecast is a prediction based on past sales performance and an analysis of expected market conditions. Working in sales is not always an easy game. Anyone in the role will tell you that they love it—but often want to pull their hair out. Companies have long struggles with how to include sales team insights into their operations forecasts. The potential benefits are great sales has unique insights into rising trends, market shifts, and new competitors. They are on the ground speaking with current and potential clients daily. Without their Intelligence on market, companies become blind to the opportunities and threats brought by markets. Forecasts from sales can be inaccurate, incomplete sometimes. The meaning of the terms "forecast" and "forecast accuracy" often differs depending on whether you're speaking to Sales, Operations, Marketing, Finance, or others. It's easy to inadvertently request the information from Sales that proves more detrimental than helpful for forecasts.

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# Design and Analysis of Eigen Value Problems by Using Eigen Value Parameters in the Initial and Boundary Value Problems

Dhanunjaya Rao Kodali, Assistant Professor & HOD, Dept. of Mathematics, Pallavi Engineering College, Hyderabad, Telangana.

#### Abstract:--

We study the behavior of Eigen values for initial and boundary value problems, We discuss some linear Eigen value problems for which a very simple transformation gives about the desired reduction to initial value problems. Numerical techniques for solving initial value problems for ordinary differential equations are more highly developed than techniques for solving boundary value problems. In fact one of the standard methods for solving initial and boundary value problems for linear differential equations involves just such as reduction. Transformations which reduce boundary value problems to initial value problems for certain classes of non linear problems. Now an Eigen value problem can be thought of as basically a boundary value problems but with the added difficulty that a parameter in the equation must be simultaneously determined. We reduce boundary value problems to initial value problems may have some applicability to the numerical solution of eigen value problems.

Consider the Eigen value problem ,  $\frac{d^2T}{dx^2} + \lambda^2 T = 0$ , T(0)=T(L)=0 ,  $0 \le x \le L$ 

Now introduce the new independent variable  $Y = \lambda x$  (here  $\lambda$  is real and positive) then differential

equation becomes  $\frac{d^2T}{dy^2} + T = 0.$ 

Initial and Boundary value problems have important applications to physics, chemistry and biology.

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# Removal of lead from polluted Musi Water using Biosurfactants (Rhamnolipids)

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G.Sirisha, Assistant Professor, Pallavi Engineering College.
N.Rajeswari, Assistant Professor, Pallavi Engineering College.

#### Abstract:--

Hyderabad, the largest city discharges about 600 million litres of waste water into the River Musi. Due to indiscriminate urbanisation and lack of planning, Musi has been the receptacle for the domestic and industrial waste water in the city. High levels of chemical, biological, biological, pharmaceutical and industrial contamination cause ground water pollution has endangered aquatic life(1). People depend on the vegetables and fruits grown on Musi river bed leading to diseases and even miscarriages. The polluted water contains high levels of lead which leads to damage of nervous system, hematopoietic system, renal system, cardiovascular system, reproductive system etc.(2)

Although chemosynthetic surfactants could help ion desorption of heavy metals from polluted water, they cause serious impact on water environment and human health due to high toxicity and non-biodegradable. Bio surfactants have low toxicity and can be easily synthesised from renewable resources(3). Rhamnolipids are surfactants produced by microorganism from renewable energy resources are capable of removing heavy metals by complexion at optimum conditions. The present study involves the measurement of lead in Musi water collected from Peerzadiguda Area and the leafy vegetables (Palak) grown in the same area before and after treatment with bio surfactants.

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# Analysis and Machining Parametric Optimization Of Hot Air Abrasive Jet Machining on PMMA By Help Of Taguchi Method & MCDM-Topsis

K.Chaitanya Kumar, M.Tech Scholar, Department of Mechanical Engineering , JNTUA College of Engineering, Pulivendula, Andhra Pradesh, India

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S Rajendra Prasad, Reserch scholar JNTUA, Department of Mechanical Engineering, Anantapur, Andhra Pradesh, India

