



Books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during academic year 2017-18

S.No.	Name of the teacher	Title of the book/chapters published	Title of the paper	Title of the proceedings of the conference	Name of the conference	National / International	ISBN number of the proceeding	ISBN number of the proceeding (Link)	Page No.
1	J.Sudhakar	New Era of FTGAs: Availability of field programmable gate arrays on cloud	NA	NA	NA	International	978-93-87-388-14-7	<a href="https://scholar.google.co.in/citations?view_op=view_citation&amp;hl=en&amp;user=Uihmz5EAAA&amp;AJ&amp;cstart=20&amp;pagesize=80&amp;citation_for_view=Uihmz5EAAA:YOwf2qJgpHMC">https://scholar.google.co.in/citations?view_op=view_citation&amp;hl=en&amp;user=Uihmz5EAAA&amp;AJ&amp;cstart=20&amp;pagesize=80&amp;citation_for_view=Uihmz5EAAA:YOwf2qJgpHMC</a>	13
2	Dr M Ben Swaroop G Sandhya	NA	Prevention of black hole attacks by proximity method in manets	Proceedings of 2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.vignan.ac.in/events/ETPEC17.pdf">https://www.vignan.ac.in/events/ETPEC17.pdf</a>	14
3	Dr B Prasad G Pavani Latha	NA	Spam E-Mail Filtering Method with Multilayer Neural Networks	Proceedings of 2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.vignan.ac.in/events/ETPEC17.pdf">https://www.vignan.ac.in/events/ETPEC17.pdf</a>	15
4	Dr N Tirupathi Rao T Haru Babu	NA	Information and Communication Technology for Specific Learning to Disabilities	Proceedings of 2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.vignan.ac.in/events/ETPEC17.pdf">https://www.vignan.ac.in/events/ETPEC17.pdf</a>	16

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5	Dr J Anitha Ch V Bhikshapathi	NA	Automatic count of Trees from Unmanned aerial vehicles Based Images	Proceedings of 2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.vignan.ac.in/events/ETPEC17.pdf">https://www.vignan.ac.in/events/ETPEC17.pdf</a>	17
6	Dr K Vijaya Kumar P Praveen Kumar	NA	Implementation of Pattern based Search for Evaluation of User Search Goals	Proceedings of 2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.vignan.ac.in/events/ETPEC17.pdf">https://www.vignan.ac.in/events/ETPEC17.pdf</a>	18
7	P Vijaya Bharathi B Madhavi	NA	Protect Networks and IoT systems Using Artificial Intelligence in Cyber Security	Proceedings of 2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.vignan.ac.in/events/ETPEC17.pdf">https://www.vignan.ac.in/events/ETPEC17.pdf</a>	19
8	L Bhupathi Rao Mohan Mahanthy	NA	Approach of Health Monitoring system with IoT and Machine Learning	Proceedings of 2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.vignan.ac.in/events/ETPEC17.pdf">https://www.vignan.ac.in/events/ETPEC17.pdf</a>	20
9	B A Ganesh D Chandra Mouli	NA	Priority Based Traffic Management System for Emergency Vehicles to Avoid Accidents in VANETS	Proceedings of 2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.vignan.ac.in/events/ETPEC17.pdf">https://www.vignan.ac.in/events/ETPEC17.pdf</a>	21

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10	A N Suresh S Venkatesh	NA	Secured data transmission and prevention of forgery attacks	Proceedings of 2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.vignan.ac.in/events/ETPEC17.pdf">https://www.vignan.ac.in/events/ETPEC17.pdf</a>	22
11	D Kamala Kumari M Krishnam Raju	NA	Secrete Data Communication in Sensor Devices with Minimal Keys	Proceedings of 2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.vignan.ac.in/events/ETPEC17.pdf">https://www.vignan.ac.in/events/ETPEC17.pdf</a>	23
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13	M Mamatha Lakshmi D Savitri	NA	Smart Camera With O	Proceedings of 2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.vignan.ac.in/events/ETPEC17.pdf">https://www.vignan.ac.in/events/ETPEC17.pdf</a>	25
14	S Chandini Ch Sekhar	NA	Music classification with Machine learning techniques	Proceedings of 2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.vignan.ac.in/events/ETPEC17.pdf">https://www.vignan.ac.in/events/ETPEC17.pdf</a>	26

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16	Ch Sudhakar G Vinaya Reddy	NA	Variance in social media usage emoji's & buzz words	Proceedings of 2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.vignan.ac.in/events/ETPEC17.pdf">https://www.vignan.ac.in/events/ETPEC17.pdf</a>	28
17	T Padhmavathi Dr M Ben Swaroop	NA	Social Media based Diversity from Emojis and Keywords	Proceedings of 2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.vignan.ac.in/events/ETPEC17.pdf">https://www.vignan.ac.in/events/ETPEC17.pdf</a>	29
18	I Raju Dr B Prasad	NA	Access Control Mechanism for Social Network Data	Proceedings of 2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.vignan.ac.in/events/ETPEC17.pdf">https://www.vignan.ac.in/events/ETPEC17.pdf</a>	30
19	Y V Sravya Dr N Tirupathi Rao	NA	Cloud Computing Mechanism for Social Network Data	Proceedings of 2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.vignan.ac.in/events/ETPEC17.pdf">https://www.vignan.ac.in/events/ETPEC17.pdf</a>	31

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21	M Sailaja Dr K Vijaya Kumar	NA	Cloud Computing Mechanism	Proceedings of 2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.vignan.ac.in/events/ETPEC17.pdf">https://www.vignan.ac.in/events/ETPEC17.pdf</a>	33
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27	J.Sudhakar	NA	A Novel ripple borrow subtractor cell design using asynchronous methodology	IEEE	2017 International Conference on Inventive Communication and Computational Technologies (ICICCT)	International	978-1-5090-5297-4	<a href="https://ieeexplore.ieee.org/document/7975172">https://ieeexplore.ieee.org/document/7975172</a>	39
28	J.Ravi Chandra	NA	Adaptive And Gradient Joint Constraints Gan	Proceedings International Conference on Recent Trends in Engineering, Science and Management	International Conference on Recent Trends in Engineering, Science and Management	International	978-81-949297-9-6	<a href="https://10times.com/icrtesm">https://10times.com/icrtesm</a>	40
29	Mr.V.S.V.Ranga Das	NA	Design Of Automatic Door Control System And Face Mask Detection Using Deep Learning	Proceedings International Conference on Recent Trends in Engineering, Science and Management	International Conference on Recent Trends in Engineering, Science and Management	International	978-81-949297-9-6	<a href="https://10times.com/icrtesm">https://10times.com/icrtesm</a>	41

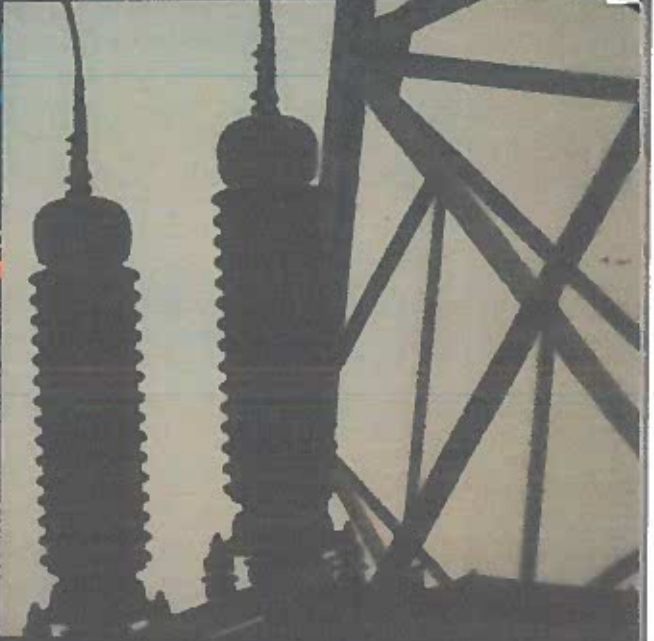
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36	V.Adinarayana	NA	Manhole cover monitoring system	Proceedings of 2nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	2nd International Conference on Emerging Trends in Power Energy and Control ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.flickr.com/photos/149721008@N02/albums/72157685033091050/">https://www.flickr.com/photos/149721008@N02/albums/72157685033091050/</a>	48
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38	D.Madhusudhan	NA	Bharathi script with character segmentation and recognition	Proceedings International Conference on Recent Trends in Engineering, Science and Management	International Conference on Recent Trends in Engineering, Science and Management	International	978-81-949297-9-6	<a href="https://10times.com/icrtesm">https://10times.com/icrtesm</a>	50
39	K.Lakshmi	NA	Bit rate enhancement in medical spectral images	Proceedings of 2 nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	Proceedings of 2 nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.vignan.ac.in/events/ETPEC17.pdf">https://www.vignan.ac.in/events/ETPEC17.pdf</a>	51



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41	G.Arshini	NA	Loud stored image privacy preservation	Proceedings of 2 nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	Proceedings of 2 nd International Conference on Emerging Trends in Power Energy and Control (ETPEC 17)	International	978-81-949297-9-6	<a href="https://www.vignan.ac.in/events/ETPEC17.pdf">https://www.vignan.ac.in/events/ETPEC17.pdf</a>	53
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47	Hari Jyothula	NA	Integration of local chan vase along with optimization techniues for segmentation	IEEE	2017 International Conference on Energy, Communication, Data Analytics and Soft Computing (ICECDS)	International	978-1-5386-1887-5	<a href="https://ieeexplore.ieee.org/document/8389961">https://ieeexplore.ieee.org/document/8389961</a>	59



# Electronics and Electrical Engineering New Findings

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V. CONCLUSIONS

In this paper modelling, simulation and output voltage regulation of KY-POBC using PIC has been successfully demonstrated using MATLAB/Simulink. It performs the voltage conversion from positive DC source voltage to positive DC load voltage. Theoretical analysis and simulations are presented to illustrate the effectiveness of designed PIC for the KY-POBC operated in CCM resulted in quick dynamic response, proficient regulated output voltage under line and load disturbances, excellent steady state and transient responses etc. It is, therefore, suitable for any stable power source real-world commercial applications and it is mainly designed for power supply in different medical equipments, telecom, robot systems and computer lap-top applications.

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CHAPTER - 2

**New Era of FPGAs: Availability of Field Programmable Gate Arrays on Cloud**

**Dr. J. Sudhakar**

*Professor & Head of the Department  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India.  
Sudhakar.jyo@gmail.com*

**Abstract:**

Cloud computing is a model for enabling omnipresent, expedient, demand network access to a communal pool of configurable computer resources (e.g., networks, servers, storage, applications) that can be swiftly provisioned and released with minimal management effort or service provider interaction. These features of cloud computing make it gorgeous many applications, e.g., database system, customer relations management. Specially, as an emerging technology, large data attractions from both the industrial and academic communities. Converts Field programmable Gate Array (FPGA) based hardware accelerators (HWA) gives superior performance in accelerating intensive applications akin multimedia image analysis. As well, some FPGAs support a dynamic partial reconfiguration (DPR) techniques to virtualized and distribute the FPGA underlying hardware resources in time multiplexing through run-time to the resource and power consumption. Therefore, in this paper cloud contribute able to improve their computing performance and provide accelerating service integrating virtualized FPGA in a cloud environment. In this paper we propose FPGA cloud framework which supports privacy preserving computing outsourcing.

**Keywords:** Cloud computing, Field Programmable Gate arrays (FPGA), Virtualized FPGA.

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 Women's Institute of  
 Engineering for Women  
 K.J. Peta, VSEZ (P.O.)  
 Visakhapatnam-49

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## Prevention of Black Hole Attacks by Proximity Method in MANETS

Dr. Anuja Swaroop<sup>1</sup>

Professor,

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

G. Saadhyani<sup>2</sup>

Assistant Professor,

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

### ABSTRACT

Ad-hoc Mobile Ad-hoc Networks (MANETS) is an infrastructure-less self-organizing network which contain a collection of mobile nodes moving randomly by changing their topology with limited resources. These Networks are prone to different types of attacks due to lack of central monitoring facility. The main aim is to inspect the effect of black hole attack on the network layer of MANET. A black hole attack is a network layer attack also called sequence number attack which utilizes the destination sequence number to claim that it has a shortest route to reach the destination and captures all the packets forwarded by the source. To overcome the effects of such attacks, we have proposed a detection technique by using Proximity Set Method (PSM) that efficiently detects the malicious nodes in the network. The severity of attack depends on the position of the malicious node that is near, midway or far from the source. The various network scenarios of MANETS with AODV routing protocol are simulated using NS2 simulator to analyze the performance with and without the black hole attack. The performance parameters like PDR, delay, throughput, packet drop and energy consumption are measured. The overall throughput and PDR increase with the number of flows but reduces with the attack. With the increase in the black hole attackers, the PDR and throughput reduces and close to zero as the number of black hole nodes are maximum. The packet drop also increases with the attack. The overall delay factor varies based on the position of the attackers. As the mobility varies the delay and packet drop increases but PDR and throughput decreases as the node moves randomly in all directions. Finally, the simulation results gives a very good comparison of performance of MANETS with original AODV, with black hole attack and applying proximity set method for presence of black hole nodes different network scenarios.

