SpringerLink

A Hybrid Approach with Machine Learning Towards Opinion Mining for Complex Textual Content

Computer Science On-line Conference

CSOC 2021: Software Engineering and Algorithms pp 656-666 | Cite as

- D. Rajeshwari (1)
- D. Puttegowda (2)

1. Department of Information Science and Engineering, ATMECE, NIE Institute of Technology, , Mysore, India
2. Computer Science and Engineering, ATMECE, , Mysore, India

Conference paper
First Online: 20 July 2021

Part of the Lecture Notes in Networks and Systems book series (LNNS, volume 230)

Abstract

Opinion Mining is increasing adopted in business enterprises where sophisticated analytical approaches are subjected to the opinion in the form of text from the consumer. Review of existing literature shows that there are still an open scope to further improve upon this technique. The proposed study considers a case study of a problem where the opinion is shared in the form of text as well as symbol/emoticon, which is quite challenging for any existing text analytics to extract the knowledge. Therefore, the proposed paper introduces a novel solution where two variants of approaches has been used for this purpose i.e. hybrid approach and machine learning approach in order to perform opinion mining from such complex textual content. The study outcome shows that proposed system offers satisfactory processing time and accuracy in large dataset of text.

Keywords

Text mining Opinion Sentiments Machine learning Unstructured data Text analytics

Doha, 15 March 2020

Acceptance & Invitation Letter

Manuscript reference: 257
Title: ENVIRO-SAFE STABILIZATION OF BLACK COTTON SOIL – EXPERIMENTAL STUDY WITH OPTIMAL PROPORTION OF STABILIZER
Author(s): Ashwin Thammaiah K, Shruthi H G, Gowtham Prasad M E, Shashi Kiran C R, Shrithi S Badami, Dr. Sampath Kumar M C

Dear Ashwin Thammaiah K,

It gives us pleasure to inform you that the Scientific Committee has accepted your above referenced short paper to be presented at the International Conference on Sustainable Energy-Water-Environment Nexus In Desert Climate (IC-SEWEN 2019) which will be held in the National Convention Centre in Doha, Qatar from 2 to 5 December 2019.

However, please be informed that your paper won't be published in the conference proceedings by Springer and scheduled in the final conference program unless at least one of the paper's authors registers and attends the conference.

If you need a visa to Qatar, please use this letter to apply for it from your nearest embassy. If you need more documents in support of your visa application, send an email to **qeeri-icsewen@hbku.edu.qa**. In your email include your full name as written on your passport, your passport number and title of your accepted paper that you plan to present at the conference. If your coauthors wish to attend the conference, they can use this letter to apply for a visa or request per email an invitation letter and/or other documents.

On behalf of the Organizing Committee, we would like to thank you for your submission and we warmly invite you to attend and present your work at the IC-SEWEN 2019. The conference is confirming its global relevance and international impact. More than 270 papers have been received from 40 different countries worldwide. The conference will gather influential scholars from all over the world and top scientists have already confirmed their attendance.

Please consult our website (https://www.hbku.edu.qa/en/qeeri-ICSEWEN19) on a regular basis for more details.

We look forward to seeing you in Qatar!

With best regards,

Prof. Veronica Barmudez
General Chair of IC-SEWEN 2019
QEERI, Qatar

P.S. This letter can be used to apply for funding to attend the conference and/or to apply for a visa to Qatar

Doha, 29 August 2020

Acceptance & Invitation Letter

Manuscript reference: 255
Title: DROUGHT RISK ASSESSMENT USING NDVI – A CASE STUDY
Author(s): Shashi Kiran C R, Gowtham Prasad M E, Ashwin Thammaiah K, Shrithi S Badami, Shruthi H G, Dr. Sampath Kumar M C

Dear Shashi Kiran C R,

It gives us pleasure to inform you that the Scientific Committee has accepted your above referenced short paper to be presented at the International Conference on Sustainable Energy-Water-Environment Nexus In Desert Climate (IC-SEWEN 2019) which will be held in the National Convention Centre in Doha, Qatar from 2 to 5 December 2019.

However, please be informed that your paper won't be published in the conference proceedings by Springer and scheduled in the final conference program unless at least one of the paper's authors registers and attends the conference.

If you need a visa to Qatar, please use this letter to apply for it from your nearest embassy. If you need more documents in support of your visa application, send an email to **qeeri-icsewen@hbku.edu.qa**. In your email include your full name as written on your passport, your passport number and title of your accepted paper that you plan to present at the conference. If your coauthors wish to attend the conference, they can use this letter to apply for a visa or request per email an invitation letter and/or other documents.

On behalf of the Organizing Committee, we would like to thank you for your submission and we warmly invite you to attend and present your work at the IC-SEWEN 2019. The conference is confirming its global relevance and international impact. More than 270 papers have been received from 40 different countries worldwide. The conference will gather influential scholars from all over the world and top scientists have already confirmed their attendance.

Please consult our website (https://www.hbku.edu.qa/en/qeeri-ICSEWEN19) on a regular basis for more details.

We look forward to seeing you in Qatar!

With best regards,

Prof. Veronica Barmudez
General Chair of IC-SEWEN 2019
QEERI, Qatar

P.S. This letter can be used to apply for funding to attend the conference and/or to apply for a visa to Qatar

Geetha Shishu Shikshana Sangha (R)

GSSS Institute of Engineering & Technology for Women

(Affiliated to VTU, Belagavi, Approved by AICTE, New Delhi & Govt. of Karnataka)

MYSURU-570 016 | Karnataka | India

Accredited Branches by NBA, New Delhi UG - ECE, CSE, ISE, TE & IT

(Validity: 01.07.2017 - 30.06.2020)

ICEECCOT-2018

Third IEEE International Conference on Electrical, Electronics, Communication, Computer Technologies and Optimization Techniques

IEEE Advancing Technology for Humanity

IEEE BANGALORE SECTION

This is to certify that Dr./Prof./Mr./Ms.

Nasreen Fathima

has Participated/Presented Paper titled

An Approach for Security in Internet of Things

in the Third IEEE International Conference on Electrical, Electronics, Communication, Computer Technologies and Optimization Techniques **(ICEECCOT-2018)** in association with IEEE Bangalore Section organized by GSSS Institute of Engineering & Technology for Women, Mysuru on 14th & 15th December 2018.

Dr. Parameshachari B D
Publication Chair, ICEECCOT-2018
Professor & Head,
Dept. of TCE

Dr. Reshma Banu
Organizing Chair, ICEECCOT-2018
Professor & Head,
Dept. of ISE.

Dr. Shivakumar M
General Chair, ICEECCOT-2018
Principal
GSSSIETW, Mysuru

Nitrate Sequestration and Sorption Capacity in Soil Under Varying Organic Loading Conditions

Chapter · January 2021

DOI: 10.1007/978-981-15-5101-7_14

6 authors, including:

BALAGANESH PANDIYAN
Bannari Amman Institute of Technology
16 PUBLICATIONS **5** CITATIONS
SEE PROFILE

Vasudevan Mangottiri
Bannari Amman Institute of Technology
43 PUBLICATIONS **102** CITATIONS
SEE PROFILE

Suneeth Kumar Saragur
Bannari Amman Institute of Technology
6 PUBLICATIONS **0** CITATIONS
SEE PROFILE

Natarajan Narayanan
Dr. Mahalingam College of Engineering and Technology
81 PUBLICATIONS **296** CITATIONS
SEE PROFILE

Nitrate Sequestration and Sorption Capacity in Soil Under Varying Organic Loading Conditions

P. Balaganesh, E. Annapoorani, S. Sridevi, M. Vasudevan, S. M. Suneeth Kumar, and N. Natarajan

Abstract Organic nitrogen occurs generally as a part of soil organic matter and has multiple sources and pathways in soil based on the prevailing bio-geo-ecosystems. Since their mobility defines sequestration capacity and adsorption kinetics, it is necessary to understand the fate and transport of nitrogen species in organic amended agricultural soils. The present study investigates the distribution of nitrogen species in a monocultured field in Alathukombai, Erode District, Tamil Nadu. Adsorption and mass transfer parameters were estimated by batch and column experiments by varying the proportions of organic amendments to assess source zone influence. Statistical analysis showed that labile fraction of organic matter has the least influence on nitrogen species sequestration in soil compared to the inert fraction derived from compost amendments. The batch experiments resulted in maximum adsorption capacity of 34% for nitrate-nitrogen onto the sugarcane-monoculture soil. When the soil is mixed with compost, the maximum available total nitrogen (TN) was found to be 86.71 ppm. The leaching trends in the sugarcane field were simulated by a continuous column experiment where the redistribution of organic nitrogen was found to be dependent on the prevailing soil conditions. The results might be quite helpful in identifying the suitable fertigation strategy for monocultured soils.

P. Balaganesh (✉) · E. Annapoorani · S. Sridevi · M. Vasudevan · S. M. Suneeth Kumar
Bannari Amman Institute of Technology, Sathyamangalam 638401, Tamilnadu, India
e-mail: balachem.aec@gmail.com

E. Annapoorani
e-mail: annapoorani.ce15@bitsathy.ac.in

S. Sridevi
e-mail: sridevi.ce15@bitsathy.ac.in

M. Vasudevan
e-mail: devamv@gmail.com

S. M. Suneeth Kumar
e-mail: suneethkumarsm@bitsathy.ac.in

N. Natarajan
Dr. Mahalingam College of Engineering and Technology, Pollachi 642003, Tamilnadu, India
e-mail: itsrajan2002@yahoo.co.in

S. Ramanagopal et al. (eds.), *Sustainable Practices and Innovations in Civil Engineering*,
Lecture Notes in Civil Engineering 79,
https://doi.org/10.1007/978-981-15-5101-7_14

Modeling of Secure Communication in Internet-of-Things for Resisting Potential Intrusion

Nasreen Fathima[1(✉)], Reshma Banu[2], and G. F. Ali Ahammed[3]

[1] Department of Computer Science Engineering, ATME College of Engineering, Mysuru, India
nasreenl6fathima@gmail.com
[2] Department of Information Science and Engineering, GSSSIETW, Mysuru, India
reshmal27banu@gmail.com
[3] Department of Computer Science Engineering, VTU Post Graduate Centre, Mysuru, India
aliahammed78@gmail.com

Abstract. Smart appliances running under Internet-of-Things (IoT) offers excellent interconnected network and gives a true encapsulation of machine-to-machine communication system. However, due to various inevitable situation as well as novelty in the IoT implementation concept, it is shrouded by various loopholes in its security system. Review of existing approaches too shows that there are less modeling and exhaustive framework to deal with this problem. Therefore, the proposed study introduces a framework that offers secure communication system between IoT nodes and internet host (i.e. gateway) by harnessing finite field encryption system of public key cryptography. The proposed system offers a unique key generation system as well as novel digital signature generation securing the entire communication. The simulation outcomes show that proposed system offer better performance than existing system.

Keywords: Internet-of-Things · Security · Secure routing · Gateway security · Encryption · Wireless sensor network

1 Introduction

The Internet-of-Things (IoT) is considered as big boon for pervasive computing as it offers higher degree of connection with increased vulnerability [1, 2]. The prime cause of security threats in IoT ecosystem are vulnerabilities of software, attacks in computer system, interception of data [3]. There are various protocols and approaches towards securing communication in IoT [4–6]. However, the biggest challenges lies in internet host which is connected with internet and is a pivotal point of intrusion from various cyber security threats. Another biggest problem associated with the IoT is the communication system between the IoT devices and the gateway nodes or internet host [7–10]. Such communication system is actually very much dynamic where there is no much robust existing model to address such problem. Therefore, the proposed system

R. Silhavy et al. (Eds.): CoMeSySo 2019, AISC 1047, pp. 389–398, 2019.
https://doi.org/10.1007/978-3-030-31362-3_38

Soft Computing Approaches for Automotive Image Processing: Opportunities and Challenges

M. S. Sunitha Patel and S. Srinath

Abstract Soft computing techniques-based image processing is an emerging field in automotive applications. Soft computing techniques, such as fuzzy logic, neural computing, evolutionary computation, and machine learning, are used in developing reliable image processing techniques for automotive vehicle applications. As vehicles generally operate on different harsh roads and weather conditions, the image processing techniques shall be very reliable and intelligent to avoid road accidents. The main aim of the paper is to present, how different soft computing approaches are used to overcome the challenges faced in computing real-time automotive image processing for different vehicle automation level.

Keywords Soft computing · Image processing · Automotive images · Vehicle automation

1 Introduction

Safe driving in vehicles is the primary concern, and hence, providing enough safety information for drivers through advanced driver assistant system (ADAS) has become major requirement in automotive industry. In general, cameras in vehicles are used to capture inside-view of driver's status or outside-view of vehicle status. ADAS functionalities like drowsy and fatigue driver detection, airbag control, occupancy detection, etc. are developed using cameras inside vehicle cabin. Using outside cameras, the other ADAS functionalities, like adaptive cruise control, collision warning, lane departure warning, lane keeping assistant, blind spot detection, lane change assistant, all-round-view, and night vision, are developed [1].

M. S. Sunitha Patel (✉)
Department of CSE, ATME College of Engineering, Mysuru, India
e-mail: mssunithapatel@gmail.com

S. Srinath
Department of CSE, SJCE, Mysuru, India
e-mail: srinath@sjce.ac.in

V. Komanapalli et al. (eds.), *Advances in Automation, Signal Processing, Instrumentation, and Control*, Lecture Notes in Electrical Engineering 700.
https://doi.org/10.1007/978-981-15-8221-9_89

Springer Link

Modified Gingerbreadman Chaotic Substitution and Transformation Based Image Encryption

International Conference On Computational Vision and Bio Inspired Computing

ICCVBIC 2019: Computational Vision and Bio-Inspired Computing pp 606-614 | Cite as

- S. N. Prajwalasimha (1) Email author (prajwalasimha.sn1@gmail.com)
- Sidramappa (1)
- S. R. Kavya (1)
- A. S. Hema (1)
- H. C. Anusha (1)

1. Department of Electronics and Communication, ATME College of Engineering, , Mysuru, India

Conference paper
First Online: 07 January 2020

Part of the Advances in Intelligent Systems and Computing book series (AISC, volume 1108)

Abstract

In this chapter, a combined Pseudo Hadamard transformation and modified Gingerbreadman chaotic substitution based image encryption algorithm is proposed. Intrinsic properties of images such as high inter-pixel redundancy and bulk data capacity, encryption is done in two stages: transformation and substitution. Pseudo Hadamard transformation reduces correlation between the adjacent elements in the host image and entropy is increased by subjecting it to modified Gingerbreadman chaotic substitution. The initial conditions for modified Gingerbreadman chaotic generator is considered from 128 bits secrete key. The random sequence generated by modified Gingerbreadman chaotic generator is introduced in the substitution stage of encryption process to diffuse the pixel values of cipher image after transformation. The cipher images are subjected for various security analysis and the results obtained are better compared to many existing techniques.