#### Abstract:--

The contemporary paper centred on the optimization of HAJM in machining of PMMA fabric by means of using of MCDM- TOPSIS method, in this manner orthogonal array 19 Taguchi experimental layout is used through thinking about the technique of machining parameters such as Pressure of provider gas, SOD, Temperature of air service gasoline, Abrasive Size and type, to function a HAJM experiment for viewed responses such as surface roughness(RA), material removal rate (MRR)

The Poly(methyl methacrylate) (PMMA), also regarded as acrylic glass, acrylic material, or plexiglass as properly as by using the change names Crylux, Plexiglas, Acrylate, Lucite .PMMA it is a obvious thermoplastics .the chemical formula of PMMA is (C5O2H8)n it has good properties to such as light weight ,92% transferent visible light effect within 3mm of thick material, good strength to compare other polystyrene. it's mostly useful in this areas such as hospitals, automobile, aerospace, defence, aquarium, window panels

### Key words:

Hot Air Abrasives Jet Machining-HAJM, PMMA, Taguchi analysis, MCDM-TOPSIS method .

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# Development of Semi-Automated Wall Plastering Machine

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#### Abstract:--

The working environment in the Construction Industry is completely human based. There is very little use of technology in the process of construction. Adding to this constraint, there is also lack of skilled labor and thus increase in labor cost. These factors along with technological advances have forced the Construction Industry to accept the rapid changes in the field of construction. The Construction Industry mainly consists of Commercial Infrastructure and Residential buildings, where plastering activity is a must. This paper deals with the "Development of Semi-Automated Wall Plastering Machine", specifically designed for external walls and compound walls which can help to reduce the challenges viz. construction time, requirement of labor and quality of work in the construction field and to eliminate the life risk of the labor.

#### Key words:

Construction Industry, Wall Plastering Machine (WPM).

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# Control of Seismic Performance in unsymmetrical High Rise Buildings using Shear Walls

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### Abstract:--

Every Structure is expected to maintain good serviceability in its life cycle, but due to unexpected or continuous designed loads life of the structure reduces. Failure arises when the structures are exposed to extreme loads and to overcome the failures in terms of seismic conditions structures are analyzed to withstand for any zone of earthquake activity. In this context structural elements must be strengthened by adding Structural elements like Shear Walls, which can control the response of a structure with occurring effects. Shear wall system is one of the most commonly used internal load resisting system in high rise buildings. Lot of research has been carried to design and analyze the shear wall. But considering the environmental and economic aspect implementation of shear walls in optimized way to control the motion of structure takes complications. In this study a non-symmetrical structure which is of 84 meters height was considered for static and dynamic analysis. In present analysis different types of shear walls and zonal effects were considered up to maximum extent. The displacements and drifts of the structure were optimized by using shear walls in appropriate locations.

### Key words:

Displacements, Non-symmetrical, Response Spectrum Analysis, Shear Walls, Storey Drift.

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# **Bio-Metric Recognised Cash Banks**

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### Abstract:--

Identification and verification of someone nowadays may be a common thing; which can embrace door-lock system, safe box and vehicle management or perhaps at accessing bank accounts via CASH BANK, etc that is critical for securing personal data. The standard ways like ID card verification or signature doesn't offer perfection and dependability. The systems utilized at these places should be quick enough and strong too. Use of the CASH BANK (Automatic Teller Machine) that provides clients with the convenient note commerce is facing a brand new challenge to hold on the valid identity to the customer. Since, in standard identification ways with CASH BANK, criminal cases are increasing creating monetary losses to customers. For resolution the bugs of ancient ones, the author styles a new CASH BANK terminal client recognition systems. The chip of S3C2440 is used for the core of microchip in ARM9, moreover, Associate in Nursing improved enhancement algorithm of Thumb Impression image increase the security that client use the CASH BANK machine.

### Key words:

Terminal, Thumb Impression Recognition, Image Enhancement, Gabor Filtering.