**Keywords:** AODV protocol, security, black hole attack, NS2 simulator, proximity set method, performance

### 1. INTRODUCTION

MANETS [1, 4, 5] is a self-organizing network which contains a collection of nodes which deploy multiple hop packet radio service to communicate among themselves without any infrastructure or centralized control. The various applications of MANETS are emergency, military, battlefield etc in which they could share surveillance



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Engineering for Women  
K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.

## Spam Mail Filtering Method with Multilayer Neural Networks

P. E. Prasad<sup>1</sup>

Professor,

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

G. Pavani Lakshmi<sup>2</sup>

Assistant Professor

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

### ABSTRACT

Nowadays increased spam e-mails are causing inconvenience to internet users and organizations and are considered as a serious wastage of resources, time, memory, space and efforts. Therefore, it is crucial to have an automatic e-mail classification system for the identification of spam e-mails. Spam mails need to be classified and separated from ham (non-spam) mails as they are the source of financial loss and annoyance for the recipients. The spam e-mail classifier performance can be greatly enhanced with the use of Artificial Neural Network classification. It has capability of learning huge amount of data with high dimensionality in a better way. In this paper, Multilayer Perceptron and Back Propagation Training algorithm is explored where 'generalized delta' rule is used for weight adjustments for hidden layers. The Perceptron uses Back Propagation Learning model for calculating its gradient. For fast convergence the learning rate  $\eta$  is changed for every iteration which is proportional to the negative gradient of the instantaneous error with respect to  $\eta$ . To avoid the local minima problem the weights are initialized to small random numbers which are uniformly distributed in the range  $[-\alpha/\sqrt{N_i}, +\alpha]$  Where  $N_i$  is the number of inputs, and  $\alpha$  takes value in (1, 3). In this paper, four Multilayer Perceptron (MLP) Network models are constructed. For testing our model benchmark data drawn from UCI, Machine Learning Repository is employed for training the neural network. Crucial to have an automatic e-mail classification system for the identification of spam e-mails. Spam mails need to be classified and separated from ham (non-spam) mails as they are the source of financial loss and annoyance for the recipients. The spam e-mail classifier performance can be greatly enhanced with the use of Artificial Neural Network classification. It has capability of learning huge amount of data with high dimensionality in a better way. Crucial to have an automatic e-mail classification system for the identification of spam e-mails. Spam mails need to be classified and separated from ham (non-spam) mails as they are the source of financial loss and annoyance for the recipients. The spam e-mail classifier performance can be greatly enhanced with the use of Artificial Neural Network



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K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.

## Information and Communication Technology for Learning to Disabilities

Dr.N.Priyathi Rao<sup>1</sup>  
Associate Professor,

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

Tiffen Banerjee<sup>2</sup>  
Assistant Professor

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

### ABSTRACT

The purpose of this paper is to discuss the potential benefits of using information and communication technology (ICT) to facilitate and promote learning for students with specific learning disabilities. This work reports the most representative studies on the inclusion of ICT applications for target users and aims to derive practical guidelines on this aspect by exploring the experience of Arabic readers with and without dyslexia when using online text, based on a user study with a group of 32 users (12 users with dyslexia). The data gathered examines spelling errors encountered by Arabic learners. The comparison of the experiences of learners with and without dyslexia has revealed insights into the need to consider Arabic language features that account for the dyslexia.

**Keywords:** Communication technology; e-learning ; online text; dyslexia; Specific Learning Disabilities (SLD); Arabic content.

### INTRODUCTION

The use of Information and Communication Technologies (ICT) in the field of education has recently increased. A substantial amount of research [1,2,3] has demonstrated that ICT use is important in supporting students, particularly those with specific learning disabilities. Dyslexia is one of the most common learning disabilities affecting a student's educational development. It is a neurologically based learning disability that causes difficulties with reading and writing. Dyslexia is a specific condition, according to [4]. However, the use of ICT may benefit students with learning disabilities. guidelines on this aspect by exploring the experience of Arabic readers with and without dyslexia when using online text, based on a user study with a group of 32 users (12 users with dyslexia) [5]. The data gathered examines spelling errors



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Engineering for Women  
K.J.Peta, VSEZ (P.C.)  
Visakhapatnam-49



## Automatic Tree Count from Unmanned aerial vehicles Based Images

Dr. Lakshmi<sup>1</sup>

Associate Professor,

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

Ch.V. Bharathi<sup>2</sup>

Assistant Professor,

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

### ABSTRACT


Unmanned aerial vehicles (UAVs) are successfully used in a wide range of applications, including military, security, monitoring, emergency aid, tourism, agriculture, and forestry. The goal of this research is to automatically count trees on the Sirt University campus using high-resolution images obtained by UAV. Offline at the ground station, images obtained at 30 metres height with 20% overlap were stitched together using Adobe Photoshop's photo merge tool. The 3x3 median and mean filters were used to denoise and smooth the resulting image. The bounding boxes of different objects on these maps were labelled in the modalities of HSV (Hue Saturation Value), RGB (Red Green Blue), and Gray after the orthophoto map of the aerial images captured by the UAV in certain regions was generated. Using various machine learning algorithms, training, validation, and test datasets were generated and then evaluated for classification success rates related to tree detection. Finally, a ground truth model was created by obtaining the actual tree numbers, and prediction performance was calculated by comparing the reference ground truth data to the proposed model. With an average accuracy rate of 87% obtained using the MLP classifier in predetermined regions, it is considered that significant success has been achieved for tree count.

Keywords: Military, RGB, HSV, MLP classifier.

### INTRODUCTION

Forest ecosystems are vital to the continuation of life because they retain more biodiversity than other ecosystems. Forests cover approximately 31% of the world's land area. As shown in Fig. 1, five countries account for more than half of the world's forests: Russia, Brazil, Canada, the United States, and China [1]. Similarly according to data in Fig. 2, approximately 27.6% of Turkey's lands are classified as forest areas. Forests, as is well known, are extremely important for both the country's economy and a leap and sustainable ecosystem.



  
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Visakhapatnam-49.

## Empirical Evaluation of Pattern based Search for Evaluation of User Search Goals

**K. Vijaya Kumar<sup>1</sup>**  
Associate Professor,  
Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

**P. Praveen Kumar<sup>2</sup>**  
Assistant Professor,  
Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

### ABSTRACT

A Generation of query oriented relevant information from search engine is always an interesting research issue in the field of information retrieval. Satisfying the user search goal is a complex task while searching user specific query, because of billions of related and unrelated data available over the network. In this proposed approach we are proposing an empirical model of search mechanism with FP Tree for finding frequent use of patterns (sequence of links) and evolutionary algorithm for optimal results with efficient feedback sessions (based on query clicks) are constructed from user click-through logs and can efficiently reflect the information needs of users.

Keywords: User specific Query, Empirical Model, Evolutionary Model.

### 1. INTRODUCTION

Various approaches proposed by authors from years of research in the field of search engine optimization, every research work have its own pros and cons. Some of the relevant documents based on frequency of the keyword or terms[1] and an Agglomerative graph based clustering approach proposed by "Doug Beeferman" and "Adam Berger" over query log for cluster the relevant data[2]. File relevance score computed based on term frequency (number occurrences of a keyword in a single document) and inverse document frequency parameters. The Mostly used search engines works based on relevance score, time stamps and query click graph. Latest technology of Search engines follows basic concepts of semantic comparison of keywords, localization and cache implementations for optimal performance. Simple term based and log based approach proposed by "Hsiao-Tieh Fu". In term based approach it finds the matched keywords and its synonyms from the log and retrieves the relevant documents based on frequency of the keyword or terms[1] and an Agglomerative graph based clustering approach proposed by "Doug Beeferman" and "Adam Berger" over query log for cluster the relevant data[2]. File relevance score computed based on term frequency (number occurrences of a keyword in a single document) and inverse document frequency parameters. This approach concentrates on frequency of keyword and time stamps of the document. So there is no priority for newly updated documents even though they are relevant.



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K.J.Peta, VSEZ (P.O.)  
Visakhapatnam-49

## Protect Networks and IoT systems Using Artificial Intelligence in Cyber Security

P Vijaya Bharathi<sup>1</sup>

Assistant Professor,  
Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

B Madhavi<sup>2</sup>

Assistant Professor,  
Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

### ABSTRACT

In recent years, the use of the Internet of Things (IoT) has increased exponentially, and cyber security concerns have increased along with it. On the cutting edge of cyber security is Artificial Intelligence (AI), which is used for the development of complex algorithms to protect networks and systems, including IoT systems. However, cyber-attackers have figured out how to exploit AI and have even begun to use adversarial AI to carry out cyber security attacks. This review paper compiles information for several other surveys and research papers regarding IoT, AI, and attacks with and against AI and explores the relations between these three topics with the purpose of comprehensively present.

Keywords: IoT, Cyber security, Security attacks, Artificial Intelligence.

### 1. INTRODUCTION

Since around 2008, when the Internet of Things (IoT) was born [1], its growth has been booming, and now IoT is a part of daily life and has a place in many homes and businesses. IoT is hard to define as it has been evolving and changing since its conception, but it can be best understood as a network of digital and analog machines and computing devices provided with unique identifiers (UIDs) that can exchange data without human intervention [2]. In most cases, this manifests as a human interfacing with a central hub device or application, often a mobile app, that then goes on to send data and instructions to one or multiple fringe IoT devices [3]. The fringe devices can complete functions if required and send data back to the hub device or application, which the human can then view. The IoT concept has given the world a higher level of accessibility, integrity, availability, reliability, confidentiality, and interoperability in terms of device connectivity [4].

However, IoTs are vulnerable to cyber attacks due to a combination of their multiple attack surfaces and their networks and thus lack of security standardizations and requirements [5]. There are a large variety of cyber attacks that attackers can leverage against IoTs depending on what aspect of the system they are targeting and what they hope to gain from the attack. As such, there is a large volume of research into cyber security an attack is occurring [6], surrounding IoT. This includes Artificial Intelligence (AI) approaches to protecting IoT systems from attackers, usually in terms of detecting unusual behavior that may



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Engineering for Women  
K.J.Peta, VSEZ (P.O)  
Visakhapatnam-4

## Approach to Health Monitoring system with IoT and Machine Learning

L Bhanathi Rao<sup>1</sup>

Assistant Professor,

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

Mohan Mahanty<sup>2</sup>

Assistant Professor,

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

### ABSTRACT

In the modern health care environment, the usage of IoT technologies brings convenience of physicians and patients, since they are applied to various medical areas. The body sensor network (BSN) technology is one of the core technologies of IoT developments in healthcare system, where a patient can be monitored using a collection of tiny-powered and lightweight wireless sensor nodes. However, the development of this new technology in healthcare applications without considering security makes patient privacy vulnerable. In this paper, at first, we highlight the major security requirements in BSN based modern healthcare system. Subsequently, we propose a secure IoT-based healthcare system using BSN, called BSN-Care, which can efficiently accomplish those requirements. The body sensor network (BSN) technology is one of the most imperative technologies used in IoT-based modern healthcare system. It is basically a collection of low-power and lightweight wireless sensor nodes that are used to monitor the human body functions and surrounding environment. Since BSN nodes are used to collect sensitive (life-critical) information and may operate in hostile environments, accordingly they require strict security mechanisms to prevent malicious interaction with the system.

Keywords: Body Sensor Network (BSN), IoT, Machine Learning, Fuzzy Logic & Random Forest Algorithms

### 1. INTRODUCTION

Development of tele medicine technology increase rapidly becomes more sophisticated and widely used to support applications in the health sector. One of the technologies which are support tele medicine is wireless sensor network (WSN) for a vital signal monitoring system. Furthermore, WSN is connected to the internet that can be accessed widely; the technology is commonly known as the Internet of Things (IoT). IoT is a dynamic network that can use the intelligent interface that can be effortlessly integrated into the global information network.



  
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K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.