Keywords

Springer Link

Image Encryption Based on Pseudo Hadamard Transformation and Gingerbreadman Chaotic Substitution

Advances in Electrical and Computer Technologies pp 681-690 | Cite as

- S. N. Prajwalasimha (1) Email author (prajwalasimha.sn1@gmail.com)
- Sidramappa (1)

1. Department of Electronics and Communication, ATME Research Centre, , Mysuru, India

Conference paper
First Online: 08 September 2020

Part of the Lecture Notes in Electrical Engineering book series (LNEE, volume 672)

Abstract

In this chapter, a combined Pseudo Hadamard transformation and Gingerbreadman chaotic substitution based algorithm proposed for image encryption. Due to the intrinsic properties of images, such as high inter-pixel redundancy and bulk data capacity, encryption is done in two stages per each round. The correlation between the adjacent elements in the host image is effectively reduced by subjecting it to Pseudo Hadamard transformation and Gingerbreadman chaotic substitution. The initial conditions for Gingerbreadman chaotic generator are considered from 128 bits secrete key. This sequence is introduced in the substitution stage of the encryption process to diffuse the pixel values of cipher image after transformation. The cipher images are subjected to various security analysis and the results obtained are better compared to many existing techniques.

Keywords

Encryption Correlation Security Substitution Redundancy

References

1. Zhang LY, Liu Y, Pareschi F, Zhang Y, Wong K-W, Rovatti R, Setti G (2018) On the security of a class of diffusion mechanisms for image encryption. IEEE Trans Cybern 48(4):1163–1175

Gmail

Dr. Puttegowda D <pgdatme@gmail.com>

Publication of RTEICT-2018 paper in IEEE Xplore reg-

IEEE_RTEICT-2019 <rteict2019@gmail.com> Sat, Feb 29, 2020 at 2:08 PM
Bcc: pgdatme@gmail.com

Dear Authors,
Congratulations....

We are happy to inform you that all the presented papers in the IEEE conference RTEICT-2018 has been published in the IEEE Xplore/Digital Library.
You can find your Research papers in the below link.

https://ieeexplore.ieee.org/xpl/conhome/8977133/proceeding

We once again thank full for your cooperation and coordination and we expect the same for the upcoming IEEE conference RTEICT-2020.

Thanks and Regards,
RTEICT-2018

--
** Thanks & regards **
RTEICT-2018

Qualitative Approach of Empirical Mode Decomposition-Based Texture Analysis for Assessing and Classifying the Severity of Alzheimer's Disease in Brain MRI Images

Advances in Artificial Intelligence and Data Engineering pp 1227-1253 | Cite as

- K. V. Sudheesh (1) Email author (sudheesh.vvce@gmail.com)
- L. Basavaraj (1)

1. Department of Electronics and Communication Engineering, ATME College of Engineering, , Mysuru, India

Conference paper
First Online: 14 August 2020

Part of the Advances in Intelligent Systems and Computing book series (AISC, volume 1133)

Abstract

Medical image processing systems are widely adopted in several real-time diagnostic systems due to their significant nature of information extraction and processing which helps to predict the early stages of illness. Alzheimer's disease (AD) is one of the most chronic and challenging diseases in the medical diagnostic field. This disease is responsible for neurodegenerative brain disorder and attacks the brain cells and nerves that result in affecting the brain functionality and finally cause dementia. In this work, the prime focus is on the early prediction of Alzheimer's disease using image processing-based machine learning techniques. Erstwhile, extensive studies are researched using pathological- and MRI-based systems which show the issues caused due to the brain's white matter damage. Nevertheless, these studies do not provide that how white matter damage is associated with the AD and its classification at multiple stages. Conferring to the proposed approach, an improved feature extraction technique is introduced by combining empirical mode decomposition and gray-level co-occurrence matrix (GLCM). In order to abstract robust features, several image preprocessing steps are applied such as image enhancement, and later feature extraction is applied followed by the classification where multiple classifiers such as KNN, decision tree classifier, RBF, and support vector machine classification are castoff to assess the performance of feature extraction technique. Projected methodology obtains promising performance for the classification of various stages of AD and consequently can be employed for real-time application for early prediction of

Image encryption using discrete radon transformation and non chaotic substitution

Publisher: IEEE

S. N. Prajwalasimha ; S. R. Bhagyashree All Authors

Abstract: In this paper, transformation and substitution based symmetric key encryption algorithm is proposed. Strong correlation between the adjacent pixels can be observed in the... **View more**

Metadata

Abstract:
In this paper, transformation and substitution based symmetric key encryption algorithm is proposed. Strong correlation between the adjacent pixels can be observed in the multimedia images. The encryption can be made effective by changing both position and value of each pixel in the image. In the proposed algorithm, each pixel position is scrambled using discrete radon transformation (DRT) and pixel value is varied using non chaotic substitution and permutation. The key length used is 64 bits. The secrete key is divided into eight separate keys each of length 8 bits and these are used to change the pixel position along with DRT. Simultaneously, the secret key is subjected for eight set of initial permutations and each set is used to change the pixel value of the image using exclusive-OR operation.

Published in: 2017 Second International Conference on Electrical, Computer and Communication Technologies (ICECCT)

Date of Conference: 22-24 Feb. 2017 **INSPEC Accession Number:** 17393521

Chapter 3
Classification of Field-Level Crop Types with a Time Series Satellite Data Using Deep Neural Network

J. Jayanth, V. S. Shalini, T. Ashok Kumar, and Shivaprakash Koliwad

Abstract Crop-type classification has been relied upon on only spectral/spatial features. It does not provide the in-season information for researchers and decision makers for both practical and scientific purposes. While satellite images have desirable spectral and spatial information for classification, the ability to extract temporal information in satellite data remains a challenge due to revisiting frequency and gaps in the time period of capturing the data. To circumvent this challenge and generate more accurate results for an in-season crop-type classification, we have used Rectified Linear Unit (RLU) approach based on the concept of deep neural networks for intelligent and scalable computation of the classification process. The work was carried out on Nanjangud Taluk located in Mysuru District, Karnataka state on a Landsat data (multi-temporal scene) from 2010 to 2015. The results indicate that RLU shows an improvement of 5% to 15% for overall classification accuracy at 3 classes over the traditional against support vector machine. In comparison with KSRSC data set, this study reveals an accuracy of 85% for classifying rice and banana with an improvement of 10% over KSRCS crop-filed data.

Keywords Spectral · Temporal · Landsat · RLU · Rice · Banana

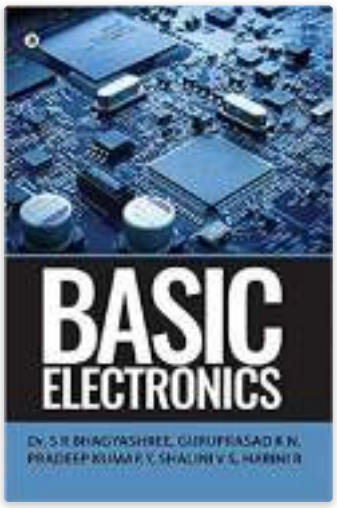
J. Jayanth (✉)
Department of Electronics and Communication Engineering, GSSS Institute of Engineering & Technology for Women, Mysore, Karnataka, India

V. S. Shalini
Department of Electronics and Communication Engineering, ATME College of Engineering, Mysore, Karnataka, India

T. Ashok Kumar
Sri Dharmasthala Manjunatheshwara Institute of Technology, Ujire, Karnataka, India

S. Koliwad
Department of Electronics & Communication Engineering, Malnad College of Engineering, Hassan, Karnataka, India

D. J. Hemanth (ed.), *Artificial Intelligence Techniques for Satellite Image Analysis*,
Remote Sensing and Digital Image Processing 24,
https://doi.org/10.1007/978-3-030-24178-0_3




See all 2 images

Basic Electronics

Paperback – 31 May 2021

by Dr. S R Bhagyashree (Author), Guruprasad K N (Author), Pradeep Kumar Y (Author), Shalini V S (Author), Harini R (Author)

See all formats and editions

Paperback
₹263.00

4 New from ₹248.00

FREE delivery: **Wednesday, Dec 29** on orders over ₹499 shipped by Amazon Details

Fastest delivery: **Tomorrow**
Order within 7 hrs and 23 mins Details

Save Extra with 3 offers

No Cost EMI: Avail No Cost EMI on select cards for orders above ₹3000 | Details

Bank Offer (2): 10% Instant Discount up to INR 300 on City Union Bank Debit Card Transactions.

See 1 more

Pay on Delivery | 10 Days Replacement Only | Amazon Delivered | No-Contact Delivery

This text is about Basic Electronics. This text focuses on the basic concepts of electronics. The informed style of this book makes it easy to read and learn. The main objective of this text is to help the students to learn the basic concepts along with applications.

Read more

Print length	Language
234 pages	**English**

₹263.00
M.R.P.: ~~₹275.00~~
You Save: ₹12.00 (4%)
Inclusive of all taxes

Fulfilled

In stock.

Sold by Cloudtail India and Fulfilled by Amazon.

Quantity: 1

Add to Cart

Buy Now

Select delivery location

Add to Wish List

Share

Other Sellers on Amazon

₹263.00 Add to Cart
Fulfilled **FREE Delivery** on orders over ₹499. Details
Sold by: Repro Books-On-Demand

₹248.00 Add to Cart
+ ₹70.00 Delivery charge Details
Sold by: ReproIndia

₹275.00 Add to Cart
+ ₹50.00 Delivery charge Details
Sold by: Notion Press

Have one to sell?
Sell on Amazon

Customers who bought this item also bought

Fourth International Conference on

INFORMATION AND COMMUNICATION TECHNOLOGY FOR INTELLIGENT SYSTEMS

15-16 MAY, 2020 | AHMEDABAD, INDIA

ICTIS 2020

Certificate

This is to certify that

Prakash Kuravatti

digitally participated in Fourth International Conference on ICT for Intelligent Systems (ICTIS 2020) held during 15-16 May, 2020. The conference was held through Digital Platform ZOOM.

He / She also presented a paper titled

Analyze and compare the parameters of Microstrip rectangular patch antenna using Fr4, RT Duriod and Taconic Substrate

The paper has also been selected for publication in the (ICTIS 2020) conference proceeding as per the fulfillment of guidelines issued by Springer.

We wish the authors all the very best for future endeavors.

Nilanjan Dey
TPC Chair, ICTIS 2020

Bharat Patel
Conference Chair, ICTIS 2020

Mihir Chauhan
Organising Secretary, ICTIS 2020

GR FOUNDATION

INTER VIT

ifip

Springer

KNOWLEDGE CHAMBER OF COMMERCE AND INDUSTRY

Chapter

Effects of Heat Treatment Conditions on Microstructure and Mechanical Properties of Halloysite Nanotube (HNT) Filled Epoxy Nanocomposites

By G. Ravichandran, G. Rathnakar, N. Santhosh

Book Nanomechanics and Micromechanics

Edition	1st Edition
First Published	2020
Imprint	Apple Academic Press
Pages	16
eBook ISBN	9780429323447

2019 | OriginalPaper | Chapter

Vehicle Speed Warning System and Wildlife Detection Systems to Avoid Wildlife-Vehicle Collisions

Authors: S. R. Bhagyashree, T. Sonal Singh, J. Kiran, Likhitha S. Padmini

Publisher: Springer Singapore

Published in: Emerging Research in Electronics, Computer Science and Technology

Abstract

One serious problem that all the developing nations are facing today is injuries and death of animals due to road accidents. Report says that, there are around 300,000 collisions per year. However, many of the databases exclude accidents that have vehicle damage less than $1,000 (https://apiar.org.au/wpcontent/uploads/2017/07/23_APJCECT_ICT-268-281.Pdf , [1]). Accidents lead to the reduction in wildlife. Eventually, this may lead to reduction and endangered of rare species. A system has to be designed to overcome this problem. In this paper, the problem is addressed by focusing on designing an IoT-based system which will perform two functions one is alerting the driver whenever an animal is nearer to the vehicle and the second one is alerting the driver whenever he exceeds the speed limit, especially in the forest region.

19 | OriginalPaper | Buchkapitel

Camera Raw Image: A Study, Processing and Quality Analysis

Autoren: K. Murugesh, P. K. Mahesh

Verlag: Springer Singapore

Erschienen in: Emerging Research in Electronics, Computer Science and Technology

Abstract

RAW is a digital file contains the camera-captured image data regarding the sensor pixels values and text information. The raw is being highlighted as digital negative and varies with the formats, which depend on hardware manufacturer. The raw processing is significant to ignore the duplication of data, to economize the space needed, to ease image file operations, and to have an uninterrupted capturing. The image quality is the substantial parametric quantity which determines the visual of the captured raw. The most extreme resolution with no inbuilt compression (raw) results in high image from any digital camera. The proposed workflow is to extract the contents of raw sensor information from the raw files and processing and displaying the information in image format. The raw test files were gathered from cameras by different manufactures. The MATLAB R2016a has been used for executing the workflow and analysis purpose. The display quality is ensured by the performance parametric—Quality of Image Improvement (QOII), and also the file size reduction ratio was analyzed.

2019 | OriginalPaper | Chapter

Analysis of Various CNN Models for Locating Keratin Pearls in Photomicrographs

Authors: Rajashekhargouda C. Patil, P. K. Mahesh

Publisher: Springer Singapore

Published in: Emerging Research in Electronics, Computer Science and Technology

Abstract

Worldwide, cancer occupies the second position in the list of diseases associated with the high mortality rate. Cancer is the condition, where in the body immune system will not be having any control over the population of the cells and their division process. Oral cancer is the cancer associated with the oral cavity or the mouth area. The detection of cancer from the photomicrographs is done manually by the pathologists and oncologists. This paper tries to automate the detection process by locating the keratin pearls which are rose like patterns found in the photomicrographs of malignant tissues. This is achieved through the Tensorflow object detection API freely available through the github repository. We have used four different models used for the coco data set. The analysis of the same is presented here.

Investigating the Impact of Various Feature Selection Techniques on the Attributes Used in the Diagnosis of Alzheimer's Disease

Springer, 2019

Dr Bhagyashree S R Dr MuraliKrsihna

Investigating the Impact of Various Feature Selection Techniques on the Attributes Used in the Diagnosis of Alzheimer's Disease

S. R. Bhagyashree and Muralikrishna

Abstract According to the Dementia India report 2010, it is estimated that over 3.7 million people are affected by dementia and is expected to be double by 2030. Around 60–80% of the demented are suffering from Alzheimer's disease. Neuropsychological tests are useful tools for diagnosis of dementia. Diagnosis of dementia using machine learning for low- and middle-income setting is a rare study. Various attributes are used for diagnosing dementia. Finding the prominent attributes among them is a tedious job. Chi-squared, gain ratio, info gain and ReliefF filtering techniques are used for finding the prominent attributes. Cognitive score is identified as the most prominent attribute.

1 Introduction

Dementia is a neurodegenerative disease. It causes loss of cognitive functions such as reasoning, memory and other mental abilities which may be due to trauma or normal ageing [1]. It is estimated that 10–20% of people aged above 65 are having mild cognitive impairment [2]. It has been estimated that worldwide, around 4.6 million new dementia cases are identified every year [3]. Approximately, 473,000 people with age 65 and above will develop Alzheimer's disease [4]. Neuropsychological assessment is used for diagnosis of the disease. Alzheimer Disease International has designed a battery named Community Screening Instrument for Dementia (CSID) for diagnosis of dementia [5]. For the same dataset, classification using Naïve Bayes

Springer Link

Pseudo-Hadamard Transformation-Based Image Encryption Scheme

Integrated Intelligent Computing, Communication and Security pp 575-583 | Cite as

- S. N. Prajwalasimha (1) Email author (prajwalasimha.sn1@gmail.com)

1. Department of ECE, ATME College of Engineering, , Mysore, India

Chapter
First Online: 15 September 2018

Part of the Studies in Computational Intelligence book series (SCI, volume 771)

Abstract

In this chapter, a pseudo-Hadamard transform (PHT)-based image encryption technique has been proposed. Images are characterized by high interpixel redundancy. This can be varied in two phases: transformation and substitution. Correlation between adjacent pixels can be varied by the transformation phase. Pixel value variation can be made in the substitution phase. Encryption of some standard images has been done, and performance analysis is made based on correlation, entropy, mean square errors, number of pixel change rate (NPCR) and unified average changing intensity (UACI). The results obtained are comparatively better considering those of existing algorithms.