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# Challenges, Open Research Issues and Tools in Bigdata Analytics

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**S Tharun Reddy,** Assistant Professor, Department of Computer Science and Engineering, SR Engineering College, Warangal, Telangana, India

Kanegonda Ravi Chythanya, Assistant Professor, Department of Computer Science and Engineering, SR Engineering College, Warangal, Telangana, India

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#### Abstract:--

A large quantity of terabytes of data is produced each day from present day information structures and automated advances. For instance, Internet of Things and cloud computing. Analysis of these huge data takes a remarkable deal of endeavors at specific degrees to extricate understanding for primary leadership. In this way, large information evaluation is a go with the flow territory of revolutionary paintings. The essential goal of this paper is to explore the capability impact of large facts challenges, open research problems, and specific gadgets associated with it. Therefore, this text offers a stage to explore bigdata at various degrees. Also, it opens another skyline for specialists to execute the arrangement, in view of the demanding situations and open studies troubles.

### Keywords

Big data analytics; Hadoop; MapReduce; Hadoop Distributed File System;

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## An Android Application for Booking Hostels in India

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#### Abstract:--

This is an app which is related to the booking of the hostels in all-over India, this app will help the students in India for finding best hostels near by the places which they are needed. It also takes the advance booking. It takes the monthly charges for the hostels. The hostels which are included in this they are providing all the facilities like AC, food, Wi-Fi, online and offline payments, 24/7 water supply, washing machine. The total hostel details are provided in the application. The people can also select the hostels according to their budget. They even have monthly rating, review, complains and feedback about the hostel which they have chosen. There will be 24/7 service centre to help the people for directions and other queries about the hostel. This application is very useful for the new generation that they don't need to waste the time for searching hostels at new places.

### Key words:

Facilities, Advance booking, Service center.

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# Interpretation of Cyber Attacks Using Machine Learning Techniques

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### Abstract:--

Machine learning techniques have been applied in many areas of research due to their unique properties like adaptability, scalability, and potential to rapidly adjust to new and unknown challenges. Cyber security is a fast-growing field demanding a great deal of attention because of remarkable progresses in social networks, cloud and web technologies, online banking, mobile environment, smart grid, etc. Diverse machine learning methods have been successfully deployed to address such wide-ranging problems in computer security. This paper discusses and highlights different applications of machine learning in cyber security. This study covers phishing detection, network intrusion detection, testing security properties of protocols, authentication with keystroke dynamics, cryptography, human interaction proofs, spam detection in social network, smart meter energy consumption profiling, and issues in security of machine learning techniques itself.

### Key words:

Machine Learning, Cyber Security, Phishing Detection, Network Intrusion Detection, Cryptography, Spam Detection

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# The Role of Artificial Techniques in Cyber Security to avoid Cyber Crime

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#### Abstract:--

Due to high usage of internet now a days there is an increase in the cybercrime. Because of Internet on Things each and every application is working with internet and scope of threats are increased drastically. The emerging trends AI will minimize false positives. It will augment rules-based detection systems with the machine learning methods of clustering, pattern matching, association rules, and data visualization. Using these methods, AI will quickly filter out the most relevant alerts to present human analysts to investigate further while reducing both false positives and false negatives within an increased flood of alerts. This paper proposes that AI can remove Triaging, Threat Hunting, Incident analysis, Threat Anticipation .

### Key words:

Cybercrime, Artificial Intellegence, Triaging, Threat Hunting, Incident Analysis, Threat Anticipication

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# Transforming Lead-Free Fuel: Filter less Filtration Process by Using Ultrasonic Waves

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#### Abstract:--

The main objective of the study is focused on removing the impurities in fuel substances. In the filtration process, sound waves are passed, as the longitudinal wave is also called as a compression wave. Ultrasonic signals are created with the help of transformer and that feeds into the transducer. When the output of the transducer is passed to the liquid medium it collides with dust particles and pushes the dust particles downwards. The subsequent ultrasonic waves retain the impurities in the bottom. Then the pure material is obtained in the upper part and the impurities in the bottom are removed by opening the lower part. The proposed method of ultrasonic filter will filter the dust particles in the liquid using polystyrene microscope and frequency sweep techniques, it generates the constant longitudinal ultrasonic waves in horizontal direction of a glass tube having large radius. This method makes the dust particles to settle down at the bottom and pure liquid will be present at the top layer.