# Priority-based Traffic Management System for Emergency Vehicles to Avoid Accidents in VANETS

H A Ganesh

Assistant Professor

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

D Chandra Mohan

Assistant Professor

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

## ABSTRACT

Due to tremendous increase of vehicles in number leads to excessive congestion of vehicles at intersection of roads. It causing inconvenience to emergency vehicles like Ambulance and Fire brigade etc, ultimately which is the cost of human life. To avoid this, Emergency Vehicles will have to give high priority to overcome from the congestion. Vehicular Ad-Hoc Networks (VANETS) is a network which is used to create a temporary communication among the vehicles. In this paper, priority based traffic management system is proposed to give high priority to emergency vehicles and establishing communication among the vehicles through VANET. Due to this high priority, there is no necessity to wait for the emergency vehicles at the traffic signals to get the green signal while communicating with traffic controller. In this paper, SUMO simulator is used for experimental analysis. The result indicates that the proposed methodology reduces the waiting time when compared to the existing system.

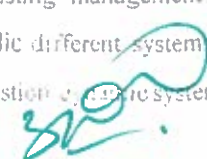
Keywords: Emergency Vehicles, Priority, VANET

## INTRODUCTION

VANET technology consists of nodes as vehicles which communicate with other vehicles or with the roadside Unit. VANETS support a huge number of services in providing aid to intelligent transport system the vehicles area mixture of emergency vehicles (EVs) such as Ambulance and other vehicles. One of the problems of modern life in urban area is the rapid growth of urban traffic. Therefore, Emergency vehicles suffer from lot of congestion and sometime it may lead to the death cases. In order to solve this problem, a dynamic system based on priority of the emergency vehicles is proposed to reduce the delay of emergency vehicles.

After many researchers have proposed different systems to solve the problem of emergency vehicle in many different ways. Mohamed Akram Arradani, Etal [1] described about the existing management of traffic at intersection points do not offer a solution that meets the requirements of public different system to solve the problem of emergency vehicles in many Emergency vehicles suffer from lot of congestion in existing system



  
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Vignan's Institute of  
Engineering for Women  
K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.



## Secured Data Transmission and Prevention of Forgery Attacks

A.N Suresh<sup>1</sup>

Assistant Professor,  
Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

S.Venugopesh<sup>2</sup>

Assistant Professor,  
Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

### ABSTRACT

Today almost all organizations in the world are network centric paradigm and to safeguard the data in a world where technology is advancing, systems are changing rapidly and information flows freely requires efficient secure channel at the endpoint. Security is the heart of IT revolution and more specifically user authentication and key establishment are the rudimentary services in secure communications. Though many systems, schemes bank on public key digital certificate user authentication and key establishment, failed in getting authenticated due to some forgery attacks. Public key Digital certificate though gained popularity in the public key infrastructure (PKI) in providing authentication to user public key, itself cannot be used to safeguard an authenticate user. In this paper, we propose a novel approach using GDC for user authentication and key establishment. A GDC is a kind of Digital Certificate which contains user's public information and Digital signature which is issued and signed by the trusted Certificate Authority. The advantage of GDC is that, unlike the public key Digital Certificate, it does not contain user's public key. So, the digital signature can never be revealed to the verify and this is where a digital signature of GDC becomes a security factor that can be used for user authentication. Using this phenomenon, we have implemented a Discrete Logarithm Protocol which satisfies in achieving user authentication and secret key establishment. In addition to this, by using the shared secret key, we have also exchanged the data between the entities through AES (Advanced Encryption standard) or IDEA (Triple Data Encryption Algorithm) Cryptographic algorithm.

**Keywords:** Generalized digital certificate, user authentication, key establishment, shared-secret key.

### INTRODUCTION

Though many systems, schemes bank on public key digital certificate user authentication and key establishment, failed in getting authenticated due to some forgery attacks. Public key Digital certificate though gained popularity in the public key infrastructure (PKI) in providing authentication to user public key, itself cannot be used to safeguard an authenticate user. In this paper, we propose a novel approach using GDC for user authentication and key establishment. A GDC is a kind of Digital Certificate which contains user's public information and Digital signature which is issued and signed by the trusted Certificate Authority.



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Vignan's Institute of  
Engineering for Women  
K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.

## Secure Data Communication in Sensor Devices with Minimal Keys

**Mrs. D NAMALA KUMARI**  
Assistant Professor,  
Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Vizakhapatnam, Andhra Pradesh, India

**Mr. G. Srinivas Reddy**  
Assistant Professor,  
Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

### ABSTRACT

The Internet traffic is increasing day by day. Also secure data communication is the need of the hour. But the standard compression techniques which are in use, are independent and do not consider the security issues. Hence, we present a general encoding technique for secure data communication over a language  $L$  with a finite alphabet set. The encoded message is 2 bits/byte of which the first is a vector of quotients denoted as  $Q$  and the second is a representation of remainder. We discuss the security of the message is retained by communicating  $P$  over a secure channel using some secure cryptographic mechanism. The computation overhead is also reduced as the encryption is done only on the part of the encoded message. Further, this encoding mechanism provides a lossless compression are using Huffman algorithm for encryption.

**Keywords:** compression, encryption, decryption, encoding.

### 1. INTRODUCTION

Conditions, where sensor hubs are often, can be controlled or uncontrolled. WSN impressively in many of the tough applications which require progressive security administrations [1]. To guarantee information security, security have to be utilized [2]. The innovation based security administrations in WSN is to safeguard the hub's resources, rights and misuses. It is security convention in WSN give informed a Security, Honesty, Availability, and Access [3]. The security conventions can be broadly arranged by their security. If no security give just authentication (AES-CMAC), give verification just (AES-CBC-Macintcl.), lastly give authentication and validation (AES-CCM) [4]. The security convention has a mystery key. The mystery key ought to be conveyed hubs prior to moving an information. Every hub should have the mystery key for message authentication translating [5]. The essential security information unit in WSN is Cryptography. In view of the key method is characterized with symmetric encryption (every hub has a common key), and asymmetric encryption (every hub has a pair of public and confidential key). Symmetric key cryptography activity is quicker than asymmetric key cryptography and more appropriate to use in WSN [9]. Besides key renewal is a vital activity between a few hubs in WSN, to gives the security of information transmission. In WSN, the communication is a bit stream figure encryption tasks encoded with a software key in the CBC Mode and encryption mode.



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Vignan's Institute of  
Engineering for Women  
K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-4

## Disputative Process Evaluation of Mobile Device

K. Madhuri<sup>1</sup>

Assistant Professor,

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

V. Sri Lakshmi<sup>2</sup>

Assistant Professor,

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

### ABSTRACT

As mobile devices grow in popularity and ubiquity in everyday life, they are often involved in digital crimes and digital investigation as well. The world of mobile device forensics is a complicated one. Unlike the PC world's limited number of major operating system vendors, there are countless manufacturers of mobile devices. To complicate things further, each manufacturer may have his own proprietary technology and formats. Add to this the filtering process of data on mobile devices such as cellular phones and personal digital assistants (PDAs) and you have a challenging environment to work in. This research paper will document in detail the methodology used to examine mobile electronic devices for the data critical to security investigations. The methodology encompasses the tools, techniques and procedures needed to gather data from a variety of common devices.

**Keywords:** Forensic Phone Forensics; Handheld devices; Evidence; Analysis.

### 1. INTRODUCTION

The forensic environment for Further level security arrangements (Threats) preliminary evaluated mobile phone based and determining to the packages and software (updates) incrementally, self-tuned removal contraceptive, for at four More. The overall performance (analysis). The purpose of this cycle assessment was to survey members' communication with the organization from a specialist co-operation. We led a clear communication to evaluate members' communication and cooperation to investigate how the intercession could function, we analyzed relationship between members with the mediation and cooperation use utilizing calculated response examination. We embraced a directed response examination to survey relationship between pattern socio-segment factors and steadily mentioning address a guide a variable viewed associated with contraceptive use. We led a clear communication to evaluate members' communication with the organization to investigate how the intercession could function, we surveyed relationship between cooperation increment processes removal contraceptive at four. Some techniques and



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Vignan's Institute of  
Engineering for Women  
K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.



### Smart Camera With Open CV

**Dr. Marutha Lakshmi<sup>1</sup>**

Assistant Professor,

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

**Dr. Srikanth**

Assistant Professor,

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

#### ABSTRACT

A new kind of wireless multi-hop network architecture called Wireless Mesh Network (WMN) has recently attracted much attention. WMNs have recently gained a lot of popularity due to their rapid deployment, instant reconfiguration capabilities and support for many types of application. For these applications, network congestion and interference is the main problem for lower throughput and longer delay. Most of the present routing protocols for WMNs are not designed to combat congestion, interference, and optimal link quality. In this paper, we propose congestion and interference aware multipath routing protocol called EAOMDV-ILB for multiradio multiple interface wireless mesh networks (MIMNs). The protocol calculates multiple paths using proposed airtime congestion and interference aware (ACIA) metric and performs load balancing by computing queue utilization of multiple interfaces of a node in terms of reduced interflow and intra-flow interference. Moreover, the effective load balancing technique maintains data transmission on optimal path by diverting traffic all the way through congested area. Simulation results using ns2 reveal that our proposed load balancing scheme performs better than AOMDV in terms of throughput, end-to-end delay with high traffic density.

**Keywords:** Wireless Mesh Network, multiple interfaces and multiple channels, airtime link cost metric, round robin congestion, load balancing, recent research, throughput factor.

#### 1. INTRODUCTION

As wireless networks evolve into the next generation to provide better services, a key technology, wireless mesh networks (WMN), has emerged recently. Most of the present routing protocols for WMNs are not designed to combat congestion, interference, and optimal link quality. In this paper, we propose congestion and interference aware multipath routing protocol called EAOMDV-ILB for multi radio multiple interface wireless mesh networks (MIMNs). The protocol calculates multiple paths using proposed airtime congestion and interference aware (ACIA) metric and performs load balancing by computing queue utilization of multiple interfaces of a node in terms of reduced inter-flow and intra-flow interference. Moreover, In WMNs, nodes are configured with mesh routes and



**PRINCIPAL**  
Vignan's Institute of  
Engineering for Women  
K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.

## Image Denoising and Classification with Machine learning techniques

S Chandini<sup>1</sup>

Assistant Professor,

Department of Computer Science Engineering,

Vignan's Institute of Engineering for Women,

Visakhapatnam, Andhra Pradesh, India

P. S. Lakshmi<sup>2</sup>

Assistant Professor,

Department of Computer Software Engineering,

Vignan's Institute of Engineering for Women,

Visakhapatnam, Andhra Pradesh, India

### ABSTRACT

This paper introduces the concept of image fusion technique for impulse noise reduction in digital images. Image fusion is the process of combining two or more images into a single image while retaining the important features of each image. Multiple image fusion is an important technique used in military, remote sensing, and medical applications. The images captured by two different sensors undergo filtering using median filter and spatial median filter based on the noise density in the image. The filtered images are fused into a single image, which combines the uncorrupted pixels from each one of the filtered images. The fusion algorithm is based on Bi-dimensional Empirical Mode Decomposition (BEMD), which decomposes an image into residue and IMF components. Different fusion rules are used to combine and Residual components. Finally, the image is recovered using inverse BEMD. The performance evaluation of the fusion algorithm is evaluated using structural similarity index (SSIM) between original and fused image. Experimental results show that this fusion algorithm produce a high-quality image than individually input image.

**Keywords:** Image fusion, Empirical Mode Decomposition, Impulse Noise, Image Processing.

### 1. INTRODUCTION

Digital images are often corrupted during acquisition, transmission or due to faulty memory on the image. Impulse noise is the most common type of noise in digital images. Impulse noise is characterized by a high density in the image. The filtered images are fused into a single image, which combines the uncorrupted pixels from each one of the filtered images. The fusion algorithm is based on Bi-dimensional Empirical Mode Decomposition (BEMD), which decomposes an image into residue and IMF components. Different fusion rules are used to combine and Residual components. Finally, the



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K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.