Keywords

Encryption Redundancy Transformation Substitution

References

1. Balouch, Zaheer Abbas, Muhammad Imran Aslam and Irfan Ahmed. 2017. Energy efficient image encryption algorithm. In *Proceedings of international conference on innovations in electrical engineering and computational technologies (ICIEECT)*.
Google Scholar (https://scholar.google.com/scholar?q=Balouch%2C%20Zaheer%20Abbas%2C%20Muhammad%20Imran%20Aslam%20and%20Irfan%20Ahmed.%202017.%20Energy%20efficient%20image%20encryption%20algorithm.%20In%20Proceedings%20of%20international%2

Springer Link

Logarithmic Transform based Digital Watermarking Scheme

International Conference on ISMAC in Computational Vision and Bio-Engineering

ISMAC 2018: Proceedings of the International Conference on ISMAC in Computational Vision and Bio-Engineering 2018 (ISMAC-CVB) pp 9-16 | Cite as

- S. N. Prajwalasimha (1) Email author (prajwalasimha.sn1@gmail.com)
- A. N. Sowmyashree (1)
- B. Suraksha (1)
- H. P. Shashikumar (1)

1. Department of ECE, ATME College of Engineering, , Mysuru, India

Conference paper
First Online: 02 January 2019

Part of the Lecture Notes in Computational Vision and Biomechanics book series (LNCVB, volume 30)

Abstract

In this chapter, a new frequency domain transformation based digital watermarking technique has been introduced. The proposed technique adopts logarithmic transformation in order to embed the watermark image into the host image. The algorithm is subjected for various security attacks and compared with other frequently available digital watermarking schemes. The results obtained from the proposed algorithm are more satisfied compared to the existing systems.

Keywords

Frequency domain Logarithmic transformation Security attacks

References

1. Nezhadarya E, Wang ZJ, Ward RK (2017) Robust image watermarking based on multiscale gradient direction quantization. IEEE Trans Inf Forensic Secur 6(4):1200–1213
CrossRef (https://doi.org/10.1109/TIFS.2011.2163627)

Digital Image Watermarking Using Sine Transform Technique

International Conference on ISMAC in Computational Vision and Bio-Engineering

ISMAC 2018: Proceedings of the International Conference on ISMAC in Computational Vision and Bio-Engineering 2018 (ISMAC-CVB) pp 1-8 | Cite as

- S. N. Prajwalasimha (1) Email author (prajwalasimha.sn1@gmail.com)
- S. Sonashree (1)
- C. J. Ashoka (1)
- P. Ashwini (1)

1. Department of Electronics & Communication, ATME College of Engineering, , Mysuru, India

Conference paper
First Online: 02 January 2019

Part of the Lecture Notes in Computational Vision and Biomechanics book series (LNCVB, volume 30)

Abstract

In this chapter, digital image watermarking using sine transformation has been introduced in the frequency domain. In the proposed technique, the secret image is first compressed using a sine transformation and then embedded into the host image. The resultant images obtained from the proposed algorithm are subjected to various security attacks and the results are compared with other existing algorithms. The results obtained are better compared to the existing techniques.

Keywords

Digital watermarking Sine transformation Frequency domain Compression Security attacks

References

1. Ahmaderaghi B, Kurugollu F, Del Rincon JM, Nekrasov D, Bouridane A (2018) Blind image watermark detection algorithm based on discrete Shearlet

Artificial Bee Colony Algorithm for Classification of Semi-urban LU/LC Features Using High-Resolution Satellite Data

J. Jayanth, T. Ashok Kumar, Shivaprakash Koliwad and V.S. Shalini

Abstract Attempts to classify high-resolution satellite data with conventional classifier show limited success since the traditional-per-pixel classifiers examine only the spectral variance ignoring the spatial distribution of the pixels corresponding to the land use/land cover classes. The work is carried out in two stages on panchromatic sharpened IRS P-6 LISS-IV (2.5 m) multispectral (MS) imagery of the year 2014 of Mangalore coastal zone along the west coast of Karnataka state of India. In the first stage, in order to overcome the limitations experienced in the parametric and nonparametric classifications, the swarm intelligence optimisation technique based on Artificial Bee Colony (ABC) algorithm has been studied for twelve land cover classes that are mapped. In the second stage, to bring out a greater separability between the spectrally overlapping classes, a texture-based image classification approach has been introduced and a methodology is developed to determine the optimal window size, interpixel distance and the best combinations of texture bands in multispectral data. The five texture measures, viz. entropy (ENT), angular second moment (ASM), contrast (CON), MEAN and homogeneity (Hmg) derived from the grey-level co-occurrence matrix (GLCM), are investigated

J. Jayanth (✉)
Department of Electronics and Communication Engineering,
GSSS Institute of Engineering & Technology for Women,
Mysore, Karnataka 570 016, India
e-mail: jayanthnov8@gmail.com

T. Ashok Kumar
PES Institute of Technology and Management, Shivamogga,
Karnataka 577 204, India
e-mail: ashokkumar0868@gmail.com

S. Koliwad
Department of Electronics & Communication Engineering,
Malnad College of Engineering, Hassan, Karnataka 573 202, India
e-mail: spksagar2006@gmail.com

V.S. Shalini
Department of Electronics and Communication Engineering,
ATME College of Engineering, Mysore, Karnataka 570 028, India
e-mail: shalinivs29@gmail.com

J. Hemanth and V.E. Balas (eds.), *Biologically Rationalized Computing Techniques For Image Processing Applications*, Lecture Notes in Computational Vision and Biomechanics 25, DOI 10.1007/978-3-319-61316-1_1

Springer Link

Design and Implementation of High Speed VLSI Architecture of Online Clustering Algorithm for Image Analysis

Data Engineering and Intelligent Computing pp 197-206 | Cite as

- M. G. Anuradha (1) Email author (anuarun.19@gmail.com)
- L. Basavaraj (1)

1. ATME College of Engineering, , Mysore, India

Conference paper
First Online: 01 June 2017

Part of the Advances in Intelligent Systems and Computing book series (AISC, volume 542)

Abstract

A novel architecture for computing On-line clustering using moving average method for handling varied dimension data up to eight is proposed. The architecture proposed can perform clustering operation in a single clock cycle for any given dimension. A new method for division is proposed using parallel multiplier architecture and power of two which computes the division operation in single clock cycle. The architecture is tested for its working using Xilinx/ISim tool and the design is implemented using FPGA Spartan 3A.

Keywords

Clustering FPGA K-Means Fuzzy C-Means algorithm

Notes

Acknowledgements

Author Anuradha M.G. working as Asst Prof, Department of ECE, JSSATE, Bengaluru and research scholar, ATME, Mysore, would like to thank the Management, Principal and the Department of ECE, JSSATE, Bengaluru for providing the technical and the moral support.

International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 08, Special Issue | Oct 2021 www.irjet.net p-ISSN: 2395-0072

International Conference on Recent Trends in Science & Technology-2021 (ICRTST - 2021)

Organised by: ATME College of Engineering, Mysuru, INDIA

Recent Trends in Green Synthesis of ZnO Nanomaterials using Plant Extracts

Malathi Pujar[1], Kiran Kumar Prem Kumar*[2], Avinash Krishnegowda[3] and Ravishankar H Sadashivanna[4]

[1]Department of chemistry, ATME College of Engineering, Mysuru, Karnataka, India
[2]Curresponding author, Assistant Professor, ATME College of Engineering, Mysuru, Karnataka, India
[3,4]Assistant Professor, ATME College of Engineering, Mysuru, Karnataka, India

---

Abstract - *The multifunctionality of ZnO has led to its recognition as a material of great potential in the field of nanotechnology. Owing to the various disadvantages associated with the synthesis of ZnO nanoparticles through conventional physical and chemical methods, there is a growing need for eco-friendly methods suitable for large-scale production. Along these lines, the biosynthesis of nanoparticles, especially from plant extracts, is gaining popularity as a more suitable alternative among researchers. Even though biosynthesis of ZnO nanoparticles has been reviewed extensively by researchers in the past, special focus on plant extract as a more suitable alternative, microwave-assisted green synthesis of ZnO nanoparticles using different plant extracts in comparison to conventional green synthesis and the different nanostructures obtained in response, and the reports on related information is scanty. Therefore, a comprehensive review on these areas was carried out and observed enhancements in the properties of ZnO nanoparticles thus produced are reported. Faster reaction rates yield, an enhanced state of other properties such as morphology, size, optical, crystal, antimicrobial, etc. of the ZnO nanoparticles through the microwave-assisted green synthesis method are presented in this article.*

Key Words: Green synthesis, biosynthesis, eco-friendly, microwave-assisted nanostructures.

1. INTRODUCTION

Nanotechnology controls over matter at its molecular level [1]. Recent trends in nanotechnology in the form of quantum dots [2], bio-nanotechnology [3], enhanced Raman scattering [4], etc., ensure the applications in a multitudinous field such as material science, engineering, microbiology, etc. Nanoparticle research is considered to be crucial owing to the special properties associated with nanoparticles consequently minimizing surface area such as enhanced catalytic, optical, mechanical, and thermal properties [5],[6]. In particular, metal oxide nanoparticles have attracted much attention from researchers owing to their usefulness in the fabrication of nanodevices and several other biomedical applications [7]. Among them, ZnO nanoparticles, known for their remarkable piezoelectric [8], optoelectrical [9], pyroelectric, semiconducting, catalysis[10],[11], and antimicrobial properties [12],[13] have been recognized as a material of great potential in all the fields such as physics, biology, engineering, chemistry, etc., as optoelectronic devices, sensors, catalysts, solar cells, cosmetics, antimicrobials, etc. [14],[15]. The multifunctionality of ZnO can be attributed to its bandgap of 3.37 eV, high exciton binding energy, the ability for green emission, and excellent energy conversion efficiency [16],[11],[17] marked as highly researched material in the field of nanotechnology.

1.1 EXPERIMENTAL DETAILS

1) Methods for the synthesis of ZnO nanoparticles: ZnO nanoparticles are synthesized through chemical, physical, or green methods. The physical method includes colloidal dispersion, vapor condensation, thermal evaporation, etc., which require conditions of high pressure and temperature, elaborate machinery, and its associated high-level expenditure [18]. Typical synthesis adopted via chemical methods as co-precipitation, wet chemical methods, combustion, etc., excludes the toxic reagents usage with severe experimental conditions and expensive reactants [18]. In addition to the physical approach, the chemical methods entail the stabilizing agents, to shield the nanoparticles from undergoing chemical reactions to agglomeration [19]. The large-scale integration of ZnO nanoparticles into different industries emphasizes the growing scale production of ZnO nanoparticles. However, nanoparticles are produced at the industry level by chemical methods, with the increased number of toxic by-products contributing to chemical pollution for the environment, revealing an urgent need to explore suitable eco-friendly synthesis methods for large-scale production, i.e., alternative synthesis methods by reactants, processes are musts devised globally safe. One such alternative green synthesis method, nanoparticles are synthesized with plant extracts otherwise microorganisms like bacteria, fungi, yeast, algae, etc. [20],[21]. Among the altered green synthesis

International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 08, Special Issue | Oct 2021 www.irjet.net p-ISSN: 2395-0072

International Conference on Recent Trends in Science & Technology-2021 (ICRTST - 2021)

Organised by: ATME College of Engineering, Mysuru, INDIA

Study of Liquid and Shrinkage Limit of Kaolinite-Bentonite Minerals

Jyothi D N[1], Shruthi H G[2], Dr. H S Prasanna[3]

[1]Assistant Professor , Department of Civil Engineering ATME College of Engineering
[2]Assistant Professor, Department of Civil Engineering ATME College of Engineering Mysuru
[3]Professor , Department of Civil Engineering, The National Institute of Engineering Mysuru

---

Abstract—Shrinkage limit and liquid limit are the Atterberg limits and it is important in many plasticity characteristics of soil behavior. Sridharan A and Prakash K[1] proved that natural soil shrinkage limit does not rely upon plasticity characteristics. In the present study confirms the using of cohesive clay kaolinite and bentonite mixed with non-cohesive sand and mechanism shows that the variation of liquid limit and shrinkage limit and the natural soil shrinkage limit does not rely upon plasticity characteristics.

Keywords-Shrinkage limit, liquid limit, clay minerals

I. INTRODUCTION

The fundamental material in geotechnical engineering field is soil. The behavior of soil in terms of strength , stiffness and stability is vital important and also it is the fundamental for all the constructional activities. The characteristics of expansive soil can be known by the presence of high amount of clay mineral in the natural soil . The expensive soil consist of montmorrillonite or bentonite , kaolinite , illite and other non-clay minerals in different proportions. Study of expensive soil behavior is restricted in demographical areas and also study of expensive soil in different proportions around the world requires lot of time and financial implications .

In the present study, the experimental investigation conducted for the expensive soil consist of different mix proportions of clay minerals kaolinite and bentonite and also non cohesive soil sand in different proportions . Analysis of Atterberg limits is vital importance in study of fundamental behavior of clay minerals. These characteristics of clay minerals are answerable for the designing of structure and to know about the subsoil behavior of expensive clay.

Consistency is the obstruction of soils to deformity and crack. The terms delicate, medium, firm, exceptionally solid, and hard are applied to rate consistency of soil. Atterberg distinguished three restricting water substance that is seen in soil states that can be called as Atterberg's limits. The higher water content and lower water content within which the behavior of clay element exhibits a characteristics of plastic state then this states represented by the liquid and plastic limits respectively.

Essentially, the lower state of water content between semi-hard and hard states is the shrinkage limit. Shrinkage is a collaboration of volume decline that occurs because of fine squeezing factors actuated by the scattering of water from the soil and Shrinkage cutoff of a common soil is basically an element of general grain size circulation of soil, notwithstanding of the fundamental clay mineral of the soil and that as far as possible doesn't rely upon versatility attributes of the soil.

II. LITERATURE REVIEW

Sridharan, A. and Prakash, K (2000) studied Shrinkage limit, one of the Atterberg limits, and presented that natural soil shrinkage limit is not depend upon characteristics of plasticity.

Naser Al Shayea (2001) established that clay minerals impact the conduct of the whole soil mass regardless of whether they are available just as little parts of the clay. Likewise, the degree of soil division in a clay is required in deciding its geotechnical qualities like strength and compressibility.

Mehdi Gharib (2012) et.al studied that impact of including cementitious to expensive clay and to study the properties of shrinkage and its effects to the various soil substances. An impressive count of extension tests were done on blended examples in with various weight rates. The outcomes proposed the huge impact of alteration of clay soils by including cement their shrinkage properties, to such an extent that expanded level of added substances builds the shrinkage furthest reaches of additives added substance blend and the breaks brought about by shrinkage decline as far as length and width.