#### Key words:

Filtration, transducer, micro-particle, ultrasonic waves

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# Design and Development of an Ac/Dc Microgrid for Isolated Power System and Grid Connected System

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#### Abstract:--

A micro grid is an individual power generation unit, which contains Distributed Generation System to supply power for local loads. In other words, Microgrid is a unit of integration of the Distributed generators and loads which can operate either connected to or isolated from the main grid. In this paper voltage and frequency, V-f or Q-f method is being used to share the power of parallel connected Voltage source inverters in isolated micro grid by droop control method. In another mode which is grid connected, in this mode available power is being feed into the grid. Micro grid operation is influenced by the control strategy. So, in this study, two typical control schemes active and reactive power feed into grid in connected mode and voltage-frequency in isolated mode are discussed. In connected mode of operation, micro grid voltage and frequency is decided by grid. In the Voltagefrequency mode distributed generators units share the remained power according to the droop control strategy. In solar power plants which are grid connected, in this case power is being feed by PQ mode of inverter. In this mode inverter works in constant current mode and inverter voltage and frequency is decided by the grid. In islanding mode of operation power sharing of two parallel connected inverters is being done by local measurement. Simulation is being done in Matlab/Simulink software.

### Key words:

Droop control; P-Q mode; V-f control.

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### Smart Automation Technique to Collect Dry and Wet Waste Using IoT Module: to Achieve Our 'SBM' Mission.

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#### Abstract:--

The global waste production in now a days is increasing at a rapid rate, it is predicated that it will give rise to 28 billion tonnes per year by 2051, one-third of the whole global Asian continent is majorly contributed by India and china. The Main objective of the proposed method is to achieve clean India mission abbreviated as SBM. To make our urban and rural areas surrounding to be clean without any dry and wet waste. So our proposed method is designed to collect dry and wet Waste using IOT and embedded system Technology. The government has provided two dustbins in every place to dump the waste, one for dry waste and other for wet waste. The sensors node is kept inside the dustbins. When it becomes full it sends the signal to the Transmitter node. After Receiving the signal from sensor node, it updates details area and location in the common cloud IOT database. Then it sends the information to particular Location vehicle Driver to collect the waste.in the vehicle it has separate provision to collect dry and wet wate using conveyor belt and h-bridge motor driver circuit. After collecting the waste it updates the information to the common cloud database system. node

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# A Smart Shopping System For Visually Impaired

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#### Abstract:--

Recently researches and many developments were going in the field of automation and embedded systems to develop and reduce the work of the manpower in industry as well as in public domain areas like Railway station (automatic ticket collection), Metro bus (online reservation), Flight (Auto Pilot mode) etc. To develop more Automation in and to help the blind people, old age and handicapped person we proposed a technique named as automatic trolley carrier navigation and the billing system. This method can be implemented in all shopping malls, big clothing shop, house hold appliances shops etc. It avoids the people to stand in a big queue and automatic billing can be done. Moreover it helps blind people, old age people, Handicapped Persons in the shopping malls make them to purchase in shopping malls by informing about the location of the product, quantity, price and automatic billing etc. The arrangement of the trolley consists of the robotic structure and servo motor which makes the trolley tonavigate and tell way of location of the product availability and price based on the user input. Theuser gives the command through the Bluetooth. Then the keypad passes the customer product information to the Micro-controller then the trolley moves automatically. The use of RFID reader is to scan the EPIC tag ID of all products to Identify the name, price, Quantity of the products. Depending on the RF signal from the RFID -reader, it passes the information to the micro -controller and from that it identify the product and display the name, Quantity, price of the each product in the LCD display. The ultrasonic sensor is used to detect the any obstacles as well as the object.

### Key words:

RFID, Ultra sonic sensor, DC servo motor and Bluetooth.

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# Classification Models and Hybrid Feature Selection Method to Improve Crop Performance

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#### Abstract:--

In this paper classification models and hybrid feature selection methods are implanted on benchmark dataset on the Mango and Maize. Particle Swarm Optimization–Support Vector Machine (PSO-SVM) classification algorithm for the selection of important features from the Mango and Maize datasets to analysis and also compare with the novel classification techniques. Various experiments conducted on these datasets, provide more generated rules and high selection of features using PSO-SVM algorithm and Fuzzy Decision Tree. The proposed method yield high accuracy output as compared to the existing methods with minimum Error Rate and Maximum Positive Rate.

### Key words:

Classification, Feature selection, PSO-SVM, Decision Tree

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