# Protection Motivation Theory to Predict Facebook Users' Privacy Behaviors

B Venkatesh<sup>1</sup>

Assistant Professor

Department of Computer and Information Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

M Sri Jayasri<sup>2</sup>

Assistant Professor

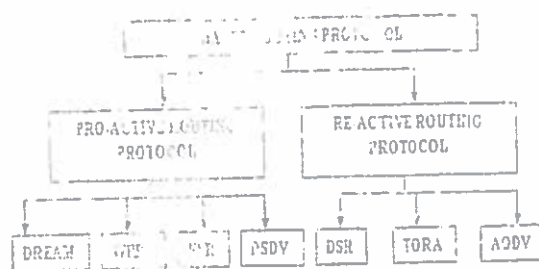
Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

## ABSTRACT

A Mobile Ad-hoc network (MANET) consists of a number of mobile wireless nodes, among which the communication is done without having any centralized control. MANET is a self organized, self configurable network having no infrastructure, and in which the mobile nodes move arbitrarily. In this work a study has been carried out on the behaviour of two different MANET reactive routing protocols i.e. AODV (Ad Hoc On-Demand Distance Vector Routing Protocol) and DSR (Dynamic Source Routing Protocol) using the NS-2[1] simulation tool. The performance of the existing protocols is analyzed in terms of their average throughput, end to end delay & packet delivery ratio and their results are shown in graphical forms. To evaluate the efficiency of protocol, we have undergone comparison study of DSR and AODV protocols using different scenarios.

Keywords: MANET, Network Simulator-2, Routing protocols

## 1. INTRODUCTION



MANET consists of a number of mobile devices that come together to form a network or network without any support from any existing Internet infrastructure[4] or any other kind of fixed stations. Each device in a MANET is free to move independently in any direction, and will therefore change its links to other devices frequently.



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K.J.Peta, VSEZ (P.O.)  
Visakhapatnam-49

## Variations in Social Media usage emoji's & Buzzwords

C. Sedhakar  
Assistant Professor,

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam-530 020, Andhra Pradesh, India

G. Vitha  
Assistant Professor,

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam-530 020, Andhra Pradesh, India

### ABSTRACT

In recent years, many for-profit organizations have started using wireless sensor networks to remotely monitor patient health and also started using cloud-based centralized database for storing the electronic medical record (EMR). The general aim of our work is to propose an architecture to integrate the healthcare cloud with wireless sensor network (WSN) technology through smart phones. The healthcare apps on smart phones monitor patients' health wirelessly providing real-time updates of the patients' health condition to the doctors and other medical professionals via the cloud. The proposed architecture contains a filter system running on the smart phones, which takes the patient's health records from the smart phone apps and compares with a lookup table, which contains the normal readings of the different health parameters. If the incoming health readings to the filter are found to be abnormal, then an alert SMS is sent to the doctors with whom the patient is associated, and also the records are also sent to the cloud running an EMR system maintained by the hospital. The filter determines whether or not, a consolidated report is sent to the doctor through SMS, along with the location (address) of the patient, sensed through the GPS(Global Positioning System) sensor running on the smart phone.

**Keywords:** Wireless sensor network (WSN), Electronic Medical Record (EMR)

### 1. INTRODUCTION

Monitoring processes for gathering patients' health data require a great deal of work that includes collecting the health data, meta-analysis and analysis of the information collected [1]. These kinds of processes are usually error prone and difficult to be slow. However, today's biomedical sensor solutions are effective for only an individual parameter (for example ECG, EEG, PPG and the like) but are not integrated into a complete body area network, which connect cloud with wireless sensor network (WSN) technology through smart phones. The healthcare apps on smart phones monitor patients' health wirelessly providing real-time updates of the patients' health condition to the doctors and other medical professionals via the cloud. The proposed architecture contains a filter system running on smart phones, which takes the patient's health records from the smart phone apps and compares with a lookup table, which contains the normal readings of the different health parameters. If the incoming health readings to the



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Engineering for Women  
K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.

## Media based Diversity from Emojis and Keywords

T Padmavathy<sup>1</sup>

Assistant Professor,

Department of Computer Science Engineering,

Vignan's Institute of Engineering for Women,

Visakhapatnam, Andhra Pradesh, India

Dr. H. R. Svaroop<sup>2</sup>

Assistant Professor,

Department of Computer Science Engineering,

Vignan's Institute of Engineering for Women,

Visakhapatnam, Andhra Pradesh, India

### ABSTRACT

A social media is a dynamic wireless that can be formed without the need for any pre-existing infrastructure in which each node can act as a router. Mobile ad hoc network (MANET) is an autonomous system of mobile nodes connected by wireless links. Each node operates as a router to forward packets and also acts as an end system. The nodes are free to move about and organize themselves into a network. The position of the nodes will be changed frequently. The main classes of routing protocols are Proactive, Reactive and Hybrid. A Reactive (on-demand) routing strategy is a popular routing strategy for wireless ad hoc routing. The design follows the idea that each node tries to reduce routing overhead by not routing packets whenever a communication is requested. In this work an attempt has been made to compare the performance of three routing protocols for MANETs:- Dynamic Source Routing (DSR) protocol, Ad-hoc On-demand Multicast Distance Vector Routing (AOMDV) and Zone Routing Protocol(ZRP). DSR is reactive gateway discovery algorithms where a mobile device of MANET connects by gateway only when it is needed. AOMDV was designed primarily for highly dynamic ad hoc networks where link failures and route changes occur frequently. It maintains routes for destinations in active communication and uses sequence numbers to determine the freshness of routing information to prevent routing loops. It also a timer to prevent and provides a way for mobile nodes to respond to link breaks and topology changes. ZRP is hybrid protocol, it is the combination of both proactive and reactive protocols. The performance characteristics are analyzed using varying number of nodes. These simulations are carried out using the ns-2 network simulator. The results presented in this work illustrate the importance of carefully evaluating and implementing routing protocols in an ad-hoc environment.

KEYWORDS: MANET, PROTOCOLS, DSR, AOMDV, ZRP.

### 1 INTRODUCTION

An ad-hoc network or MANET is a collection of mobile nodes sharing a wireless channel without any centralized control or established communication backbone. They have no fixed routers with fixed location, are capable of movement and arbitrarily dynamic ad-hoc network or MANET is a collection of mobile



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Engineering for Women  
K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49



## Adaptive Control Mechanism for Social Network Data

J. Raju

Assistant Professor

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

Dr B. Prasad

Professor

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

### ABSTRACT

A social network is a self-configuring network that eliminates the complexity of infrastructure and allows devices to communicate wirelessly. Messages are transferred from one node to another without any involvement of base station. Each device must maintain proper information for routing and packet delivery. As number of nodes increases, the complexity of MANET increases in various ways. This can be possibly achieved through cluster generation. Clustering provides more efficient use of resources in large dynamic networks. Clustering achieve communication reliability for a large number of nodes and high mobility. Through this paper we analyze the behaviour of AODV and DSDV routing protocols through cluster generation in MANETS. NS2 provides a substantial support for simulation over wireless network. As number of nodes increases, the complexity of MANET increases in various ways. This can be possibly achieved through cluster generation. Clustering provides more efficient use of resources in large dynamic networks. Clustering achieve communication reliability for a large number of nodes and high mobility. Through this paper we analyze the behaviour of AODV and DSDV routing protocols through cluster generation in MANETS. NS2 provides a substantial support for simulation over wireless network.

**Keywords:** AODV, Clustering, DSDV, MANET

### 1. INTRODUCTION

Mobile Network (MANET) is a collection of mobile nodes (hosts) which communicate with each other via wireless either directly or relying on other nodes as routers [1]. MANETS does not depend any base station for communication. Nodes in MANETS have random movement. Therefore, the network topology changes very rapidly and is highly dynamic. All network activities, such as path discovery, packet delivery have to be executed by the nodes itself, individually or collectively. A MANET is an autonomous group of mobile nodes that communicate over slow speed wireless. Manet is kind of wireless self configuring adhoc network and a network of mobile nodes connected by wireless links. These are used everywhere where there is either little or no communication infrastructure. The devices to maintain connections to the network as well as easily add and remove devices to and from the network.



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K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.

## Cloud Computing Mechanism for Social Network Data

Y V Sravya<sup>1</sup>

Assistant Professor,

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

Dr N Therapathi<sup>2</sup>

Associate Professor,

Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

### ABSTRACT

Nowadays, the organizations are emphasizing on the security and resilient aspect of the cloud computing to protect the privacy and confidentiality of their data information. However, the hypervisor attack remains a hot issue by the cloud user even though enormous research have accomplished to inhibit the vulnerabilities in the virtualized cloud environment. Therefore, we have proposed the Virtual Machines and Hypervisor Intrusion Detection System, VMHIDS as our technique in detecting and preventing the hypervisor attacks in the virtualized cloud environment. The VMHIDS has adopted several features from the other techniques by inspecting the tasks frequently which then prevent suspicious event occur. Through the VMHIDS, the hypervisor attack is mitigated. In today's days, the organizations are emphasizing on the security and resilient aspect of the cloud computing to protect the privacy and confidentiality of their data information. However, the hypervisor attack remains a hot issue by the cloud user even though enormous research have accomplished to inhibit the vulnerabilities in the virtualized cloud environment. Therefore, we have proposed the Virtual Machines and Hypervisor Intrusion Detection System, VMHIDS as our technique in detecting and preventing the hypervisor attacks in the virtualized cloud environment. The VMHIDS has adopted several features from the other techniques by inspecting the tasks frequently which then prevent suspicious event occur. Through the VMHIDS, the hypervisor attack is mitigated.

**Keywords:** VMHIDS, Cloud computing, virtualized cloud environment.

### INTRODUCTION

With the birth of industry and commerce, humans have needed increasingly better ways to store data and access it whenever required. While valuable information was stored physically on paper in the pre-computer era, today, data is predominantly stored in hard drives of computers and servers. These hard drives and servers can store, process, and retrieve a considerable amount of data quickly and conveniently. However, both hard drives and servers come with their



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Engineering for Women  
K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.

## Cloud Data for Social Network Data with Security Concepts

Dr. J. Anitha  
Department of Computer Science Engineering,  
Vignan's Institute of Engineering & Technology,  
Visakhapatnam, Andhra Pradesh, India

Dr. J. Anitha  
Associate Professor,  
Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

### ABSTRACT


Nowadays ubiquitous sensor devices such as mobile phones, laptops, GPSs, etc. allow one to access not only his own data but also others' on cloud servers. To enhance security, data is usually encrypted before sending to the servers. However, making use of others' ones encrypted data without their decryption keys is very challenging. In this paper, we suggest a framework that allows users of cloud-based social networks to share their private data in a secure manner. In our framework, every user in a group has his own secret key to encrypt and decrypt data. The key will be revoked if the user leaves the group. Using proxy re-encryption schemes, the framework helps any user be able to access others' data in the same group. Nowadays, ubiquitous sensor devices such as mobile phones, laptops, GPSs, etc. allow one to access not only his own data but also others' on cloud servers. To enhance security, data is usually encrypted before sending to the servers. However, making use of others' ones encrypted data without their decryption keys is very challenging. In this paper, we suggest a framework that allows users of cloud-based social networks to share their private data in a secure manner. In our framework, every user in a group has his own secret key to encrypt and decrypt data. The key will be revoked if the user leaves the group. Using proxy re-encryption schemes, the framework helps any user be able to access others' data in the same group.

Keywords: Cloud computing, Security, GPS, Cloud servers.

### INTRODUCTION

When information or data is shared over the internet, it goes through a series of network devices worldwide, which form part of the public internet. As data travels through the public internet, there is a chance that it can be intercepted or stolen



  
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K.J.Peta, VSEZ (P.O.)  
Visakhapatnam-49



## Cloud Computing Mechanism

M Sathya<sup>1</sup>  
Assistant Professor,  
Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

Dr K Vijaya Kumar<sup>2</sup>  
Associate Professor,  
Department of Computer Science Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

### ABSTRACT

As always, the organizations are emphasizing on the security and resilient aspect of the cloud computing to protect the privacy and confidentiality of their data information. However, the hypervisor attack remains a hot issue by the cloud user even though enormous research have accomplished to inhibit the vulnerabilities in the virtualized cloud environment. Therefore, we have prepared the Virtual Machines and Hypervisor Intrusion Detection System, VMHIDS as our technique in detecting and preventing the hypervisor attacks in the virtualized cloud environment. The VMHIDS has adopted several features from the other techniques by inspecting the tasks frequently which then prevent suspicious event occur. Through the VMHIDS, the hypervisor attack is mitigated. The security and resilient aspect of the cloud computing to protect the privacy and confidentiality of their data information. However, the hypervisor attack remains a hot issue by the cloud user even though enormous research have accomplished to inhibit the vulnerabilities in the virtualized cloud environment. Therefore, we have prepared the Virtual Machines and Hypervisor Intrusion Detection System, VMHIDS as our technique in detecting and preventing the hypervisor attacks in the virtualized cloud environment. The VMHIDS has adopted several features from the other techniques by inspecting the tasks frequently which then prevent suspicious event occur. Through the VMHIDS, the hypervisor attack is mitigated.