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

ICRTST 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Dr. Mahesh Lohith K S***

ATME College of Engineering

has presented paper entitled ***A brief discussion on factorsinfluencing the measurement of tribological parameters using Pin-on-Disc Tribometer***

in the "international Conference on Recent Trends in Science & Technology ICRTST - 2021 "

organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 08, Special Issue | Oct 2021 www.irjet.net p-ISSN: 2395-0072

International Conference on Recent Trends in Science & Technology-2021 (ICRTST - 2021)

Organised by: ATME College of Engineering, Mysuru, INDIA

"Behaviour of Regular and Non Regular RC Buildings with & without Floating columns using ETABS"

Mr. Puneeth K[1], Mr. P Shashank[2]

[1,2]*Asst.Professor, Department of Civil Engineering, ATME College of Engineering, Mysore, India.*

Abstract- Lately, multi-storey and high rise buildings in urban locales require column free territory because of shortage of space and for architectural prerequisites. For this reason multistorey structures are inhibited with floating columns for aesthetic perspective and also in getting more space at parking territories for free vehicular movement. Floating-column is a vertical member that ends at its lower level and rest on a beam that is a horizontal member. Provision of floating columns is extremely biased in building built-in seismically active regions. The primary aim of this study is to present a general review of the performance of reinforced concrete frame structures with and without the floating columns at different floors in "Regular and Non Regular" RC buildings. The analytical study of the RC buildings with and without floating columns is done using ETABS 2013 software.

Key Words *–Floating Columns, Regular and Non Regular RC buildings*

I. Introduction

In numerous high rise structures, today open first storey is an inescapable component. The adaptation is mainly to have more space for parking or reception lobbies in the first storey. For this purpose, buildings are incorporated with hanging columns at least in one or more storeys. There are several activities in which floating columns are embraced, particularly over the ground floor, where transfer girders are utilized, so that more open space is realistic in the preliminary floor. These open areas might be essential for social affair hall or parking reason.

In structural engineering column is a structural element that transmits the heaviness of the construction to its lower underlying part. In general, compression components are often termed as "columns" because of the stress conditions. Columns generally bear beams or arches on which the upper parts of masonry or ceiling rest. A column is an upstanding pillar, typically cylindrical, supporting an arch, entablature, or other structure or remaining solitary as a monument beginning from establishment level and transferring the load to the ground.

The floating column is a upward structural element which lays on a beam however doesn't pass the load in a straight line to the establishment. The floating column will act as a point load on the beam and in turn the load is transferred to the columns underneath it through beam. The column may get going on the first or second or any other intermediate floor while resting on a beam. These floating columns are extremely inconvenient in a structure built in seismically dynamic territories. The seismic forces which are generated at various floor levels in a structure needs to be transferred down along the height to the ground by the shortest path.

[1] Kapil Dev Mishra & Dr A K Jain (2018) analyzed a G+5 building and studied on "Comparative Study of Floating and Non Floating Column of Plaza Building subjected to Seismic Loading by Using Staad-Pro Software". It has been concluded that maximum bending moments as well as highest support reaction are seen in the structures having floating columns and are higher than that of structures without floating columns, maximum bending moments at seismic Zone IV are greater than that of Zone III and structures with floating column constructed in Zone IV are more affected by earthquake than Zone III.

[2] Prof. Y. R. Deshmukh etal (2018) studied on "Study on Seismic Analysis of Multistorey Building with Floating Column using Staad.ProV8i". It has been concluded that, building with floating columns produces more base shear and lateral displacement in seismic prone area's when compared with non-floating column buildings i.e storey drift of floating column building is ultimately more but does not sway the steadiness of structure.

The objective of the present work is to find out the performance of G+4 Regular and Non Regular RC buildings modelled with floating columns present at ground floor, 1st, 2nd & 3rd floor. Various parameters such as storey shear, storey drift, storey displacement and base shear are compared for buildings with and without floating columns.

International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 08, Special Issue | Oct 2021 www.irjet.net p-ISSN: 2395-0072

International Conference on Recent Trends in Science & Technology-2021 (ICRTST - 2021)

Organised by: ATME College of Engineering, Mysuru, INDIA

H_2S Strip Test, a User-Friendly Method to Find Faecal Coliforms in Water Quality Analysis – a Case Study

SUNEETH KUMAR SARAGUR*, VASUDEVAN MANGOTTIRI[1], ANUSHA GURURAJAN[2], GEETHAMANI[3], BALAGANESH PANDYAN[4]

*[-4]*Bannari Amman Institute of Technology, Sathyamangalam – 638401*

Abstract: Faecal contamination of drinking water is the main cause of the outbreaks of epidemics. According to WHO (1996) for drinking water to be safe, a 100 ml sample should not contain any coliform bacteria. The standard methods currently used for routine testing for detection of e-coli bacteria have many limitations especially when applied in remote areas. The H_2S strip technique has been found to be an on-site, inexpensive and easy to use method to test drinking water, especially for remote and rural areas.

Even though many substrate configurations are available with several modifications, in the present work, the one suggested by Manja et al., (1982), has been adopted. These E-coli detecting vials were prepared in thousands, locally in an Environmental Engineering Laboratory itself making it highly economical and have been extensively used in a Government of Karnataka-assigned project which involved the analysis of water from of existing drinking water sources in selected rural villages for fourteen water quality parameters including e-coli detection.

The use of these vials in the project indicated that the test is quite simple and user-friendly, without any high skill requirement. The results are reliable, time saving and highly economical with more suitability to rural areas, where sophisticated laboratory facilities are not available.

Key Words: Coliforms, H_2S Strips, Vials, Anaerobic, Faecal pollution, MPN Test

INTRODUCTION

According to guidelines for drinking water, water intended for human consumption should be safe, palatable and aesthetically pleasing WHO. This means that the water used for domestic purposes should be free of pathogenic microorganisms and other substances that may present a health risk. Around 2.2 million die of basic hygiene related diseases, like diarrhoea, every year. The provision of drinking water of acceptable microbiological quality and low infectious disease risk requires a number of essential elements within a water safety plan (Sobsey and Faender, 2002).

The applications of measuring the microbial quality of water for educational as well as health aspects, especially of rural population. Teaching people about the microbial quality of water and the fundamentals of germ theory, within the context of education and outreach programs for water, sanitation and hygiene at the individual, household, community and regional levels is a continuing and long-term task in the global health initiative. In conveying these educational messages, the availability of simple, practical, accessible and affordable tests for faecal contamination of drinking water are extremely useful and potentially powerful tools. In some situations the best tests to accomplish these goals are those that are the simplest to use, understand, visualize and interpret. This is because such tests can be widely disseminated both directly by the primary educators and then subsequently via communications within households, families, schools and communities and by other means (educational materials such as leaflets, signs and labels). All over the world numerous attempts are being made to find out simple and reliable method which does not need elaborate set up, inexpensive and can be performed by common man in rural area where people have compelled to drink highly contaminated water.

The presence of coliforms in drinking water is consistently associated with hydrogen sulphide producing bacteria under anaerobic conditions. Many pathogens also produce hydrogen sulphide. For this reason in hydrogen sulphide producing bacteria act as indicators of faecal pollution. One such, low-cost, presence–absence test for faecal contamination in drinking water, simple to use and easy to interpret is the hydrogen sulphide (H_2S) test, also called paper-strip test suggested by Manja et al., 1982. They have successfully employed this method for isolating various localities affected by infectious hepatitis in Gwalior, M.P(India). The outbreak of hepatitis in one of military units in central India was effectively handled using this method. International Development Research Centre (IDRC), Canada, eight countries and their report (1990) recommends the use of H_2S Strip test for the testing of water in rural area and suggested that the investigation should be undertaken to improve its sensitivity (Manish Nigam and Abhishek Dixit, 2006). H_2S Strip Test has been successfully used in small communities in South America, Indonesia and India, for assessing water quality (Martins, et al,

International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 08, Special Issue | Oct 2021 www.irjet.net p-ISSN: 2395-0072
International Conference on Recent Trends in Science & Technology-2021 (ICRTST - 2021)
Organised by: ATME College of Engineering, Mysuru, INDIA

IMPROVEMENT AND EXAMINE THE BEHAVIOR OF CONVENTIONAL AND HIGH STRENGTH SELF- COMPACTINGMORTAR MIXES

Manu Vijay [1*]and Naveen Kumar S M [2]

[1]Associate Professor, Department of Civil Engineering, ATME College of Engineering, Mysuru,Karnataka, India
[2]Assistant Professor, Department of Civil Engineering, AIT, Chikkamagaluru, Karnataka, India

---

Abstract: The aim of this work is to examine the rheological and strength properties of self- compacting mortar (SCM) mixes containing waste industrial by products such as ground granulated blast furniture slag (GGBS) and micro silica fume as a cement substitute (MS).Furthermore, GGBS replacement ranges from 10% to 70%, with MS additive constant at 10% by cement weight. The usage of pozzolanic materials in mortar has shown to improve certain properties like rheology of concrete, setting time, and compressive strength. Of concrete Resulting in a performance-based specification SCM mixes in various combinationsis the most effective approach. Different test are conducted in the lab like Slump flow, V- funnel time, with different mixes made in the lab with and without varying percentages of industrial by-products were compared, and performance was calculated.

Keywords: Conventional mortar, Self-compacting mortar (SCM), Rheology, and compressive strength. Granulated blast furniture slag (GGBS), Micro silica fume (MS).

1. INTRODUCTION

The most popular binding material used in civil engineering projects is ordinary Portland cement. Self-Compacting concrete is a relatively new concrete technology concept that was discovered in 1986 by Japanese researchers as a way to increase the efficiency of concrete by increasing the powder content and which helps in the process of construction practice It is also important to achieve an optimal SCC or SCM mix design.

1.1 Cement mortar: Cement Mortar is a paste made up of cement, sand, and water that is homogeneous. By combining different proportions of cement and sand, various cement mortars can be made. Cement and sand are correctly combined in a dry state to make cement mortar. The water is then gradually applied and combined with a scoop. Clay and other impurities should be removed from the water.

1.2 Self-Compacting mortar: The main purpose of this study is to learn more about the chemical and mechanical properties of SCM., which is also known as "highly flowable, stable concrete and mortar, which is easily sustainable and can fill the formwork without the need for any integration or significant separation.

1.3 Objectives of the Present Investigation:

Main objectives derived based on the literature review areas listed below.

1. Different trials of self-compacting concrete mixes are developed in the lab

2. The rheological and hardened properties of conventional concrete and SCM mixes concrete were investigated in the laboratory.

Better and Faster Emergency Care During Accidents and Vehicle Impact

Lavanya.N
Assistant Professor, Department of CSE, ATME College of Engineering, Mysuru

Faiza Firdaus , Kulsum Khanum.K , Tania Fareen , Lavanya.S
Department of CSE, ATME College of Engineering, Mysuru

Abstract: Traffic Accidents causes majority of deaths worldwide. The comprehensive disaster of the safety of road can be realized through witnessing the substantial quantity of injuries and deaths which are triggered by the road traffic accidents. In numerous circumstances the emergency services or caring members are not up-to-date in right time. This leads in late response time of the emergency service, which can prime to cause severe injury or a person's death. The resolution effort is to lessen the retort time of the emergency services in circumstances like incidents caused because of roads traffic and additional tragedies such as theft & robberies, the medical emergencies and fire emergencies. Via using smartphone's onboard sensors to detect automobile accidents account these to closest emergency responder accessible deliver actual time positioning trailing for emergency victims and responders, this will extremely upsurge the probabilities of existence for the emergency victims, also aid save time & capitals of emergency services.

Keywords: GPS, Google Maps, K-Nearest algorithm

Android Application for Farmers to Sell Their Product at Better Rate

Mrs.Sneha N.P.
Assistant Professor, Department of CSE, ATMECE, MYSURU

Rakshith Kumar H.N, Rakshitha C M, Rakshitha Y S, Renuka S
Department of Computer Science and Engineering,
ATMECE, Mysuru, Karnataka, India

Abstract: In India agriculture is mainly depend on the farmer's income and also it is the backbone of India. Our aim is to develop an android application which helps the Indian farmers to sell their products at different markets. It connect the farmers and customers directly without middlemen, which makes changes in the profit that the farmers can get. This android app will provide a user friendly, easy and interactive interface to navigate to both the producer(farmer) and customer. This is one of the computerized approach for clear and better marketing and guide the farmers about advanced technologies and tell them to adopt those measures which is necessary to better kind of agriculture. So farmers can get the unique interface where they can get the current market price of the product , different schemes available for them by the government and also weather report. Addition to this they can also get the SMS through the cell phones and also they access this application 24/7.Farmers can also raise their queries in the help desk.

Keywords: advanced technology, cell phones, interactive interface, without middleman, help desk.

An Innovative Marks Prediction Tool for Regular Courses Using Machine Learning

Ajanta Das
Amity Institute of Information Technology
Amity University
Kolkata700135, India
cse.dr.ajantadas@gmail.com

Anjali Agarwal
Amity Institute of Information Technology
Amity University
Kolkata700135, India
aagarwal691@gmail.com

Roshni Rupali Das
Amity Institute of Information Technology
Amity University
Kolkata700135, India
roshnirupalidas244@gmail.com

Abstract: Online teaching-learning or e-learning platforms have increased immensely while COVID-19 outbursts to the pandemic. Online teaching mainly depends on the internet while e-learning provides teaching material or some tutorial video, and the learner or students can download the corresponding material for learning offline. At the outset, students' learning methodology changes drastically during this pandemic for the long term. Some of them are beneficial but not everyone with the strong belief that there is no alternative for classroom teaching. To motivate the learners or students through all these virtual teaching platforms, prediction of their performance becomes inevitable. Most of the students become lethargic while attending the classes, as the trainer or teacher cannot go through all the copies or class works during the class. However, it would be motivating for the students if they can observe their performance or marks based on their effort or study hours beforehand or before appearing for the examination. Therefore, the major objective of this paper is to propose an innovative marks prediction tool using machine learning regression algorithms. This proposed tool will predict the marks for the students of the specific domain based on three inputs, class attendance, responses in the class, and study hour for the particular subject in the specified domain. This paper also compares the efficiency of the proposed tool based on a few evaluation metrics and identifies the particular regression algorithm which will be used for further access by end-users.

Keywords: Prediction, Regression, Marks, Machine Learning

Survey on Traffic Accident monitoring system

Raghuram A S
Department of CS&E
ATME College of Engineering
Mysore,India.

Kiran B
Department of CS&E
ATME College of Engineering
Mysore,India.

ABSTRACT— Deaths due to accidents are rapidly increasing day by day. With all developments of new technologies accidents will occur. Detection at the earliest and taking action immediately WRT health will save his/her life. All the papers that has been surveyed here for accident detection and monitoring uses sensors and machine learning. An alert will be sent to required destination. This paper discusses various methodologies to identify accidents under the survive lance.

Keywords: Monitoring, Detection of accidents, Accelerometer, GSM, GPS.

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

ICRTST 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Dr J V Gorabal***

ATME COLLEGE OF ENGINEERING, MYSURU

has participated as the Co-author for the paper entitled ***Survey on Mutimodal Biometric Authentication System using Fingerveins and fusion at Match score level***

in the " International Conference on Recent Trends in Science & Technology ICRTST - 2021 "
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2021
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

\+

1st International Conference on
Applied Research and Engineering
ICARAE2021
26-28 November 2021
Cape Town, Western Cape, South Africa, 7335.