Keywords: Cloud Computing, Security, Resilient, Hypervisor Attack

### INTRODUCTION

With the birth of industry and commerce, humans needed increasingly better ways to store data and access it whenever required. While valuable information was stored physically on paper in the pre-computer era, today, data is predominantly stored in hard drives of workstations and servers. These hard drives and servers can store, process, and retrieve a considerable amount of data quickly and conveniently. However, both hard drives and servers come with their limitations and with the rate at which today's businesses and industries are growing, the need for storage that can store



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K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.

## Static and Modal Analysis of Pipe Flange Connections

K. Vahini<sup>1</sup>

Assistant Professor,

Department of Mechanical Engineering,  
Vignan's Institute of Engineering for  
Women, Visakhapatnam, Andhra Pradesh, India

U. Ranya Sri<sup>2</sup>

Assistant Professor,

Department of Mechanical Engineering,  
Vignan's Institute of Engineering for  
Women, Visakhapatnam, Andhra Pradesh, India

### ABSTRACT


Flanged joints on diameter flanges can prove problematic to seal successfully with many factors contributing to ensuring a successful operation. One such factor is stud bolt loading contributing to stress and deflection of the flanged joint. This investigation involves the use of finite element analysis (F.E.A) to predict levels of stress and deflection of a particular flanged joint when the stud bolts are tightened and flange pressurized. The level of stud bolt load selected must ensure the joint is sufficiently tight to avoid leakage. However, the force must not be excessive causing damage. A flange is designed to connect sections of pipe, or to join a pipe to an assembly such as a pressure vessel, valve or pump. For the purposes of this project, the educational version of ANSYS 14.5 was used thus a number of critical assumptions were made to operate within the restrictions of the software. As a comparative check of the F.E.A method, a conventional method termed the target load bolt-up method was employed. Static and dynamic analysis is to be carried out on the pipe flange joint connection using traditional material. The analysis results using both methods, when interpreted, indicated the flange was not excessively stressed. Field monitoring by observation of the flanged joint for signs of leakage and other detrimental effects indicate the stud bolt load selected is acceptable.

**KEYWORDS:** ANSYS 14.5, Finite Element Analysis, Flange

### INTRODUCTION

A flange is designed to connect sections of pipe, or to join a pipe to an assembly such as a pressure vessel, valve or pump. Flanges are joined by bolting, and sealing is completed with the use of gaskets, and fixed to



  
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K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.

## Design and Fabrication of Pyrolysis Unit for Generation of Bio-Gases and Bio-Char

Ganga Maheswari<sup>1</sup>

Assistant Professor,

Department of Mechanical Engineering,

Vignan's Institute of Engineering for

Women, Visakhapatnam, Andhra Pradesh, India

M. Gangadhara Rao<sup>2</sup>

Assistant Professor,

Department of Mechanical Engineering,

Vignan's Institute of Engineering for

Women, Visakhapatnam, Andhra Pradesh, India

### ABSTRACT

Pyrolysis is one of the most important thermo chemical conversion methods for renewable energy sources. It is a process of thermal decomposition of organic matter by the supply of heat in the oxygen free environment. The entire process contributes to breakdown of longer chain molecules into short chain molecules. In general, pyrolysis of organic substances produces gas and liquid products and leaves a solid residue rich in carbon content. The main purpose of the project is to provide facility in rural areas where the waste wood is abundant and are available in sufficient amount. The project is mainly aimed at design and fabrication of pyrolysis set up for the conversion of wood into charcoal. In this study it is considered to design and fabricate the fixed bed reactor for slow pyrolysis for various feedstock biomasses to obtain charcoal from waste wood. Feed stocks used were neem wood, mango wood, bamboo wood, teak wood and furniture wood. The produced chars were characterized by proximate analysis for determining the properties of bio-char. From the experiment, it was found that the fixed carbon content and volatile matter are optimal for furniture wood and ash content was found to be lower in furniture wood among all the wood samples. The calorific value was higher for mango wood and lower in bamboo wood. The total energy contributed by all the wood was highest among all the wood samples taken.

**KEYWORDS:** bio-char, fixed carbon

### INTRODUCTION

The bio-fuel quality, yield and handling of bio-char. They also have the potential to be used as a soil amendment and a part of bio-char can be used to reduce the carbon footprint of bio-char and biomass.



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K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.

## Modified Design of Savonius Wind Turbine

N. Vadhakar Babu<sup>1</sup>

Assistant Professor,

Department of Mechanical Engineering,  
Vignan's Institute of Engineering for  
Women, Visakhapatnam, Andhra Pradesh, India

A. Dhanunjay Kumar<sup>2</sup>

Assistant Professor,

Department of Mechanical Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

### ABSTRACT

Wind energy is being harnessed and termed one of the cleanest form of natural resource and the wind energy industry is growing at a very fast pace due to its various advantages, the limitations of harnessing wind energy are constant, concentration and availability. These limitations are alleviated by proper site selection. In the context of worldwide energetic transition, wind energy shows up as one of the most prominent renewable energy to provide an alternative for the conventional energy source. Therefore, new technologies of a wind turbine are developed. Horizontal axis wind turbines have been extensively investigated and evolved. However, the development of vertical axis wind turbines is still an open and area of research. The main objective is to develop a more efficient type of wind turbine able to operate at low wind speeds to take hold maximum wind potential. The savonius comes along with such conditions, however, it faces critical drawbacks, in particular, the low performance in comparison with horizontal axis wind turbines. The present work aims in a 3-bladed savonius wind turbine design with an added diffuser.

**KEYWORDS:** Savonius, Wind, Renewable Energy

### INTRODUCTION

Designed Vertical axis wind turbine or a Savonius wind turbine wind turbine. In the hybrid vertical wind turbine, a certain number of blades were attached to a vertical shaft. Inspired by Skey, Ross and Darr's wind turbine, several types of vertical axis wind turbines were developed. In the design of a wind turbine, a design was created. In the design of Savonius wind turbine, the turbine with three blades was designed. The maximum power coefficient of the turbine is 0.16.



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Engineering for Women  
K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.

## Airflow Based Aerodynamic Behaviour of the Tail Wing of Racing Car

M. Nagenra Babu<sup>1</sup>

Assistant Professor,

Department of Mechanical

Engineering, Vignan's Institute of Engineering  
for

Women, Visakhapatnam, Andhra Pradesh, India

K. Prathyusha<sup>2</sup>

B.Tech Student,

Department of Mechanical

Engineering, Vignan's Institute of Engineering  
for

Women, Visakhapatnam, Andhra Pradesh, India

### ABSTRACT

The rear wing of a racing car is designed to generate down force to counteract the down force from the front. In fact, the force distribution of the entire vehicle determines the overall balance of the vehicle. The racing car rear wing produces about 10% less down force than the front wing. In fact, the rear wing works differently from the front wing. When DRS is activated, each case is simulated with a wing spacing of 10 mm and 20 mm. Performed and verified the network independence test to ensure that the results are acceptable. The purpose of this study is to study the aerodynamic behavior of the airflow around the tail wing and determine how the thickness and length of the chord affect the airflow in the tail wing. The results show that increasing the wing thickness of the flap airfoil will reduce the down force. The results also show that the down force generated by the short valve wing is lower than that of the atmospheric valve Flaps, but drag can be significantly reduced, because short-flap wings change more in the angle of attack when activated. Therefore, the wing type of the tail must be determined according to the chain route in order to be fully optimized. The current study is done at a speed of fluid at 70m/s which is the average speed of the Formula 1 car at a Reynolds number  $Re = 10^6$  for an external flow which is a turbulent flow.  $k = 0.001$  Mach no of 0.204 for an incompressible flow.

**KEY WORDS:** Drag coefficient, down force, CFD, spuller, aerodynamic.

### INTRODUCTION

The racing car rear wing produces about 10% less down force than the front wing. In fact, the rear wing works differently from the front wing. When DRS is activated, each case is simulated with a wing spacing of 10 mm and 20 mm. Performed and verified the network independence test to ensure that the results are acceptable.



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K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.



# Rotor dynamic Demonstration and Static Model Examination of a Spiral Inflow Turbine Rotor bearing Framework

S. V. Satya Prasad<sup>1</sup>  
Assistant Professor,

Department of Mechanical Engineering,  
Vignans Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

N. Gayatri<sup>2</sup>

B. Tech Student,  
Department of Mechanical Engineering,  
Vignans Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

## ABSTRACT

One of the difficult parts of spiral turbine plan and assembling is vibration and strength. Rotor dynamic investigation was performed on a rotor-bearing arrangement of a 1 KW spiral inflow turbine. The target of rotor dynamic examination is to decide appropriate framework arrangement for stable activity in the plan cycle. The rotor and sharp edge configuration were created utilizing CATIA which gives the mass and inactivity of the perplexing cutting edge calculation for the rotor dynamic examination. A recreation of the rotor bearing assembly and its mounting was worked for the pivoting structure utilizing ANSYS Workbench. Modal and stress analysis examination were completed with two cases having different shaft lengths and bearing sizes. The best case was picked for additional parametric investigation of the impacts of shaft length, cutting edge (e) over imbalance, and bearing solidness on the cutting edge removal plentifulness. False friction was then set to decide OK shaft length, bearing course of action, edge imbalance quality and bearing solidness.

Keywords: Rotor, CATIA, Rotor dynamic, ANSYS, bearing.

INTRODUCTION

Rotor dynamic examination of turbine rotor and pump have become very important for the rotor and bearing wheels. The shaft is supported by bearings and seals. The seals generate an aerodynamic force on the rotor. The aerodynamic force is caused by the seal lateral motion. This disturbance force causes vibration of the rotor. The bearing provides the cross-sectional force to the rotor. The bearing provides the damping of the rotor.



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# A novel ripple borrow subtractor cell design using asynchronous methodology

1

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### Abstract

**Abstract:** In this paper, we propose a novel design approach for Ripple Borrow Subtractor (RBS) to attain better energy and delay. At present portable electronic gadgets or systems ... [View more](#)

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- I. Introduction
- II. Existing Work
- III. Proposed Work
- IV Results & Discussions
- V Conclusion & Future Scope

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##### Abstract:

In this paper, we propose a novel design approach for Ripple Borrow Subtractor (RBS) to attain better energy and delay. At present portable electronic gadgets or systems are required in our day to day life with high performance and low energy. The subtractor is the most crucial part in the arithmetic operations and also used in the data processing applications. Systems with clocks produces lot of obligations like clock skew, jitter, high power, glitches and delay issues. Hence, systems with asynchronous approaches are having highest demand over clocked architectures. Null Convention Logic (NCL) is the better clock less design approach and it is further improved as Multi Threshold Null Convention Logic (MTNCL). This paper presents the design of RBS cell with MTNCL and its performance is compared with proposed design using Multi Threshold Dual Rail Dual Spacer Delay Insensitive Logic(MTD<sup>3</sup>L). The existing and proposed methodologies are designed and verified using mentor graphics EDA tools.

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**K.J. Pota, VSEZ (P.O.)**  
**Visakhapatnam-49**



# ADAPTIVE AND GRADIENT JOINT CONSTRAINTS GAN BASED MULTI-FOCUS FUSION

<sup>1</sup>J.Ravichandra, <sup>2</sup>T.Sandhya Kumari

<sup>1</sup>Assoc.Professor, Department of Electronics & Communication Engineering, Vignan's Institute of Engineering for Women, Visakhapatnam.

<sup>2</sup>Assistant Professor, Department of Electronics & Communication Engineering, Vignan's Institute of Engineering for Women, Visakhapatnam.

## ABSTRACT

The objective of image fusion is to fuse data from multiple pictures into a single image that ideally contains all the visual information from every of the first pictures. As the Depth-of-field of the imaging system is restricted, the extraction of all the helpful data is difficult from one image. In digital photography, the pictures with completely different focus are combined using a generative adversarial network is called Multi Focus Fusion (MFGAN) to attenuate the Defocus Spread Effect (DSE) by generating focus maps during which the blurred background is larger than corresponding objects. In this model, an adaptive decision block is introduced where the source pixels are focused or not based on the distinction of repeated blur. Our methodology realizes multi-focus image fusion by extracting and reconstructing data, and thus there's nearly no blurring and degradation close to the Lerner line. Deep learning ways are the trendy methods that exploit focused and explicit details. Deep learning is utilized in numerous applications like Multi Focus Image Fusion.

**Keywords:** Deep Learning, Generative Adversarial Network, Multi Focus Image fusion.

## 1. INTRODUCTION

Multi Focus Image Fusion is a technique that combines pair of images into a single image by focusing detail textures in the image. It is used to combine the essential features of more than a couple of images into an individual fused image without taking any loss. Multi-focus image fusion plays a key role in fusion process where it aims to increase the depth of field by extracting the focused part from different multiple focused images. The methods that are used to fuse multiple images are divided into two methods, spatial domain method and frequency domain method. The spatial domain method deals with pixel values of the input pictures within which the pixels values are manipulated to reach a desirable outcome. This domain contains fusion strategies like Weighted Averaging, Selective Maximum Method. The weighted averaging assigns weights to each pixel in the source pictures and the fused image is the weighted sum of every pixel value. The Selective Maximum Method selects the pixel values with maximum intensity from pictures to yield fused image. In frequency domain strategies the image is first transformed into frequency domain, which suggests that the fourier transform of the image is computed first. The inverse fourier transform is applied as all the fusion operations are performed on the fourier transform of the image.

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Visakhapatnam-49.





## DETECTION OF CONTROL SYSTEM AND FACE MASK DETECTION USING DEEP LEARNING

<sup>1</sup>V.S.V.Ranga Das, <sup>2</sup>K.Rajendra Prasad,

<sup>1</sup>Asst. prof. Department of Electronics & Communication Engineering, Vignan's Institute of Engineering for Women, Visakhapatnam.

<sup>2</sup>Asst. prof. Department of Electronics & Communication Engineering, Vignan's Institute of Engineering for Women, Visakhapatnam.

### ABSTRACT

"Prevention is better than cure" is one of the effective measures to avoid the spread of corona virus. Many researchers at universities are working on drugs and vaccines against the new coronavirus. COVID-19 is primarily spread through airborne droplets when people have cough or when we touch a sick person and then our face (i.e., rub our eyes and nose). To avoid this, we must do everything possible to make it a slow pandemic. To avoid infection or transmission, it is important to wear a mask when going out, especially in markets, hospitals, educational institutions, and high-traffic public places. Therefore, it is difficult for people at the entrance to check if everyone enters with a mask. In this paper, we develop a smart door COVID-19 mask detection. To implement this system, our proposed method uses hardware such as microcontroller like Arduino camera, relay door motor, and firmware such as python for mask detection and door control. When using the Arduino, we need to use some modules, such as Open CV Tool and NumPy. Additionally, we can use the Arduino for programming skills, hardware projects, and home automation. The system is designed to recognize faces and determine if the person is wearing a mask. The project can be used in hospitals, markets, bus stops, and other public gathering places that need to be monitored. The project consists of a camera that captures images of people entering public spaces and detects whether the person is wearing a mask based on their facial features. Therefore, by implementing it, we can slow down the rapid spread of the epidemic in crowded areas, further reduce cases and ultimately prevent COVID-19.

Keywords: Mask detection, Open CV tool, Machine learning, Arduino, NumPy.

### INTRODUCTION

We know that COVID-19 was first detected on December 31, 2019, when World Health Organization was informed of a case of dangerous disease in Wuhan, China. Coronaviruses are a large family of viruses known to cause disease, ranging from the common cold to more serious diseases such as MERS and SARS. COVID-19 is spread when people inhale the air that is polluted by droplets and small dust particles that contain the virus. The risk of inhaling these substances is greatest when people are in close proximity, but they can be inhaled over longer distances, especially indoors. The "three Cs" are a useful way of thinking. They describe how the COVID-19 virus spreads more easily. Crowded places, Close contact environments, especially where people are conversing in close proximity, Narrow spaces with poor ventilation.

Therefore, we know that the most powerful safety tool is wearing a mask in public and anywhere else, and wearing a mask in public places reduces the risk of getting infected. So, we wanted to design an acute entry device that could automatically check if a person is wearing a mask and give that person an entry point. So, this whole process is implemented under deep learning.

### 2.RELATED WORK

The main theme of the project is to identify the important part of the masked face and the eyes. This document briefly explains the concepts behind these techniques. This problem-solving approach yields a less complex



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## 1731 Implementation of Low Power Delay Product SRAM cell using Reversible Gates

*B. Prasad Rao\**  
Professor

Department of Electronics and Communication Engineering  
Vignan's Institute of Engineering for Women

*D. Madhusudhan*  
Assistant Professor

Department of Electronics and Communication Engineering  
Vignan's Institute of Engineering for Women

### ABSTRACT

The use of electronics in different fields has risen in recent years, necessitating more memory for storing and processing data. Because of its fast speed, SRAM is used in this type of application. SRAM aids in data quality access. SRAM is really important. Each bit is stored in a latching circuit, which serves as a cache memory in the devices. Cache memory operates at a high pace and consumes a lot of power. Devices that consume less power and operate at a rapid pace are required by current technology.

When you use a lot of memory, you use a lot of electricity. For memory cells, several SRAM factors, including as speed and power, must be enhanced. This necessitates the use of SRAM in conjunction with modern technology. The reversible logic gates were implemented and compared for power and delay. The low power reversible logic gates were used to propose a SRAM cell which has lower PDP. All the designs were implemented in 16nm technology using H-spice tool.

**Keywords:** 16 nm CMOS technology, Delay, Power consumption, Reversible logic, High Speed, SRAM.

### INTRODUCTION

Since the 1960s, reversible gates have been studied. Reversible gates dissipate less heat, which was the original motivation (i.e. in principle, no heat). If we consider a logic gate to be consuming its input, information is lost because the output contains less information than the input. Because of thermodynamic entropy (Landauer's principle), this loss of information loses energy to the surrounding area as heat. Another way to think about it is that when charges in a circuit are grounded, they flow away, carrying a small amount of energy with them. A reversible gate only switches gates, and because no information is lost, energy is conserved.

Reversible logic has received a lot of attention because of its ability to reduce power dissipation, which is a key requirement in low power CMOS and optical data processing. It has numerous applications in low power computation, and nanotechnology.

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K.J.Peta, WSEZ (P.O.),  
Visakhapatnam-49



## IoT-BASED FOREST FIRE DETECTION SYSTEM

*B. Sai Bharadwaj\**

Assistant Professor

Department of Electronics and Communication  
Engineering

Vignans Institute of Engineering for Women

*V.S.V Ranga Das*

Assistant Professor

Department of Electronics and Communication  
Engineering

Vignans Institute of Engineering for Women

### ABSTRACT

In the current stage wild life and forest sector face animal movement problem from forest areas to residential areas. The number of trees is depleted from forests causing unhealthy habitat of animals in forest. It is found that 80% of damage was caused by fire and that can be avoided if it is detected in early stages. The project proposed is a detecting and alerting system that protect trees from forest fires. IoT devices and sensors are capable of monitoring temperature, gas, fire based on node MCU platform. In this project we built fire alarm with node MCU connect to temperature sensor, gas sensor, flame sensor, buzzer, led. We will use GSM to provide users with the number specified in the emulator. Temperature sensor is used to indicate the high and low temperature reached. Buzzer and Led, flame sensor is used to indication of flame range if it is high the forest fire will be detected and will be displayed on LCD. Whenever fire detection is observed message alert will be sent to registered mobiles and the data will be displayed on the web page which can be accessed via internet. The technology used for this design is IoT, Blynk software and GSM module (used for Mobile communication) and Arduino. This makes it easier after the detection and to intimate it to the higher authorities.

**Keywords:** GSM module, Node MCU, IoT (Internet of Things), Blynk Software.

### INTRODUCTION

Wildfires predicted to be hotspots around the world in standard model. Forests are the protectors of the earth's ecological balance. Unfortunately, a forest fire is usually only observed when it has spread over a large area, making it difficult and sometimes impossible to fight and control it. The consequences are devastating and irreversible damage to the environment and the atmosphere (30% of the carbon dioxide (CO<sub>2</sub>) in the atmosphere comes from forest fires). The damage is irreparable damage to the ecology (large amounts of smog and carbon dioxide (CO<sub>2</sub>)). Other consequences of wildfires include catastrophic effects such as increased air pollution, global warming, and the extinction of species.



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Engineering for Women  
K.J.Peta, VSEZ (B.O.),  
Visakhapatnam

## 375 OTP BASED SMART WIRELESS LOCKING SYSTEM

*D Tilak Raju<sup>1</sup>*

Assistant Professor

Department of Electronics and Communication Engineering  
Vignan's Institute of Engineering for Women

*B Meninda<sup>2</sup>*

Assistant Professor

Department of Electronics and Communication Engineering  
Vignan's Institute of Engineering for Women

### ABSTRACT

The project describes an OTP (On Time Password) based digital wireless locking system combined with an app to increase the level of security. Every time we try to unlock the locker system, a new password is generated. Here we used to use a DIY smart lock mechanism to avoid security threats, and require App development to control the switch mechanism. Develop the application using MIT App Inventor (web application) and connect the Bluetooth list with the coding blocks to connect to the corresponding smartphone. Here we used an Arduino UNO (ATmega328P based microcontroller board) which works according to the program written in the Arduino IDE (Integrated Development Environment). The programming language used is C++ and the code should be uploaded to the Arduino board via USB Type-B on execution. The app fragment consists of a lock icon, a Bluetooth icon, and a key icon. When we connect Bluetooth (HC-05) and press the lock icon, the device ID is sent to the circuit. If the ID matches the ID initialized in the Arduino, the OTP loop is triggered. After successfully mapping the OTP, unlock the lock by pressing the key icon. This is indicated by a lit LED light. This is an IOT (Internet of Things) based application that keeps sensitive data safe and avoids risks from internal and third-party sources.

**Keywords:** OTP (On Time Password), DIY (Do It Yourself), MIT App Inventor (Web Application), Bluetooth HC-05, IOT (Internet of Things), IDE (Integrated Development Environment), USB (Universal Serial Bus).

### 1. INTRODUCTION

The Internet of Things (IoT) is a concept revolving around a global information network consisting of "things" such as smart phones, sensors and actuators, or even smaller networks with their own identities and self-configuration capabilities. These things are able to communicate and make their own decisions, either individually or collectively. The advent of the internet of things will revolutionize the way we live. In the future, everything and everyone will be connected to the internet through any device like a laptop, computer, smartphone or other consumer device. Objects in an IoT network can also communicate using various communication technologies, such as WIFI, Bluetooth, near field communications, and more.



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K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-4

## USER FRIENDLY CONTROL USING TOUCHLESS HOME AUTOMATION SYSTEM

**K. Tarakeswara Rao\***

Assistant Professor,

Department of Electronics and Communication Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India.

**B. Sandeep Kumar**

Assistant Professor,

Department of Electronics and Communication Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India.

### ABSTRACT

This paper proposes an appliance automation system based on sensors and microcontrollers. We used a sensor network as well as a single central control section. IR sensors and relays are used to connect the network. The sensors will communicate with the microcontroller. When a person enters a specific zone, the IR Sensor detects his presence and sends the information to the controller. After receiving information from a specific sensor, the controller sends a signal to a specific relay, where the appliance will turn on/off based on the presence or absence of a person. The model's viability is demonstrated in the demo kit. In this automation system, range or distance is predefined based on the predefined distance the system will operate. As a result, it provides a simple topology connection which will indeed help in easy operation and diagnosis of the system. It is pocket friendly. For any smart home, all the devices are to be kept interconnected.

**Keywords:** Automation, Sensor, Smart Home.

### INTRODUCTION

Home automation refers to dealing with and controlling domestic home equipment with the aid of using the usage of microcontroller and laptop technology. Home automation is famous nowadays as it affords ease, protection, and efficiency. In this, a sensor sends the status of home equipment and updates to the server. If a person is some distance away from the house, he can get entry to and extrude remote of home equipment i.e., switches it on/off. It is controlled by a nearby PC. This paper will describe the method of controlling domestic home equipment with the aid of using the usage of net servers [1]. There are a few





## ARTICLE ON DR GLOBAL OPTIMIZATION TECHNIQUES

**K.V.Ramana Rao<sup>1</sup>**

Assistant Professor

Department of Electronics and Communication Engineering  
Vignana's Institute of Engineering for Women

**Subrajit Barick<sup>2</sup>**

Assistant Professor

Department of Electronics and Communication Engineering,  
Vignana's Institute of Engineering for Women

### ABSTRACT:

Optimization is a methodology of making a system or design as fully perfect, functional or effective as possible sufficiently. Optimization methods are used for finding solutions that maximize or minimize some study parameters. In Optimization Meta heuristic is a high level heuristic design to generate a procedure that provides good solutions for optimization problems such as incomplete, imperfect information, limiting computer capacity. To solve complex and Multi dimensional issues approximation algorithms have been proposed as a new approach for solving such problems. These are divided into 2 major categories such as Heuristic and Meta heuristic algorithms. Where Heuristic methods are for Local trap and for solving specific optimal problems, where meta heuristic method is used for various challenging and complex optimal problems. Meta heuristic is strive to balance both exploration and exploitation. At beginning this method benefits from the exploration to produce solutions, later it is transmit to exploitation which improve the accuracy of exploration phase. Meta heuristic is a strategy to guide search problem. Currently, discrete optimization has grown dramatically. These kind of algorithms are produced by the intelligence and creature in nature. Recently there were many such kind of meta heuristic algorithms are proposed among them proposed project algorithm is named as "AFRICAN VULTURE OPTIMIZATION ALGORITHM (AVOA)". Which proposed inspired by the African vultures life style. The AVOA algorithm will be implemented in step by step process, and all the required conditions and points are declared in each step of the proposed algorithm according to the basic concepts about AVOA algorithm consists of 4 phases such as phase1, phase2, phase3, phase4. Phase1 is for determining the best vulture in any group, where phase2 is for knowing the best position of vultures, where phase3 is for exploration and phase4 is for exploitation.