CERTIFICATE OF PARTICIPATION

This certificate is awarded to Prof./Dr./Mr./Mrs./Ms. **S.H. Biradar, J.V. Gorabal, Gaurav Gupta** for participating and presenting a paper titled **"Machine Learning Tool for Exploring Sentiment Analysis On Twitter Data"** on the 1st International Conference on Applied Research and Engineering organized by the Department of Mechanical Engineering, Cape Peninsula University of Technology, Cape Town, Western Cape on the 26-28 November 2021 in which participants from different countries registered and presented.

Dr. Velaphi Msomi
Conference Coordinator
Managing Guest Editor of Proceedings

Dr. Shankar Sehgal
Conference Coordinator
Managing Guest Editor of Proceedings

A T M E
College of Engineering

International Conference on Recent Trends in Science & Technology

8th & 9th July 2021

ICRTST - 2021

ICRTST 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Kavyashree E D***

ATME College Of Engineering, Mysore

has participated as the Co-author for the paper entitled ***Hand Gesture Techniques For Sign Language Recognition***

in the " International Conference on Recent Trends in Science & Technology ICRTST - 2021 "

organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2021
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 08, Special Issue | Oct 2021 www.irjet.net p-ISSN: 2395-0072

International Conference on Recent Trends in Science & Technology-2021 (ICRTST - 2021)

Organised by: ATME College of Engineering, Mysuru, INDIA

Delay Analysis and Efficient Scheduling Policies for Multi-Hop Wireless Networks

Sushma V

Assistant Professor,Department of CSE,ATME College of Engineering ,Mysuru

---

ABSTRACT

In this paper the delay performance of a multi-hop wireless network is analyzed in which the routes between given source-destination pairs are fixed. The back pressure algorithm and greedy partitioning algorithms are used. A new queue grouping technique to handle the complex correlations of the service process resulting from the multi-hop nature of the flows and their mutual sharing of the wireless medium is developed. A systematic methodology is presented to derive such lower bounds. The lower bound analysis provides useful insights into the design and analysis of optimal or nearly optimal scheduling policies.

Keywords: Multi-hop wireless network, delay, scheduling policy

INTRODUCTION

A wireless sensor network (WSN) must be made up of spatially distributed stand-alone sensors to monitor physical or environmental conditions, such as temperature. The most modern network are bidirectional and also make it possible to monitor the activity of the sensors.The development of wireless sensor networks has been based on military applications such as battlefield monitoring.Today, these networks are used in numerous industrial and consumer applications, such as the monitoring and control of industrial processes, the monitoring of the health of machines.

The WSN is built of "hubs" from some to a few hundred or indeed thousands, where each hub is associated to one (or now and then a few) sensors. Each such sensor arranges hub has regularly a few parts: a radio handset with an inside receiving wire or association to an outside radio wire, a microcontroller, an electronic circuit for interfacing with the sensors. and an vitality source, more often than not a battery or an implanted shape of vitality gathering. A sensor hub might change in estimate from that of a shoebox down to the estimate of a grain of clean, in spite of the fact that working "motes"(demo video) of honest to goodness tiny measurements have however to be made. The taken a toll of sensor nodes is additionally variable, extending from some to hundreds of dollars, depending on the complexity of the person sensor hubs. Estimate and taken a toll limitation on sensor hubs result in comparing imperatives on assets such as vitality, memory, computational speed and communications transfer speed.

Algorithms 1.Greedy Algorithm

A **greedy algorithm** is an algorithm that follows the problem solving heuristic of making the locally optimal choice at each stage with the hope of finding a global optimum. On some problems, a greedy strategy need not produce an optimal solution, but nonetheless a greedy heuristic may yield locally optimal solutions that approximate a global optimal solution.

2 Back Pressure Algorithm

The backpressure algorithm operates in slotted time, and every slot it seeks to route data in directions that maximize the differential backlog between neighboring nodes. This is similar to how water flows through a network of pipes via pressure gradients. However, the backpressure algorithm can be applied to multi- commodity networks (where different packets may have different destinations), and to networks where transmission rates can be selected from a set of (possibly time-varying) options.

International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 08, Special Issue | Oct 2021 www.irjet.net p-ISSN: 2395-0072

International Conference on Recent Trends in Science & Technology-2021 (ICRTST - 2021)

Organised by: ATME College of Engineering, Mysuru, INDIA

Detection of Malicious Content or Web Links Related to Cyber Frauds

Sushma V
Assistant Professor
Department of CSE
ATMECE, Mysuru

Rachana G S
UG Student
Department of CSE
ATMECE, Mysuru

Nandakishor B M
UG Student
Department of CSE
ATMECE, Mysuru

Nishchal R
UG Student
Department of CSE
ATMECE, Mysuru

Tejas K
UG Student
Department of CSE
ATMECE, Mysuru

Abstract—Malicious URLs are being extensively used to mount numerous cyber attacks together with spamming, phishing andmalware. Detection of malicious URLs and identification of threat sorts lead to critical stage in these attacks.
Knowing the kind of a threat permits estimation of severity of the attack and helps adopt an effective countermeasure. Existing strategies typically detect malicious URLs of one attack kind. During this cyber fraud, wetend to propose method using cyber frauds to detect malicious URLs of all the popular attack sorts and identify the nature of attack a malicious URL attempts to launch.

Keywords- Malicious URLs, Domain NameSystem, Cyber Frauds.

I. INTRODUCTION

While the World Wide Web has become a killer application on the web, it has also additionally brought in an immense risk of cyber-attacks. Challenges have used this web(net) as a vehicle to deliver malicious attacks such as phishing, spamming, and malware infection. As an example, phishing generally involves sending an email seemingly from a trustworthy supply to trick people to click a URL (Uniform Resource Locator) contained within the email that links to a counterfeit webpage.
To address Web-based attacks, an amazing effort has been directed towards detection of malicious URLs. A standard step is to use a blacklist of malicious URLs, which might be constructed from various sources, significantly human feedbacks that are extremely correct however long. Blacklisting incurs no false positives; however it is effective just for noted malicious URLs. It cannot detect unknown malicious URLs. The very nature of actual match in blacklisting renders it simple and easy to be evaded.

II. BACKGROUND

Detailed design starts after the system design phase is completed and the system design has been certified through the review. The purpose of this segment is to broaden the internal logic of each of the modules identified during system design.

In the system design, the focus is on identifying the modules, whereas during detailed design the focus is on designing the logic for the modules. In different phrases in device layout interest is on what additives are needed, whilst in specified layout how the additives may be carried out withinside the software program is the issue.

Data Flow Diagram graphically representing the functions, or processes, which capture, manipulate, store, and distribute data between a system and its environment and between components of a system. The visible illustration makes it an awesome verbal exchange device among User and System designer. Structure of DFD permits beginning from

International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 08, Special Issue | Oct 2021 www.irjet.net p-ISSN: 2395-0072

International Conference on Recent Trends in Science & Technology-2021 (ICRTST - 2021)

Organised by: ATME College of Engineering, Mysuru, INDIA

RECOGNITION OF ALZHEIMER'S DISEASE USING MRI SCANS BY ARTIFICIAL NEURAL NETWORK

Sushma V[1]
Assistant Professor
Department of CSE
ATMECE, Mysuru

Mohamed Naumaan[2]
UG Student
Department of CSE
ATMECE, Mysuru

Shazia Baig[3]
UG Student
Department of CSE
ATMECE, Mysuru

Sheeban E Tamanna[4]
UG Student
Department of CSE
ATMECE, Mysuru

Sharvani N Pande[5]
UG Student
Department of CSE
ATMECE, Mysuru

Abstract- Alzheimer's Disease (AD) is a permanent and dynamic psyche disease that consistently wrecks memory force and thinking capacity aptitudes that it impacts the ordinary everyday practice of person. The work showed currently is that the utility of picture dealing with the Magnetic Resonance Image (MRI) compasses to assess the opportunity of an early acknowledgment of AD. The paper shows the utilization of a couple pre-picture planning procedures, for instance K-infers bundling - implies, wavelet change, watershed estimation, fake neural framework and besides a changed figuring tweaked for some specific case. It very well may be executed utilizing open source stages, for example, OpenCV and Qt, which helps the usage and value of the created filters in the medical clinics without requiring a specific programming. The results obtained by this endeavour could help in recognizing Alzheimer's patients and sound individuals, and investigating the AD patients with the psychological results and could as needs be help the pros in perceiving the malady at earlier stages. This could intelligently help in perception and treating AD.

Keywords - Watershed, OpenCV, Wavelet Transform

I. INTRODUCTION

Alzheimer's Disease is a steadily expanding mind sickness which gradually harms the whole memory, thinking limit and finally organizes, the scholarly capacities. Indeed, even before the side effects of this disease are been perceived, the harm to the mind by the sickness happens 10 years before of its notification. It's been discovered that 50 to 85 percent of dementia cases are caused because of the Alzheimer's sickness. Early symptoms fuse the rot of hippocampus district of the mind, which has a place with the limbic framework and it plays out the most significant assignments, for example, the combination of data from momentary memory to long haul memory, memory components and official capacity communications. On the off chance that Alzheimer's illness could be distinguished at a beginning period, it will help in introductory analysis and getting it keep up the steady and great well being. The ordinary procedure of clinical distinguishing proof for a previous determination would give vital time to clinical intercession and analysis to be made. By using the manual following strategies various of analyses have been performed which there consequently affirmed that the exactness of utilizing decay of the average fleeting projection would be increasingly powerful. As the illness propels all the influenced zones of the cerebrum begin to wither. At the point when area division and highlight extraction, choice was tried on a gathering of individuals (counting equivalent number of ordinary subjects and AD patients) alongside clinical reports a high precision of about 90% would be accomplished by the accompanying technique utilized right now. The paper is sorted out with a focal point of utilizing the fundamental strategy to separate the locale of intrigue, the division strategies used to partition the portions relating to the dark issue and white issue and the methodological procedure to be followed to ascertain the mind volume. It at that point presents the end apparatus which is available to the customer as open source use, and its UI. Right now paper is been engaged to look at the viability of arrangement between AD patients and those of the sound individuals utilizing picture division which help fit as a fiddle investigation of the cerebrum data.

II. LITERATURE SURVEY

- Ben Rabeh Amira, Benzarti fauozi, Amiri Hamid, Mouna Bouaziz et al [1] proposed that the disease Alzheimer's ailment is neurodegenerative dementia. It is extremely hard to recognize sound and to arrive at that subject. In any case, accomplishing the hippocampus shows up previously the principal clinical indications of the ailment, in the mellow subjective impairment (MCI) stage. The hippocampus region to encourage early conclusion. A

ATME
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

ICRTST 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Dr. Puttegowda D***

ATME COLLEGE OF ENGINEERING, MYSURU

has participated as the Co-author for the paper entitled ***Enhanced Wi-Fi – Li-Fi System***

in the " International Conference on Recent Trends in Science & Technology ICRTST - 2021 "
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2021
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference on Recent Trends in Science & Technology

8th & 9th July 2021

ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Dr. Puttegowda D***

ATME COLLEGE OF ENGINEERING, MYSURU

has participated as the Co-author for the paper entitled ***A robust approach to detect the text in images and video frames***

in the " International Conference on Recent Trends in Science & Technology ICRTST - 2021 "

organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2021
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

ICRTST 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Anilkumar B H***

ATME COLLEGE OF ENGINEERING, MYSURU

has presented paper entitled ***Predictive Analysis of Student Stress Level Using ML***

In the " International Conference on Recent Trends in Science & Technology ICRTST - 2021 "
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy I.
Organizing Chair, ICRTST-2021
Professor & Head
Dept. of E&E, ATMECE, Mysuru

Dr. Basavaraj I.
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

ICRTST

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***AKSHATHA A***

ATME COLLEGE OF ENGINEERING, MYSURU

has participated as the Co-author for the paper entitled ***UNUSUAL EVENT DETECTION FROM SURVEILLANCE VIDEO SHOTS***

in the " International Conference on Recent Trends in Science & Technology ICRTST - 2021 "
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy I.
Organizing Chair, ICRTST-2021
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj I.
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

ICRTST

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***RASHMI K***

ATME COLLEGE OF ENGINEERING, MYSURU

has participated as the Co-author for the paper entitled ***COVID 19 MEASURES: FACE MASK DETECTION USING CONCOLUTION NEURAL NETWORK***

in the " International Conference on Recent Trends in Science & Technology ICRTST - 2021 "
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy I.
Organizing Chair, ICRTST-2021
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj I.
Principal
ATMECE, Mysuru

An Epigrammatic Study on Android Architecture, Framework and Its Challenges

Kavyashree E D
Assistant Professor
Department of Computer Science and Engineering
ATME College of Engineering, Mysuru
kavyashreeed@gmail.com

Anil Kumar B H
Assistant Professor
Department of Computer Science and Engineering
ATME College of Engineering, Mysuru
anilatme@gmail.com

Abstract: Smart phone is the future of software development, It is one of the important gadget in the current era. For smart life style of users this gadget plays vital role by saving their time. People and businesses faces a trouble without imagining smart phone a single day. Benefits of using this smart phone technology as follows software flexibility, to keep updated with technology, for audio and video calls, business purposes, sales promotion, can download other applications, games, to take pictures, GPS, to keep track of contacts and appointments and many more, with these varieties it is grabbing attention of user's day by day. It is the greatest innovation ever and business make a best use of this growing technology. This paper discusses Introduction in section I, outline of Android architecture in section II, Framework in section III, Challenges in section IV and comparison between Android and Apple in section V.

Keywords: Android Studio, SDK, Android Libraries, Application Framework

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof *ANILKUMAR B R*

ATME COLLEGE OF ENGINEERING, MYSURU

has participated as the Co-author for the paper entitled *Study on Chatbot for Healthcare System*

using Artificial Intelligence

in the " International Conference on Recent Trends in Science & Technology ICRTST - 2021 "

organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy I.
Organizing Chair, ICRTST-2021
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj I.
Principal
ATMECE, Mysuru

Recurrent Neural Network Based Parts Of Speech Tagger For Kannada Words

Sharanya Kumari S
Information Science and Engineering
JSS Science and Technology University
Mysuru, India
[illegible]@gmail.com

Sindhu S
Information Science and Engineering
JSS Science and Technology University
Mysuru, India
[illegible]@gmail.com

Prathibha R J
Information Science and Engineering
JSS Science and Technology University
Mysuru, India
[illegible]@gmail.com

Abstract: Parts of speech tagging is the process of tagging a word to its corresponding part of speech based on the context and sense of the word. In natural language, a word may belong to more than one lexical category, so morphology of the word and its relationship with its neighbouring words play an important role while assigning proper parts of speech tag. The process of parts of speech tagging has many applications like Sentiment Analysis, Named Entity Recognition, Word Sense Disambiguation, Machine Translation System, Question Answering, etc in Natural Language Processing. In this paper, we propose Recurrent Neural Networks based Parts of Speech Taggers namely Vanilla Recurrent Neural Network, Long-Short Term Memory (LSTM), Bi-Directional LSTM, Gated Recurrent Unit for Kannada words. The Enabling Minority Language Engineering Corpus containing 14,963 sentences with 23,844 manually tagged words is used to train the model. Experimental results show that the accuracy obtained by the proposed four models Vanilla Recurrent Neural Network, Long-Short Term Memory, Bi-Directional LSTM, Gated Recurrent Unit are 98.19%, 98.92%, 99.23%, 99.24% respectively.