**Keywords:** AVGA:Heuristic,Meta heuristic



## A NEW ROBUST ALGORITHM FOR GLOBAL OPTIMIZATION PROBLEMS

*K.Sridhar*

Assistant Professor

Department of Electronics and Communication  
Engineering

Vignan's Institute of Engineering for Women

*G.Arshini*

Assistant Professor

Department of Electronics and Communication  
Engineering

Vignan's Institute of Engineering for Women

### ABSTRACT

Optimization is a methodology of making a system or design as fully perfect, functional or effective as possible sufficient. Optimization methods are used for finding solutions that maximize or minimize some study parameters. In Optimization Metaheuristic is a high level heuristic design to generate a procedure that provides good solutions for optimization problems such as incomplete, imperfect information, limiting computer capacity. To solve complex and NP-hard practical issues, approximation algorithms have been proposed as a new approach for solving such problems. These are divided into 2 major categories such as Heuristic and Metaheuristic algorithms. Where Heuristic methods are for Local trap and for solving specific optimal problems, where metaheuristic method is used for various challenging and complex optimal problems. Metaheuristic is strive to balance both exploration and exploitation. Recently there were many such kind of metaheuristic algorithms are proposed among them proposed proposed algorithm is named as "AFRICAN VULTURE OPTIMIZATION ALGORITHM (AVOA)" which proposed inspired by the African vultures life style. The AVOA algorithm will be implemented in step by step process, where the required conditions and points are declared in each step of the proposed algorithm according to the basic concepts about vultures. This AVOA algorithm consists of 4 phases such as phase1, phase2, phase3, phase4. Where phase1 is for determining the best vulture in any group, where phase2 is for knowing the current location of vultures, where phase3 is for exploration and phase4 is for exploitation. By using these phases optimization is held in African vulture optimization algorithm. Hence expecting this "African vulture optimization algorithm" will give superior results than comparing with other proposed algorithm.

**Keywords:** Approximation algorithms, Metaheuristic, Heuristic, Exploration, Exploitation, African vulture optimization algorithm, African vulture life style, Phases

### INTRODUCTION

In present industrial sector, there are many optimization problems are occurring. These optimization problems will give certain parameters to reach our destination under certain conditions. In present days technology is

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Engineering for Women  
K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.

## Manhole cover monitoring system

V. Adinarayana\*  
Assistant Professor

Department of Electronics and Communication Engineering  
Vignan's Institute of Engineering for Women

PSTN. Srinivas  
Assistant Professor

Department of Electronics and Communication Engineering  
Vignan's Institute of Engineering for Women

### ABSTRACT

The project is used to constantly monitor manholes, which serve as access points for drainage professionals to inspect the infrastructure and perform necessary repairs and cleaning. Manholes play an important function in our environment and contribute to a good city. Our core system is designed to monitor the status of the manhole lid, the temperature within the manhole, the water level, and to detect the production of dangerous gases for correct management. Arduino is a microcontroller board that uses the ATmega328p microchip. The Arduino has a set of digital input and output pins that can be used to connect to different expansion boards and circuits. Temperature sensors are used to monitor any temperature increases caused by power lines installed underground. Gas sensors are used to prevent manhole explosions by monitoring the quantity of subsurface gases and detecting the presence of combustible gases. Ultrasonic sensors beneath the cover employ a threshold value to detect changes in the water level. Tilt sensor used to signal the tilt of the cover is open. With the help of the Ethernet module, the data of the above data is delivered to the authorities (server) automatically without any human intervention. The technology used for this design is IOT, HTML (HYPertext MAKEUP LANGUAGE) and WEB SOCKET protocol (used for full-duplex real time communication between a web server and its clients). This makes it easier to establish multiple manhole monitoring systems and leads to error-free transmission of the information.

**Keywords:** Ethernet module, WEB socket, HTML (HyperText MAKEUP LANGUAGE), IOT (Internet Of Things).

### 1. INTRODUCTION

A well-managed manhole is a sign of a well-managed city. Manholes and their maintenance have become a major issue in today's smart cities [1]. Improper manhole management can result in negative consequences such as the bursting of manholes, gas leaks, and the overflow of drainage water. This could have a negative impact on the public health and hygiene. A sewage manhole is a structure that allows access to the wastewater collection system through the ground. Manholes are not designed to be worked on on a regular basis, however, regular maintenance is required to enter the manhole to



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K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.

## A NEURAL NETWORK FOR CLASSIFICATION OF BREAST CANCER DISEASE

P.A. Srinivasa Rao \*  
Professor,

Department of Electronics & Communication Engineering,  
Vignana Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India.

T. Pavan  
Professor,

Department of Electronics & Communication Engineering,  
Vignana Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India.

### ABSTRACT

Breast cancer has been offer a new approach for analyzing classification of breast detection belts based on convolutional neural networks (CNN). Breast cancer tumours are classified as benign or malignant. In early detection, early neural network for breast cancer tumour is critical. A convolutional neural network (CNN) method is used for the study identification of breast cancer. It investigates the proposed system that uses various convolutional neural network (CNN) architectures to automatically detect breast cancer. The detection of breast cancer to enhance the care of patients is a challenging task. In current work, proposes a CNN architecture to detect and obtain correct results. might decrease human mistakes in the diagnosis process and reduce the cost of cancer diagnosis. The model detects breast cancer and identifies them as benign or malignant. The performance of the model on test dataset is 94% accuracy, 95% precision, 95% recall and F1 score of 94%.

**Key word:** Convolutional Neural Network, ResNet50, SVM, LR, INTRODUCTION

### INTRODUCTION

Breast cancer is a common disease that starts in the breast glands. It is more likely to be found in women. The term "breast cancer" is used to describe a group of diseases that affect the breast. Benign breast lumps are not cancerous and do not spread to other parts of the body. Malignant breast cancer is cancerous and can spread to other parts of the body. Breast cancer is a leading cause of death among women worldwide. It is the most common cancer among women in India. The incidence of breast cancer is increasing in India. The early detection and treatment of breast cancer can improve the survival rate. The use of artificial intelligence (AI) in breast cancer diagnosis is a promising area of research. AI can help doctors to detect breast cancer earlier and more accurately. This paper presents a neural network-based approach for the classification of breast cancer disease. The proposed system uses a convolutional neural network (CNN) to analyze breast ultrasound images. The CNN is trained on a large dataset of breast ultrasound images. The performance of the proposed system is evaluated on a test dataset. The results show that the proposed system achieves a high accuracy of 94% in classifying breast cancer disease. The proposed system is a promising tool for the early detection and diagnosis of breast cancer disease.



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Engineering for Women  
K.J.Peta, VSEZ (P.O.)  
Visakhapatnam-4

## BHARATHI SCRIPT WITH CHARACTER SEGMENTATION AND RECOGNITION

D. Madhusudhan, B. SaiDharadwaj,

<sup>1</sup>Asst. professor Department of Electronics & Communication Engineering, Vignan's Institute of Engineering for Women, Visakhapatnam.

<sup>2</sup>Asst. professor Department of Electronics & Communication Engineering, Vignan's Institute of Engineering for Women, Visakhapatnam.

### ABSTRACT

Optical Character Recognition (OCR) is the conversion of images of computerized, handwritten, or published text from a scanned document or a scrutinized print into editable or accessible electronic interpretation with text book. Hand written text book identification has been considered as one of the delicate task due to the crusive connectivity among the characters. So a system to identify Indian handwritten text book has come into existence. Bharati script is a common script for Indian languages which can achieve better delicacy.

Segmentation is a significant phase of OCR. Segmentation is a process of partitioning a digital image or text book or document into multiple parts (sets of pixels). Segmentation is separating characters from word and images. This paper proposes colorful methodologies and steps to member a text book grounded image at colorful situations of segmentation. Recognition perfection is decided by perfect segmentation. CNN (Convolutional Neural Networks) is the finest bracket fashion for recognition in OCR. It has been proved with miraculous results. It was firstly used for object recognition in images but contemporary use for recognition of optic characters due to abundant datasets.

**Keywords:** Optical Character Recognition, Convolutional Neural Networks, Segmentation, Recognition

### 1. INTRODUCTION

In general, optical character recognition schemes involve first separating (or segmenting) the document into text and non-text. The text is then segmented into paragraphs, sentences words and letters. Recent advancements in computing capacity and machine learning techniques results in increasing usage of OCR in a developing country like India. In Roman script which is used to represent English and other West European languages, there are only 26 characters. Any word is a string of these isolated symbols. Unlike English, most Indian scripts are abugida i.e. writing systems where the vowels are inscribed as diacritics on the consonants and a vowel is not explicitly written when it present next to a consonant in a word. This sequence of diacritics with consonants is termed a composite character or samyaktakshar. A consonant can combine with both each of the vowels and with other consonants of the writing system to form ligatures. Therefore the glyphs representing vowels and consonants are amalgamated according to complex rules of orthography to form new characters. For this reason, a typical Indian script (with the exception of Tamil) has of the order of 10,000 characters. These features make Indian scripts complex, posing significant challenges to development of language related technologies like OCR [5,11,13,20,21].

### 2. RELATED WORK

The scripts of Indian languages pose a problem for such a process of recognition because the vowel and consonant modifier components are attached to the main consonant. This difficulty is removed in the Bharati script



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Engineering for Women  
K.J.Peta, VSEZ (P.O.)  
Visakhapatnam-49.



# IMPROVEMENT IN MEDICAL SPECTRAL IMAGES

**K.Lakshmi<sup>1</sup>**

Assistant Professor,

Department of Electronics and Communication Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

**B.Sasikanth<sup>2</sup>**

Assistant Professor

Department of Electronics and Communication Engineering,  
Vignan's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India

## ABSTRACT

An important consideration must be taken into consideration in order to decrease the redundancy of the images and increase the capacity to store or transport information in the best possible manner. The image compression techniques—lossless compression and lossy compression—were used in this study to improve the quality of the images. Additionally, certain boosting methods to improve the images quality were used. Following the investigation of these techniques, many comparative images are presented. Finally, performance measurements were extracted and analysed using different techniques.

**Keywords:** edge techniques, lossless compression, lossy compression—

## INTRODUCTION

Enhancements are used to make imagery easier to understand and interpret visually. The ability to change an image's pixel values is a benefit of using digital images. The image may still not be ideal for interpretation even after radiometric corrections for illumination, atmospheric factors, and sensor characteristics have been made before data delivery to the user. Blocking artefacts, streaks, and blurring are caused by low bit-rate compression. In the past, particular filters were created to minimise these artefacts. Super resolution (SR), among other things, have been presented. Modern SR networks are commonly used in the field of image processing. This problem is a challenge with SR as an application of machine learning.



# GPS LOCALIZING USING CROSS-TEMPORAL VIDEOS

S.Tarun Prasad<sup>1</sup>

Assistant Professor,

Department of Electronics and Communication Engineering,  
Vignana's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India.

B.Sandeep Kumar<sup>2</sup>

Assistant Professor,

Department of Electronics and Communication Engineering,  
Vignana's Institute of Engineering for Women,  
Visakhapatnam, Andhra Pradesh, India.

## ABSTRACT

In this paper, we address the problem of video geolocalization by proposing a Geo-Temporal Feature Learning (GTFL) network to simultaneously learn the discriminative features for the query video frames. The geo-temporal attention mechanism exploits the temporal relationship between the frames in the video clip to learn cross-temporal dependencies. The feature is learned by attending to all the frames of the query video and the gallery videos to estimate the geo-spatial trajectory of a query video. Based on transformer encoder architecture, the GTFL model processes the query and gallery data separately, via two dedicated branches. The training pipeline is on cascaded and is broadly grouped into two categories: same-view and cross-view image geolocalization. Experiments are conducted on same-view image datasets to conduct the same-view image geolocalization.