Keywords: Parts of Speech Tagging, Neural Networks, Gated Recurrent Unit, Long-Short Term Memory, Recurrent Neural Networks, Bi-Directional Long-Short Term Memory, Natural Language Processing

Online Grocery Recommendation System Using Collaborative Filtering

Kiran B
Assistant Professor Department of Computer Science Engineering
ATME College of Engineering
Mysuru,India
[illegible]@gmail.com
Nikhitha S Rao, Nisarga C N, Nandini J, Venkatraju K
Department of Computer Science Engineering
ATME College of Engineering
Mysuru,India

ABSTRACT: The main objective of this e-commerce website is to find out which products the customers might like to purchase based on his/her previous purchase history. The online grocery system mainly reduces the valuable time and also the efforts of the customers. This system can be used to search for all grocery and fresh vegetables which are available in the market.

KEYWORDS: RECOMMENDATION SYSTEM,COLLABORATIVE FILTERING.

e-ISSN: 2395-0056 p-ISSN: 2395-0072

International Research Journal of Engineering and Technology (IRJET)

(An ISO 9001 : 2008 Certified Journal)

Is hereby awarding this certificate to

Mr. Anilkumar C J

In recognition the publication of the manuscript entitled

Early Prediction of Sepsis from Clinical Data

published in our Journal Volume 8 Special Issue ICRTST Oct 2021

Impact Factor : 7.529

www.irjet.net

Editor in Chief

E-mail : editor@irjet.net

A T M E
College of Engineering

International Conference on Recent Trends in Science & Technology

8th & 9th July 2021

ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Jyothi M Patel***

ATME COLLEGE OF ENGINEERING, MYSURU

has participated as the Co-author for the paper entitled ***EARLY DETECTION OF DIABETES USING MACHINE LEARNING***

in the " International Conference on Recent Trends in Science & Technology ICRTST - 2021 "

organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2021
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

e-ISSN: 2395-0056 p-ISSN: 2395-0072

International Research Journal of Engineering and Technology (IRJET)

(An ISO 9001 : 2008 Certified Journal)

Is hereby awarding this certificate to

Lavanya N

In recognition the publication of the manuscript entitled

Survey on Algorithms of Data Mining

published in our Journal Volume 8 Special Issue ICRTST Oct 2021

Editor in Chief

Impact Factor : 7.529

www.irjet.net

E-mail : editor@irjet.net

e-ISSN: 2395-0056 p-ISSN: 2395-0072

International Research Journal of Engineering and Technology (IRJET)

(An ISO 9001 : 2008 Certified Journal)

Is hereby awarding this certificate to

Lavanya. N

In recognition the publication of the manuscript entitled

Better and Faster Emergency Care During Accidents and Vehicle Impact

published in our Journal Volume 8 Special Issue ICRTST Oct 2021

Editor in Chief

Impact Factor : 7.529

www.irjet.net

E-mail : editor@irjet.net

Recurrent Neural Network Based Parts Of Speech Tagger For Kannada Words

Sharanya Kumari S
Information Science and Engineering
JSS Science and Technology University
Mysuru, India
s.sharanyakumari@gmail.com

Sindhu S
Information Science and Engineering
JSS Science and Technology University
Mysuru, India
sindhusatish707@gmail.com

Prathibha R J
Information Science and Engineering
JSS Science and Technology University
Mysuru, India
rjprathibha@gmail.com

Abstract: Parts of speech tagging is the process of tagging a word to its corresponding part of speech based on the context and sense of the word. In natural language, a word may belong to more than one lexical category, so morphology of the word and its relationship with its neighboring words play an important role while assigning proper parts of speech tag. The process of parts of speech tagging has many applications like Sentiment Analysis, Named Entity Recognition, Word Sense Disambiguation, Machine Translation System, Question Answering, etc in Natural Language Processing. In this paper, we propose Recurrent Neural Networks based Parts of Speech Taggers namely Vanilla Recurrent Neural Network, Long-Short Term Memory (LSTM), Bi-Directional LSTM, Gated Recurrent Unit for Kannada words. The Enabling Minority Language Engineering Corpus containing 14,965 sentences with 23,044 manually tagged words is used to train the model. Experimental results show that the accuracy obtained by the proposed four models Vanilla Recurrent Neural Network, Long-Short Term Memory, Bi-Directional LSTM, Gated Recurrent Unit are 98.19%, 98.92%, 99.23%, 99.24% respectively.

Keywords: Parts of Speech Tagging, Neural Networks, Gated Recurrent Unit, Long-Short Term Memory, Recurrent Neural Networks, Bi-Directional Long-Short Term Memory, Natural Language Processing.

Online Grocery Recommendation System Using Collaborative Filtering

Kiran B
Assistant Professor,Department of Computer Science Engineering
ATME College of Engineering
Mysuru,India
ranjankiran02@gmail.com
Nikhitha S Rao ,Nisarga C N, Nandini J, Venkatraju N,
Department of Computer Science Engineering
ATME College of Engineering
Mysuru,India

ABSTRACT: The main objective of this e-commerce websites is to find out which products the customers might like to purchase based on his/her previous purchase history. The online grocery system mainly reduces the valuable time and also the efforts of the customers.This system can be used to search for all grocery and fresh vegetables which are available in the market.

KEYWORDS:RECOMMENDATION SYSTEM,COLLABORATIVE FILTERING.

ATME
College of Engineering

ICRTST 2021

International Conference

On Recent Trends In Science & Technology

Date: 8th & 9th July 2021

(ICRTST - 2021)

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof SHAKUNTHALA C

has presented paper entitled DOUBLE CHAMBER MICROBIAL FUEL CELL (DC-MFC) FOR GREEN ENERGY GENERATION FROM CANTEEN WASTEWATER AND A DC/DC BOOST CONVERTER

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2021)"

organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021

Dr. Parthasarathy L
Organizing Chair, ICRTST-2021
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology

Date:17th & 18th June 2020
(ICRTST - 2020)

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Shreeshayana R***

ATME College of Engineering, Mysuru

has participated as the Co-author for the paper entitled ***Design of Motorised Wheelchair for Paraplegic***

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)"
organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

AISSMS
COLLEGE OF ENGINEERING
Approved by AICTE, New Delhi, Recognized by
Govt. of Maharashtra, Affiliated to Savitribai Phule Pune University
and recognized 2(f) and 12(B) by UGC (Id.No. PU / PN/ Engg. / 093 (1992)
Accredited by NAAC with 'A+' Grade

IEEE Pune Section

2021 International Conference on Smart Generation Computing, Communication and Networking (SMART GENCON)

29th – 30th October 2021

Certificate

This is to certify that Dr./Prof./Mr./Ms. ***Shreeshayana R*** *has presented paper entitled* ***VLSI implementation of Digital Watermarking Technique for security and authentication of Digital Data*** *in 2021 International Conference on Smart Generation Computing, Communication and Networking (SMART GENCON) during 29th & 30th October 2021.*

Dr. D. G. Bhlake
Conference Chair

Dr. D. S. Bormane
General Chair

Dr. Girish Khillari
Chair IEEE Pune Section

A T M E
College of Engineering

International Conference on Recent Trends in Science & Technology

8th & 9th July 2021

ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Ms. Maria Sushma S***

ATME College of Engineering, Mysuru

has presented paper entitled ***Automatic Cooking Machine For A Specific Recipe***

in the "international Conference on Recent Trends in Science & Technology ICRTST - 2021 "

organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 08, Special Issue | Oct 2021 www.irjet.net p-ISSN: 2395-0072

International Conference on Recent Trends in Science & Technology-2021 (ICRTST - 2021)

Organised by: ATME College of Engineering, Mysuru, INDIA

"3D Printing Using Recycled Filament"

Dr. Sathish K R[1], Mrs. Sowmyashree K S[2], Shwetha N[3]

[1]Assistant Professor, Department of Electrical and Electronics Engineering, ATME College of Engineering Mysuru, India
[2]Assistant Professor, Department of Electrical and Electronics Engineering, ATME College of Engineering Mysuru, India
[3]UG Student, Department of Department of Electrical and Electronics Engineering, ATME College of Engineering Mysuru, India

---

ABSTRACT:3D Printer is a Desktop Fabrication process that builds up a three-dimensional object from computer-aided design. This is generally done by the additive manufacturing process. Here the material is successively added layer by layer. The filament used is of a thermoplastic material such as ABS, PLA or Nylon. These materials have high tensile strength. These could be recycled using the extrusion process.

The first 3D Printing model was done in 1981 with an application of rapid prototyping. After than many varieties of 3D printing have been developed and have introduced a way of simplifying the work to be done. This change in the era has led to many developments in society. In today's time, nearly 48 % of the manufacturing companies use 3D Printers as the base for their productivity. The produced product is lightweight, cheap and has good strength. Although 3D models are also used in Education. Models developed can be used in demonstration and learning purposes. This enhances the creativity of civilization.

The models produced are of better quality hence most of the manufacturing adopts these methods. In this project, we have designed a recyclable filament unit for the 3D printing process and a 3D printer using fused deposition methodology (FDM).

Keywords: 3D Printer, Extrusion, Filament, Fused Deposition Method

I. INTRODUCTION

The three-D printing process builds a 3-dimensional item from a computer-aided design (cad) model, generally via successively including cloth layer via layer, that is why it's also called additive manufacturing, not like conventional machining, casting and forging approaches, in which fabric is eliminated from a stock item (subtractive production) or poured into a mildew and fashioned by means of dies, presses, and hammers. That is additionally termed as desktop fabrication.

The term "three-D printing" covers a ramification of tactics wherein material is joined or solidified beneath pc control to create a three-dimensional item, with the fabric being added together (inclusive of liquid molecules or powder grains being fused together), usually layer by layer. In the Nineties, three-D-printing techniques had been considered appropriate most effective for the manufacturing of purposeful or aesthetic prototypes and a extra appropriate term for it turned into fast prototyping. As of 2019 the precision, repeatability, and cloth variety have extended to the point that a few 3-D-printing approaches are considered feasible as an business-production technology, wherein the time period additive manufacturing may be used synonymously with "three-D printing". One of the key blessings of 3-D printing is the ability to produce very complicated shapes or geometries, and a prerequisite for generating any 3-D printed component is a virtual three-D version or a CAD record.

The term "three-D printing" at the beginning referred to a process that deposits a binder material onto a powder mattress with inkjet printer heads layer by means of layer. More currently, the famous vernacular has commenced the usage of the term to encompass a greater variety of additive-manufacturing techniques such as electron-beam additive production and selective laser melting.

SRI SIVASUBRAMANIYA NADAR COLLEGE OF ENGINEERING

Kalavakkam - 603 110
(An Autonomous Institution, Affiliated to Anna University, Chennai)

IEEE

ICEES 2021

Certificate

This is to certify that Dr. /Mr./ Ms. ....SATHISH....K...R..... of .....A.T.M.E.C.E.,....M.Y.S.U.R.U.....

has presented the paper titled POWER...QUALITY....ENHANCEMENT...IN....DISTRIBUTION SYSTEM..INTEGRATED...WITH...RENEWABLE...ENERGY..SOURCES...USING....HYBRID...REFINN-TSA TECHNIQUE

in the 7th International Conference on Electrical Energy Systems (ICEES - 2021) organized by the Department of Electrical & Electronics Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai during 11-13 February, 2021.

N. B. Muthu Selvan
Dr. N. B. Muthu Selvan
Convener

V Kamaraj
Dr. V. Kamaraj
Conference Chair

Dr. V. E. Annamalai
Principal

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Mr. Vinod Kumar***

ATMECE, Mysuru

has presented paper entitled ***SMART CONTROLLER FOR FUTURE WATER CRISES***

in the "international Conference on Recent Trends in Science & Technology ICRTST - 2021 "
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

VELAMMAL
ENGINEERING COLLEGE

VELAMMAL ENGINEERING COLLEGE

(Ambattur - Redhills Road, Surapet, Chennai - 600066.)

An Autonomous Institution - Affiliated to Anna University, Chennai. Approved by AICTE, New Delhi. Accredited by NBA, NAAC 'A' Grade

Department of Computer Science and Engineering

In Association with Computer Society of India

Organizes

Virtual Conference on Artificial intelligence, Network security, Data science and iOt (National Level)

VCANDO – 2020

6th & 7th August, 2020

Certificate of Participation

This is to certify that Mr./Mrs./Ms./Dr. **Vinod Kumar P**

of **ATME College of Engineering,SET, JAIN UNIVERSITY**

has presented a paper titled **Analysis and Exploration of AI based Two-Wheeled Self-Balancing Robot Models**

in the Virtual Conference on Artificial intelligence, Network security, Data science and iOt (VCANDO – 2020) organized by Department of Computer Science and Engineering on 6th & 7th August, 2020.

Dr.P.Visu

Dr.S.Gunasundari

Dr.M.Usha

Conference Convenors

Dr.S.Chakaravarthi

HOD/CSE&Conference Technical Chair

Dr.N.Duraipandian

Principal

JGI JAIN DEEMED-TO-BE UNIVERSITY

FACULTY OF ENGINEERING AND TECHNOLOGY

JGI GLOBAL CAMPUS, JAKKASANDRA, KANAKPURA TALUK, KARNATAKA-562112

JNANA CHILUME 2020

THIS IS TO CERTIFY THAT

Mr. Vinod Kumar P of **JAIN (Deemed-to-be University), India** has presented a paper titled ***Mathematical Modeling of an Inverted Pendulum*** in the National Conference **JNANA CHILUME-2020 "Automation, Control and Communication"** jointly organized by ***Department of Electrical and Electronics Engineering, Department of Electronics and Communication Engineering & Department of Robotics and Automation*** at Faculty of Engineering and Technology, JAIN (Deemed-to-be University), on 25th November 2020.

Convener
Dr. Kamala N
Head – Dept. of Robotics and Automation
FET – JAIN(Deemed-to-be University)
Bangalore - 562112

Director
Dr. Hariprasad S.A.
Director - FET
JAIN(Deemed-to-be University)
Bangalore - 562112

International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 08, Special Issue | Oct 2021 www.irjet.net p-ISSN: 2395-0072

International Conference on Recent Trends in Science & Technology-2021 (ICRTST - 2021)
Organised by: ATME College of Engineering, Mysuru, INDIA

Development of Glass Cleaning Robot

Ms. Akshay.D[1]
ATME College of Engineering Electrical and Electronics Engineering Mysure, India

Ms. Swapna.H[2]
ATME College of Engineering Electrical and Electronics Engineering Mysure, India

Ms. Rachana K Gowda[3]
ATME College of Engineering Electrical and Electronics Engineering Mysure, India

Ms. Asha. P[4]
ATME College of Engineering Electrical and Electronics Engineering Mysure, India

Mr.Pallavi. P. N[5]
ATME College of Engineering Electrical and Electronics Engineering Mysure, India

---

Abstract— *A new glass cleaning robot design that can ascend vertically is introduced. A series chain on two tracked wheels with one suction position is used to create a continuous locomotive motion with a fast-climbing speed of 20m/min. The cleaning pads that connect to the vertical plane are triggered in sequence as each tracked wheel rotates. The tracked wheel's engineering study and detailed mechanism design are completed. It is a self-contained robot with a 220v vacuum fan and power supply that comes from the mains and is powered by a mobile app. On a vertical steel plate, the climbing output using the proposed mechanism is evaluated. This is a Taguchi-based optimization experiment to optimize vacuum pressure, which is a crucial factor in suction force. In this paper, we have developed a low-cost glass cleaning robot for high-rise buildings or glass structures, which was previously performed manually, which was extremely dangerous for the person.*

Keywords-component: DC motor, cleaning pad, vacuum fan, tracked wheel.

I. INTRODUCTION

The use of versatile robots in high places managing job like cleaning external dividers of tall structures, development work, painting enormous vessels and investigating stockpiling tanks in thermal energy stations is required in light of the fact that they are as of now performed transcendently by human administrators and are incredibly hazardous. Thus, as a particular exploration field of versatile mechanical technology, various climbing robots fit for climbing vertical surfaces have been investigated and built up everywhere on the world. The majority of current climbing robots can be divided into two categories: locomotion and adhesion. Climbing robots may use suction force, magnetic force, micro-spines for interlocking, and Vander Waals force to bind to the wall using an adhesive mechanism. Wall cleaning and maintenance robots have recently been created.

Some of the current kinematics for motion on smooth vertical surfaces are multiple legs, sliding frame, wheeled, and chain track vehicles. Climbing robots also use four common adhesion principles: vacuum suckers, negative friction, propellers, and gripping grippers. Due to the large number of degrees of freedom, robots with multiple legs kinematics are too complicated. Robots that rely on vacuum suckers and grasping grippers to bind to structures do not meet the criteria for miniaturization and low complexity. Climbing robots that can move on complex wall surfaces have been created. ROMA, the well-known robot, is a multifunctional self-supporting climbing robot. It can fly into a complex metallic world and use its locomotion mechanism to move in three dimensions. In general, the design and control of this type of robot is very complex, and it does not provide the high efficiency and easy operation that a wall cleaning robot requires. Typically, robots with wheeled and chain- track vehicles are portable. Negative pressure or propellers are used by this type of robot for adhesion, allowing the robots to travel continuously. In its negative pressure chamber, one type of robot has a pair of wheels actuated by electrical motors, allowing it to travel flexibly on the wall. It can only deal with plane walls, however.

A T M E
College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology
Date:17th & 18th June 2020
(ICRTST - 2020)

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Maria Sushma S***

ATMECE, Mysuru -Affiliated to VTU

has presented paper entitled ***Effective Utilization of Median of National Highway for Installation of PV Panel and its Interconnection with Grid***

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)" organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 08, Special Issue | Oct 2021 www.irjet.net p-ISSN: 2395-0072

International Conference on Recent Trends in Science & Technology-2021 (ICRTST - 2021)
Organised by: ATME College of Engineering, Mysuru, INDIA

Effective Utilization of Median of National Highway for Installation of PV Panel and its Interconnection with Grid

Maria Sushma S[1] and Praveen Kumar M[2]

[1]*Department of Electrical and Electronics Engineering, ATME College of Engineering, Mysore, Karnataka, India*
[2]*Department of Electrical and Electronics Engineering, ATME College of Engineering, Mysore, Karnataka, India*

ABSTRACT: In this paper, the use of renewable energy resources has been given importance. Worldwide nations are looking at Sun for power generation, which is a perennial source having least effect on ecology and environment. The land required for Solar Photovoltaic (SPV) panel installation is very large per MW, compared to any other types of generation. Availability of land per capita is very low in India. It is essential to explore the possibilities of utilizing land area which are neither contributing to agriculture nor for any other use. In this context the space available in median of national highways is chosen for PV panel installation and solar power generation. The location of the median on NH-4 between Tumakuru and Chitradurga of Karnataka, India is considered. The analysis is carried out for 2 cases for the median running through East – West direction and the median running through North - South direction with a power generation capacity of 50kW in either case.

Keywords: National Highway median, Photo voltaic panel, Power generation, Solar energy.

1. INTRODUCTION

Energy performs a critical role inside the socio-economic improvement and human welfare of the country. The requirement of Energy in the global is increasing daily because of increase in urbanization, population, and industrialization Growing according to capita energy intake puts plenty of strain at the traditional electricity resources. But the fossil fuel primarily based power sources are confined in quantity and also cause environmental pollution. Therefore, there may be a want for an alternative strength supply that may offer power in a sustainable way. The use of power has become an critical a part of our existence. Its supply should be secure and sustainable. The current trends in energy consumption are neither secure nor sustainable. The rising consumption of fossil fuels (and associated prices), together with increasing greenhouse gas emission, threatens to secure our energy supply. Therefore, development of clean, secure, sustainable and affordable energy sources should be our priority for developing countries. The depletion of fossil fuel resources on a international basis has necessitated an pressing search for opportunity power resources to meet the modern-day demands. Solar energy is clean, inexhaustible, environment friendly and potential resource among the available renewable energy options as on today. India lies within the latitudes of 7^{o} N and 37^{o} N, with annual average solar insolation of solar radiation between 400 to 700 cal/cm^2/day. The average solar radiation incident over India varies from 4 kWh/m^2/day -7 kWh/m^2/day.

The sun radiation obtained over the Indian land area is predicted to be approximately 5000 trillion kWh/year.

The highest annual radiation is received in western Rajasthan at the same time as the north-eastern place receives the lowest annual radiation.

2. METHODOLOGY

- Collecting the details and specifications for National Highways in India.
- Selection of the best stretch of National Highway within the state
- Analysis for finding most ideal segment of National Highway to implement the project.
- Studying and understanding the norms and standards of National Highways.
- Use of “Google Earth Pro” software for locating the median of National Highways to obtain the length and width of median for the selected stretch.
- Use of “PV syst” software to examine the complete performance of the solar plant in field conditions:

JGi JAIN DEEMED-TO-BE UNIVERSITY

FACULTY OF ENGINEERING AND TECHNOLOGY

JGI GLOBAL CAMPUS, JAKKASANDRA, KANAKPURA TALUK, KARNATAKA-562112

JNANA CHILUME 2020

THIS IS TO CERTIFY THAT

Mr.Vinod Kumar P of **ATME CE, Mysuru, India** has Presented a Paper titled **Design of Intelligent and Robotic Library Management System** in the National Conference **JNANA CHILUME-2020 "Automation, Control and Communication"** organized jointly by **Department of *Electrical and Electronics Engineering***, **Department of Electronics and Communication Engineering** & ***Department of Robotics and Automation*** at Faculty of Engineering and Technology, JAIN (Deemed to be University), on 25th November 2020.

CONVENER

Dr. Kamala N

Head-Dept of Robotics and Automation

FET, JAIN(Deemed-to-be)University,

Bangalore-562112

DIRECTOR

Dr. Hariprasad S.A.

Director – FET,

JAIN(Deemed-to-be)University,

Bangalore-562112

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology

8th & 9th July 2021

ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Mr. Vinod Kumar***

ATMECE, Mysuru

has presented paper entitled ***SMART CONTROLLER FOR FUTURE WATER CRISES***

in the "international Conference on Recent Trends in Science & Technology ICRTST - 2021 "

organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Mr. Shreeshayana R***

ATME COLLEGE OF ENGINEERING, MYSURU

has presented paper entitled ***Sanitary Napkin Vending Machine with Incinerator for Menstrual Hygiene***

in the "international Conference on Recent Trends in Science & Technology ICRTST - 2021 "
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

ICRTST 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Swapna H***

Assistant Professor, ATME College of Engineering, Mysuru

has presented paper entitled ***MRI Medical Image Denoising and Enhancement using Fundamental Filters***

in the " International Conference on Recent Trends in Science & Technology ICRTST - 2021 "
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2021
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

ICRTST 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Dr. Bhagyashree S R***

Professor,ATME College of Engineering,Mysuru

has participated as the Co-author for the paper entitled ***Comparative Analysis of the Various Filters for Denoising of the Spinal Cord MRIs***

in the "International Conference on Recent Trends in Science & Technology ICRTST - 2021"
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

Antenna Test & Measurement Society
ATMS INDIA
Regd. No. 64

Certificate of Merit

This is to certify that ***Dr. Prakash Kuravatti Has*** *presented a paper titled* ***Modeling and Design of 1x2 Patch Antenna Array with FSS Slot Ground Plane for Low RCS*** *on* ***Session no [1]*** *at 13th International Conference (ATMS – 2021 Virtual Platform).*

Prof. OPN Calla
President - ATMS

Date: 20th Feb - 2021

R. K. Malaviya
Secretary - ATMS

International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 08, Special Issue | Oct 2021 www.irjet.net p-ISSN: 2395-0072

International Conference on Recent Trends in Science & Technology-2021 (ICRTST - 2021)

Organised by: ATME College of Engineering, Mysuru, INDIA

A Survey on Neuropsychiatric Tools and Machine Learning Approaches used in the Diagnosis of Depression

Pradeep Kumar Y, Dr. Bhagyashree S R

[1]*Research Scholar, Department of ECE, ATME College of Engineering, Mysuru, India*
[2]*Professor and Dean Research, Department of ECE, ATME College of Engineering, Mysuru, India*

***Abstract*—** Depression is a psychiatric disorder that can become persistent and can result in significant obstacles in the person's ability to look after his/her daily activities. At worst it leads to self-harm. Depression is a prominent cause of disability and burden worldwide. Machine Learning (ML) is a promising area that can trace relationships between variables that humans cannot see or detect using conventional analytical approaches. The blend of ML and a large amount of data is an ideal match and has enormous potential in medical services. This study aims to review the different neuropsychiatric tools that are widely accepted for depression diagnosis and the contribution of machine learning in diagnosing depression.

Keywords- Neurological disorders, Depression, Neuropsychiatric Tools, Machine Learning, Algorithms.

I. INTRODUCTION

The central and peripheral nervous system diseases are neurological disorders. This would be the brain, backbone, cranial nerves, nerve roots, neurotransmission system and muscles, nerve roots, and autonomic nervous system. These conditions usually involve epilepsy, Alzheimer's disease and other types of Dementia, brain tumors, trauma disorders in the nerve system due to head trauma, multiple sclerosis, Parkinson's disease, neuro infection, and brain tumor [1]. Mental and neurological disorders affect feelings, emotions, actions, and relationships, with a wide range of problems and symptoms. In isolation or as an accompanying disease with other NCDs [non-communicable diseases], neurological or mental disorders, namely depression, dementia, autism, epilepsy, and schizophrenia can be experienced. The other non-communicable conditions overlap with risks and neurological and mental illnesses are often chronic as well [2].

Neurological diseases were the most common cause of Disability Adjusted Life Years [DALYs] and deaths worldwide. The total number of deaths from all neurological disorders increased by 39%, while DALYs increased by 15%. [3]. A portion of the investigations in 2017 gauge that, about 792 million individuals continued to live with a psychiatric illness. It is marginally more than one out of every ten individuals around the world (10.7%). Table-I exhibits estimates of the prevalence of mental health disorders and the disease burden associated with them [4].

TABLE I. THE PREVALENCE OF MENTAL HEALTH DISORDERS AND ASSOCIATED DISEASE BURDEN ESTIMATION IN 2017 [4].

Type of Mental Disorder	**The proportion of the global population affected by the disorder in Percentage**	**Total number of people affected by the disorder in million**
Any mental health related	10.7	792
Depression	3.4 [2-6]	264
Anxiety	3.8 [2.5-7]	284
Bipolar	0.6 [0.3-1.2]	46

International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 08, Special Issue | Oct 2021 www.irjet.net p-ISSN: 2395-0072
International Conference on Recent Trends in Science & Technology-2021 (ICRTST - 2021)
Organised by: ATME College of Engineering, Mysuru, INDIA

A REVIEW ON COVID-19

Dr. S.R. Bhagyashree[1], Ragashree. P[2], Ananya. C[3], Thanya. M[4]

[1-4]*Department of Electronics & Communication, ATME College of Engineering, Mysore, India*

Abstract. : The Severe acute Respiratory Syndrome Coronavirus (SARS-CoV-2) is a novel corona virus this is liable for the pandemic which is still on occurring 2021. This virus is originated in bats and become transmitted to people is yet unknown intermediating animals in Wuhan, Hubei province, China in December 2019. SARS-CoV-2 spreads faster and MERS-CoV however has decrease fatality. This disease spreads by inhalation or touch with the swollen droplets and the incubation period degrees from -fourteen days. Corona virus causes respiratory infection like pneumonia, cold, sneezing, and coughing. We examine the concepts like origin, History, morphology, transmission, prevention, diagnoses, , Here we talk over about the worldwide reaction to the Coronaviruses disease 2019.

Keyword : COVID-19,Transmission,Prevention,Vaccine.

Introduction: The server acute breathing syndrome Corona virus 2 (SARC -CoV-2) is hastily spreading from the region it's far originated this is Wuhan metropolis of Hubei province of China to the relaxation of the arena[1]. World health organization announces a name for the Corona virus i.e.CoVID-19[2]. On may additionally 7 2020 , there had been three,679,499 confirmed instances and 254,199 deaths in 215 international locations[3].Globally as of three:09pm CEST, 2 may also moreover 2021 there have been 151,803,822 confirmed case's of COVID-19 consisting of three,186,538 lack of existence stated who of 22 April 2021, a complete of one,011,457,859 vaccine doses were administrated [4]. Researchers have used various approaches to develop vaccine that protects the people against COVID-19. Different vaccine are now available in various countries[5].

Co stands for Corona ,Vi stands for virus and D stand for disease formally the disease was referred to as 2019 novel corona virus or 2019-ncovi. The COVID-19 virus is new virus linked to the same family of viruses as severe acute respiratory syndrome it some type of cold. On 31 st December 2019 world health organization informed the pneumonia cases in Wuhan city China[6]. According to research it is originated in bat[7], jumps in to the human at one Wuhan's open –air "wet market" They're costumer buy fresh meayand fish[9] . Corona virus is first identified a human corona virus in 1965 it will cause a cold , cough[8] .The virus that cause SARS is emerged in China on 2002 and it spread to 28 other countries 8000 and more people are inflected in July 2003 and 775 people died[9] . The corona virus cause headache , fever and coughing and respiratory problems this was the black year for microbiologist[10]. When they started to Focus to understand these problems after deep research they concluded as corona virus it is positive sense RNA. There are 4 types of corona virus namely HKUI,D29E,NL63,OC43, have been circulation in human and cause respiratory problems[11].

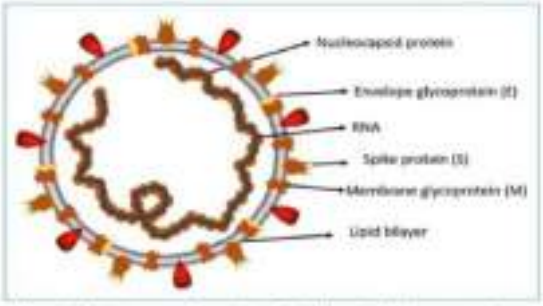


Figure 1. A structure of Respiratory Syndrome (SARS) coronavirus.

Coronaviruses are mostly large, spherical in size and it ranges from 80-120nm in diameter and extreme size ranges from 50-200nm in diameter. These Coronaviruses are structurally enveloped and they belong to the positive strand RNA viruses which are known as genomes of RNA. These being pleomorphic they modify their morphology in response to environmental conditions. The capsular membrane has glycoprotein projection and it covers the nucleus. This structure contains 5-capped and 3-polyadenylated ends, it remains identical to cellular mRNAs [12].