**Keywords:** Geo-Temporal Feature Learning, VGG-16, NetVLAD layer

## INTRODUCTION

The proposed GTFL architecture in Figure 2 is used to obtain the feature representations for the query and gallery videos. The GTFL network consists of VGG-16 and NetVLAD layers. The geolocalization of the query video is estimated by comparing the feature representations of the query video with the feature representations of the gallery videos. The sequence of estimated geolocalization for the query video is the geo-spatial trajectory of the moving camera that captures the query video. There are several attempts to



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K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.

## CGO STORED IMAGE PRIVACY PRESERVATION

G.Arshini<sup>1</sup>

Assistant Professor

Department of Electronics and Communication Engineering,  
Vignan's Institute of Engineering for Women

K.Sushma<sup>2</sup>

Assistant Professor

Department of Electronics and Communication Engineering,  
Vignan's Institute of Engineering for Women

### Abstract:

In this paper, we showed how Shamir's secret sharing algorithm can be parallelized, decreasing the time required to generate shares for preserving image privacy by using an open-source C implementation of the algorithm and the OpenMP multiprocessing programming interface. We parallelized regions of the algorithm and reduced risk of image bit error generation. A typical application of this scenario is the secure implementation of an image backup system. Assuming that data recoveries are needed rarely, backup data can be periodically encrypted -- this can be done automatically and without user interaction -- while the private recovery key is protected via secret sharing. Our work builds upon the formal notion of perfect secrecy for encoding the Shamir's shares in a particular manner such that they (i.e. encoded shares) do not reveal any additional information about the original image.

### INTRODUCTION

The proposed SSS algorithm shares are distributed to a group of people who are parties to the conversation. The parts of the secret are brought together to reconstruct the secret, but an important feature of Shamir's Secret Sharing is that the total number of shares is not needed to reconstruct the secret. A number less than the total number, called the threshold, is required. This helps avoid failures in decrypting the closely-held information should just one or a few parties be unavailable. SSS is practical in its solution to the key-sharing problems many arrangements face, and is therefore usually used to secure the keys to something that is encrypted or secure using other tools or algorithms. A simple illustration of SSS is that in a bank vault that only a corporate board has access. The password is encrypted by SSS so a quorum (threshold) of board members is needed to authorize the display or release of the password. If a board member is travelling, the threshold is met, SSS still provides reasonable assurance that the



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Vignan's Institute of  
Engineering for Women  
K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.

## Hybrid Long Short Term Memory Exam Grading Using MDLSTM Model

Dhanya M.Ravi<sup>1</sup>  
Assistant Professor

Department of Electronics and Communication Engineering,  
Vignan's Institute of Engineering for Women

K.Sunil Kumar<sup>2</sup>  
Assistant Professor

Department of Electronics and Communication Engineering,  
Vignan's Institute of Engineering for Women

### ABSTRACT

In this paper, we showed Long Short Term Memory Network is an advanced RNN, a sequential network that allows information to persist which is capable of handling the vanishing gradient problem faced by RNN. Recurrent neural network is also called as RNN is used for persistent memory. Sequence classification is a predictive modeling problem where you have some sequence of inputs over space or time, and the task is to predict a category for the sequence. This problem is difficult because the sequences can vary in length, comprise a very large vocabulary of input symbols, and may require the model to learn the long-term context or dependencies between symbols in the input sequence LSTM recurrent neural network models for sequence classification problems in Python using the Keras deep learning library.

**Keywords:** Neural network, RNN, LSTM

### INTRODUCTION

The term "long short-term memory" comes from the following intuition. Simple recurrent neural networks have *long-term memory* in the form of weights. The weights change slowly during training, encoding general knowledge about the data. They also have *short-term memory* in the form of ephemeral activations, which pass from each node to successive nodes. The LSTM model introduces an intermediate type of storage via the memory cell. A memory cell is a composite unit, built from simpler nodes in a specific connectivity pattern, with the novel inclusion of multiplicative nodes. An LSTM module has cell state and three gates which provides them with the power to selectively store or retrieve information from each of the units.

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# Driving Assistance Using Depth and Intensity Features

S.Tarun Prasad<sup>1</sup>  
Assistant Professor

Department of Electronics and Communication Engineering,  
Vignans Institute of Engineering for Women

T.UmaMaheshwari<sup>2</sup>  
Assistant Professor

Department of Electronics and Communication Engineering,  
Vignans Institute of Engineering for Women

## ABSTRACT

We propose a multi-task ensemble framework that jointly learns multiple related problems. The ensemble model architecture integrates the learned representations from three deep learning models (i.e., CNN, LSTM and GRU) and creates a unified framework for driving assistance. Through multi-task framework, we address the problem of sentiment analysis, i.e., "emotion classification & intensity", "valence", "arousal", "attention", "engagement" and "3-class categorical & 5-class ordered" sentiment classification. The driving problems cover two granularity. Experimental results suggest that the proposed framework outperforms the single-task frameworks in all experiments.

Keywords: CNN, LSTM, GRU

## INTRODUCTION

Our proposed multi-task framework is greatly inspired from this, and it jointly performs multiple tasks. Our framework is based on an ensemble technique. At first, we learn hidden representations through three deep learning models (i.e., Convolutional Neural Network Modeling user engagement dynamics on social media is a compelling application in user-persona detection and political discourse mining. Most existing approaches depend heavily on knowledge of the underlying user network. However, a large number of discussions happen on platforms that either lack any reliable social network or reveal only partially. Later user ties. Nevertheless, the definition and the validation of the quality of a prediction or recommendation can be considered in general extremely difficult and unclear.



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Visakhapatnam-49.



## Haze Control Analysis Using Deep Learning

N.V.Chaitanya<sup>1</sup>

Assistant Professor

Department of Electronics and Communication Engineering,  
Vignan's Institute of Engineering for Women

G.Sri Swetha<sup>2</sup>

Assistant Professor

Department of Electronics and Communication Engineering,  
Vignan's Institute of Engineering for Women

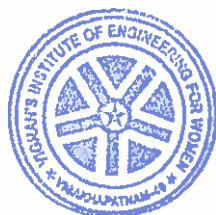
### ABSTRACT

Haze is the condition which is occurred during a bad weather which will result Degradation of scene visibility which varies with respect to the transmission conditions of the scene. We, on the other hand, propose introduction of simple approaches to learn about haze at both point level and object level on image. The proposed encoder-decoder network, it estimates the level of haze effect on image or video in wide levels. During first level, network estimates the point level using parallel convolutional filters and spatial invariance filtering. The second level comprises of a two level encoder-decoder architecture which anticipates the object level. We also propose local estimation (LE), which is able to obtain the environmental effects of the outdoor scene. Combination of network and LE will help the process to accurately measure the quantity constant of haze model. There by we can later calculate different image improvement constants like index, mean square error and peak signal to noise ratio

**Keywords:** Haze Prediction, Deep recurrent neural network

### INTRODUCTION

The haze removal strategy might be divided into two classifications: image enhancement and image restoration. Image enhancement classification excludes the reason of haze corrupting picture quality. This system loses apporion of the light on the physical process of image imaging in foggy weather. Haze attenuates the reflected light from scene and some additive lights are mixed. Haze removal helps to improve reflected light from mixed light. Effective haze removal is very widely demanded area in computer vision and graphics applications. Concentration of haze is different from place to place. Quality of image in haze weather condition is reduced due to scattering of light.



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Engineering for Women  
K.J.Peta, VSEZ (P.O.),  
Visakhapatnam-49.

## KEYWORD DIFFERENTIATION FOR IDENTITY MATCHING

*Dhanya M Ravi*

Assistant Professor

Department of Electronics and Communication Engineering,  
Vignana's Institute of Engineering for Women

*K.Suni Kumar*

Assistant Professor

Department of Electronics and Communication Engineering,  
Vignana's Institute of Engineering for Women

### ABSTRACT

Person identity allocation is the problem of matching pedestrian images across multiple cameras. The design of feature descriptors and learning distance measures is person recognition. This article proposes metric learning Framework for identity of discriminatory persons. The metric space is learned using Kanade-Lucas-Tomasi (KLT). Simultaneously maximize the variance between classes. Minimize within-class variance. We derive the this metric by KLT and claim that KLT can be applied efficiently. For metric learning when ID-identifying people, also show how the KLT efficiency in metric learning can be further increased. We ID-identify the person using two simple but efficient multi-kernel learning methods. We are conducting extensive experiments. Three benchmark data sets for individual identity, demonstrating that their application in various computer vision tasks. I briefly outline future direction the proposed approach is competitive in a modern way.

**Keywords:** Kanade-Lucas-Tomasi (KLT); online text; dyslexia; Specific Learning Disabilities (SLD); Arabic content.

### INTRODUCTION

Person ID-allocation (ID-al) addresses the problem of matching pedestrian images across all camera views. Person ID-al is getting more appreciation due to its wide and versatile applications in video surveillance, security, bio-metrics and forensics. Sometimes it's a very tough job as images of the same person in cameras with different tech look very different due to the large variation in illumination, hue, saturation, pose, viewpoint, camera characteristics and background clutter. The low resolution and/or the image quality insufficient to distinguish the identities based on their physical attributes. Moreover, the geometry of distinct pedestrians can be very similar making them more unrecognizable. In general, a systematic description of the image is the first step in solving the problem of how to identify objects in a picture or video data. In this paper, we will use algorithms to analyze data



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## DETECTING ABNORMALITIES USING PREDICTION FRAMEWORK

**B.Prasad Rao<sup>1</sup>**

Assistant Professor

Department of Electronics and Communication Engineering  
Vignan's Institute of Engineering for Women,

**D.Madhusudhan<sup>2</sup>**

Assistant Professor

Department of Electronics and Communication Engineering,  
Vignan's Institute of Engineering for Women

### Abstract:

In this paper we propose prediction framework with diverse training for detecting abnormalities in videos. Anomalous events are those which do not conform to normal behavior. Since the analysis in these days are real-time, the actions must be taken on the data to check the anomalies which can skew the results. If these anomalies occur frequently do exits, there must be mechanisms to detect and mitigate their influence, and use this learning to accurately predict the future-frames of the videos. We train our network adversely on videos consisting of only normal activities. When our network encounters unusual or irregular activities the generated frames consists of fuzzy regions where the irregular activities are present. These fuzzy regions consequently lower the peak signal to noise ratio

**Keywords:** Abnormalities, Fuzzy Regions, Peak Signal to noise ratio

### INTRODUCTION

In this paper we address the problem of abnormalities detection in surveillance videos. Anomalous events are those which do not conform to normal behaviour and detecting such unusual activities in videos is an important application in surveillance domain. However, detecting such activities in videos forms a non-trivial task as the definition of abnormalities is subjective and real-world scenarios exhibit a wide array of situations which are impossible to account for using a classification method. Anomaly detection or outlier analysis is a step in data mining that identifies data points, events or observations that deviate from a dataset's normal behavior. Anomalous data can occur due to high memory utilization, exceeding usage limits, technical glitches, etc. Designing of modern machine learning



# Integration of local chan vase along with optimization techniques for segmentation



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## Abstract

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- IV. Results and Discussions
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**Abstract:** Image is a two dimensional capacity  $f(x, y)$ . The way toward dividing an image into numerous parts or questions is named as Segmentation. There are two noteworthy deterrents in sectioning an image i.e., Intensity Inhomogeneity and Noise. As a result of these challenges, precise division comes about can't be acquired. This paper presents Local Chan-Vese (LCV) alongside some enhancement methods for minimization of vitality capacities to defeat power inhomogeneity and commotion. By consolidating this implanted approach, the images with force inhomogeneity can be effectively divided. **View more**

### Metadata

**Abstract:** Image is a two dimensional capacity  $f(x, y)$ . The way toward dividing an image into numerous parts or questions is named as Segmentation. There are two noteworthy deterrents in sectioning an image i.e., Intensity Inhomogeneity and Noise. As a result of these challenges, precise division comes about can't be acquired. This paper presents Local Chan-Vese (LCV) alongside some enhancement methods for minimization of vitality capacities to defeat power inhomogeneity and commotion. By consolidating this implanted approach, the images with force inhomogeneity can be effectively divided.

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V. Koteswara Rao  
Institute of  
Engineering for Women  
K.J. Peta, VSEZ (P.O.)  
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