Sri Adichunchanagiri Shikshana Trust (R)

SJB INSTITUTE OF TECHNOLOGY

BGS Health & Education City, Dr. Vishnuvardhan Road, Kengeri, Bengaluru - 60

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

1st IEEE International Conference on

Recent Advances in Electronics and Communication Technology (ICRAECT-2017)

ICRAECT

Certificate

CPS

This is to certify that ~~Mr./Ms.~~/Prof./Dr Prathiba MK

Affiliation ATMECE, Mysore

has presented a paper/ ~~participated~~ in 1st International Conference on **"Recent Advances in Electronics and Communication Technology (ICRAECT)"** organized during 16th & 17th March – 2017 at SJBIT, Bengaluru, India.

The paper entitled "Signature Verification System Based On Wavelets" which is to be published in CPS and submitted to IEEE Xplore and The IEEE Computer Society Digital Library (CSDL).

Dr. K. R. Nataraj
Organizing Chair
HOD, ECE, SJBIT

Dr. Puttaraju
General Chair
Principal, SJBIT

Rev. Sri Sri Prakashnath Swamiji
Patron, Managing Director
SJB & BGS Group of Institutions

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Dr. Bhagyashree S R***

Professor,ATME College of Engineering, Mysuru

has presented paper entitled ***SELF ACTIVATED MEDICAMENTS DISPENSING SYSTEM***

in the "international Conference on Recent Trends in Science & Technology ICRTST - 2021 "
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Dr. Bhagyashree S R***

Professor,ATME College of Engineering,Mysuru

has presented paper entitled ***SAMPARK-IoT BASED DISPLAY BOARD***

in the "international Conference on Recent Trends in Science & Technology ICRTST - 2021 "
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Yathisha L***

Associate Professor, ATME College of Engineering, Mysuru

has presented paper entitled ***Application and Comparison of Optimal Controllers for UPFC with wide range of Operating Conditions in Power System***

in the "international Conference on Recent Trends in Science & Technology ICRTST - 2021 "
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 08, Special Issue | Oct 2021 www.irjet.net p-ISSN: 2395-0072

International Conference on Recent Trends in Science & Technology-2021 (ICRTST - 2021)

Organised by: ATME College of Engineering, Mysuru, INDIA

Periodic Structures for Mutual Coupling Reduction in Antenna Arrays

Dr. Prakash Kuravatti[1], Ms. Anupama Shetter[2]

[1,2]Dept. of Electronics and Communications Engineering, ATME College of Engineering, Mysore, India

---

Abstract—Abstract - Mutual coupling between antenna elements is a serious problem when multiple antenna elements are mounted in an array. In a microstrip array, a periodic structure is used to prevent mutual coupling between machineries. In this paper, the Jerusalem cross periodic structure is projected as an efficient interpretation for reducing mutual coupling in a two-element microstrip array antenna. It is simulated and fabricated to apply the desired periodic structure on the substrate between the patches. The outcomes of simulations are similar to the results of experiments. The outcome of mutual coupling is compact as a outcome of this method, according to the results

Keywords: Microstrip array antenna, EBG Mutual coupling, Jerusalem Cross periodic Structure

I. INTRODUCTION

Mutual coupling occurs when antenna elements in an antenna array communicate electromagnetically. Mutual coupling manifests itself in various ways in transmitting and receiving antenna arrays by accident and thus must be handled accordingly. If the element spacing is minimal, the effect of mutual coupling is serious. It will have a significant impact on the antenna array in the following ways 1. Adjust the radiation pattern of array 2. Modify the collection in a manifold (the received element voltages) 3. Alter the antenna elements' identical characteristics (change the input impedances) [1].
In the design of microstrip arrays, mutual coupling among elements is an important consideration.. Mutual coupling between elements has been shown in a number of studies to reduce array performance, resulting in impedance disparity, side-lobe near rises, perusing sightlessness, and loss. [1] Space and surface waves also trigger mutual coupling between microstrip components. A surface wave has a significant effect on mutual coupling when the microstrip substrate width is larger than 0.30/ (2p/p1r), where o is the effective wavelength in free space and r is the relative permittivity of the substrate. Many methods for reducing mutual coupling between antenna elements caused by surface waves have been established over the years in the design of microstrip arrays. To prevent surface wave mode excitation, shorted patches were suggested. [3–4]. In [5–6], Mutual coupling was suppressed using electromagnetic bandgap (EBG) structures. To suppress surface-wave propagation, an EBG structure produces an electromagnetic crystal, which reduces unnecessary mutual coupling between components. Defected ground structures (DGS), which are created by engraving designs on the ground plane, have gotten a lot of press recently. The DGS has a small footprint as a resonator. As a significance of this benefit, Microwave filters and corresponding circuits, as well as removing harmonic and cross divergence in microstrip antennas, are only a few of the applications. [7–8] However, only a few papers have been written on the subject of suppressing mutual coupling among antenna array components. [9]

Several approaches to reducing mutual coupling between antennas have been suggested by researchers. They discovered that disorienting the antennas is an efficient way to improve isolation. [10]. Lossy materials have also been used to minimize the radar cross-section of structures like airplanes and antennas by suppressing surface currents generated on conducting bodies. [11], Patches on a high dielectric substrate, on the other hand, have a very small bandwidth. To minimize mutual coupling between antennas, parasitic elements such as metallic walls have been used. [12].

II. PERIODIC STRUCTURE GEOMETRY OF THE JERUSALEM CROSS PROPOSED

In this work, to reduce the mutual coupling of microstrip antenna arrays, a Jerusalem cross periodic structure is projected. In the substrate and between the patches, the suggested periodic structure was used. The presented simulation results were obtained using the AnsoftHFSS, which is based on finite elements (HFSS). In the X and Y directions, the parametric analysis is presented on the length, width, and Jerusalem cross spacing. The simulation and investigational results of the projected antenna and the position antenna indicate that the Jerusalem cross has strong application potential for reducing mutual coupling. .

ATME
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Dr. Prakash Kuravatti***

ATME COLLEGE OF Engg

has participated as the Co-author for the paper entitled ***Internet of Things Based Smart Home System Using Google Assistants Technology***

in the "International Conference on Recent Trends in Science & Technology ICRTST - 2021"
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Dr.Prathibha M K***

Associate,Professor,ATME College of Engineering,Mysuru

has presented paper entitled ***Super-Resolution of Single Image***

in the " International Conference on Recent Trends in Science & Technology ICRTST - 2021 "

organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2021
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

ICRTST 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Pavithra A C***

Assistant Professor, ATME College of Engineering, Mysuru

has presented paper entitled ***Application and Comparison of LQR Control Techniques for Aircraft Yaw Dynamics***

in the " International Conference on Recent Trends in Science & Technology ICRTST - 2021 "

organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2021
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj I.
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Guruprasad K N***

Assistant Professor, ATME College of Engineering,Mysuru

has presented paper entitled ***Fingerprint Authorization Based Driving License Checking System***

in the " International Conference on Recent Trends in Science & Technology ICRTST - 2021 "
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2021
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Harshitha N***

Assistant Professor, ATME College of Engineering,Mysuru

has presented paper entitled ***NS2 BASED CONGESTION CONTROL***

in the "international Conference on Recent Trends in Science & Technology ICRTST - 2021 "
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Girish M***

ATME College of Engineering,Mysuru

has presented paper entitled ***5G Phased-array Beamforming Antenna Design for Future Communication technologies***

in the "international Conference on Recent Trends in Science & Technology ICRTST - 2021 "
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 08, Special Issue | Oct 2021 www.irjet.net p-ISSN: 2395-0072

International Conference on Recent Trends in Science & Technology-2021 (ICRTST - 2021)

Organised by: ATME College of Engineering, Mysuru, INDIA

ENHANCED ACCIDENT PREVENTION SYSTEM IN UNDERGROUND COLLERIES USING LabVIEW

Bhavana D C, *Electronics & Communication Dept., ATME College of Engineering, Mysore, Karnataka, India 570 028*
Chandu D, *Electronics & Communication Dept., ATME College of Engineering, Mysore, Karnataka, India 570 028*
Dhanusha T, *Electronics & Communication Dept., ATME College of Engineering, Mysore, Karnataka, India 570 028*
Kalpana K, *Electronics & Communication Dept., ATME College of Engineering, Mysore, Karnataka, India 570 028*
Pavithra A C, *Assistant Professor, Electronics & Communication Dept., ATME College of Engineering, Mysore, Karnataka, India 570 028*

ABSTRACT

In the present scenario major mine disaster takes place through explosion and fire. The proposed system comprises of a Compressed Natural Gas (CNG) sensor, a driver circuit & a Blower connected to the LabVIEW. The explosion takes place due to increase in methane concentration during this critical situation, the emergency signal is sent to the fire and police department through GSM network using LabVIEW. Apart from these safety measures, in case of any personal health problem for the miners working underground, a health trigger is provided inside the mine, when the trigger is pressed in case of emergency condition the information is sent to the first aid and rescue team via LabVIEW to the speakers.

1. INTRODUCTION

The coal mining process in India was established in the year of 1774 by John Sumner and Suetonius Grant Harry of the East India Company in the Raniganj Coal Field. Further it is expanded all over India with large amount of production. India is the third largest producer of coal in the world compared with China at first place and the US at second. The coal in India is under the Government sector. The mining, exploitation and utilization of coal are done by various Indian companies in which CIL and its associated companies are the major ones.

In addition to CIL, the NLC operates the Neyveli mines in Tamil Nadu State. Singareni Collieries Ltd. operates the bituminous mines in Andhra Pradesh and Tata Iron and Steel Company (TISCO) operates mines in Bihar to supply coking coal to their own steel plants. From the day coal mining is started, the major issue faced by the miners is Safety.

As per the statement of the Chairman, Coal India Limited, Mr.Partha S. Bhattacharya – "WE HAVE NOT BEEN ABLE TO IMPROVE MINE SAFETY STANDARDS IN THE LAST 4/5 YEARS DUE TO LACK OF TECHNOLOGY".

The Coal Mine Safety Act was passed in 1974 by Indian Government and formed a committee headed by Directorate general of Mine Safety. They examined problems faced by the miners and the factors that lead to disaster. They came up with large number of solutions with lack of technology as stated by the Chairman, Coal India Limited. Thus these solutions are being documented without any implementation.

2. LITERATURE SURVEY

[1]Sweta Basu,Sutapa Pramanik, Sanghamitra Dey, Gautam Panigrahi, Dipak Kumar Jana. In the present article, we have proposed a novel type-2 fuzzy logic system(T2FLS) for the prediction of fire intensity and its risk assessment for risk reduction in an underground coal mine. Recently, for the observation of underground coal mines, wireless underground sensor network (WUSN) are being concerned frequently. In the present context, a WUSN based fire monitoring system is

ATME College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

ICRTST 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof *Poorvashree C V*

ATME College of Engineering,Mysuru

has presented paper entitled *ARDUINO BASED VOICE AND BLUETOOTH CONTROL ROBOT*

in the " International Conference on Recent Trends in Science & Technology ICRTST - 2021 "
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2021
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj I.
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof *Anupama Shetter*

Assistant Professor, ATME College of Engineering, Mysuru

has participated as the Co-author for the paper entitled *SELF-ACTIVATING SANISTATION AND REAL-TIME MASK DETECTION SYSTEM*

in the " International Conference on Recent Trends in Science & Technology ICRTST - 2021 "

organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2021
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference on Recent Trends in Science & Technology

8th & 9th July 2021
ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***DEVARAJ M R***

ATME College of Engineering

has presented paper entitled ***Effect of Chilling during solidification on wear behavior of Ferrous based material***

in the "international Conference on Recent Trends in Science & Technology ICRTST - 2021"
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

Certificate No: 112020303

CERTIFICATION OF PARTICIPATION

This Certifies that

Dr. Chethan Srinivasa

ATME College of Engineering, Mysuru

for Participating and Presenting a paper title **Effect of SiC Particulates as Secondary Reinforcement on Mechanical Characteristics of Epoxy Composites with Treated Luffa Cylindrica Fibres** in 11th Conference on Materials Processing and Characterization -2020(ICMPC 2020) organized by Department of Mechanical Engineering & Metallurgy Engineering and Material Science, Indian Institute of Technology Indore (IIT Indore) during 15-17 Dec 2020.

Convenor	Convenor	Convenor
Prof. Anand Parey	Asst.Prof. K. Eswara Prasad	Prof. Swadesh Kumar Singh
IIT Indore	IIT Indore	GRIET HYDERABAD

Certificate No: 112020340

CERTIFICATION OF PARTICIPATION

This Certifies that

Dr Md Nadeem

ATME College of Engineering, Mysuru

for Participating and Presenting a paper title **Effect of Glass Fibers and Multi Walled Carbon Nano Tubes (MWCNT's) on Mechanical Properties of Epoxy Hybrid Composites at Elevated Temperature** in 11th Conference on Materials Processing and Characterization -2020(ICMPC 2020) organized by Department of Mechanical Engineering & Metallurgy Engineering and Material Science, Indian Institute of Technology Indore (IIT Indore) during 15-17 Dec 2020.

Convenor	Convenor	Convenor
Prof. Anand Parey	Asst.Prof. K. Eswara Prasad	Prof. Swadesh Kumar Singh
IIT Indore	IIT Indore	GRIET HYDERABAD

A T M E
College of Engineering

International Conference on Recent Trends in Science & Technology

8th & 9th July 2021

ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Dr.Chethan S***

ATME College of Engineering

has presented paper entitled ***Development of Economical Plant Transplanter***

in the "international Conference on Recent Trends in Science & Technology ICRTST - 2021"

organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

Certificate No: 112020249

CERTIFICATION OF PARTICIPATION

This Certifies that

Yathisha N

ATMECE,Mysore

for Participating and Presenting a paper title **Influence of Post Curing Methodology on Strength of Polymer Matrix Composites with a Circular Hole and Square Inbuilt Patches** in 11th Conference on Materials Processing and Characterization -2020(ICMPC 2020) organized by Department of Mechanical Engineering & Metallurgy Engineering and Material Science, Indian Institute of Technology Indore (IIT Indore) during 15-17 Dec 2020.

Convenor	**Convenor**	**Convenor**
Prof. Anand Parey	**Asst.Prof. K. Eswara Prasad**	**Prof. Swadesh Kumar Singh**
IIT Indore	**IIT Indore**	**GRIET HYDERABAD**

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Dr. Mohanakumara K C***

ATME College of Engineering

has presented paper entitled ***Multi Axis Solar Tracker Using Ardiuno Micro-Controller***

in the "international Conference on Recent Trends in Science & Technology ICRTST - 2021 "
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Dr. Suresh Kumar S***

ATME College of Engineering

has presented paper entitled ***Influence of controlled shot peening on Mechanical properties and Compressive residual stress of Al6061-TiB2 Composite***

in the "international Conference on Recent Trends in Science & Technology ICRTST - 2021"
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Pro ***Karthik Kumar M***

ATME College of Engineering

has presented paper entitled ***IoT based Smart Agricultural Management and Recommendation System.***

in the "international Conference on Recent Trends in Science & Technology ICRTST - 2021 "
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

ICRTST 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Rohith S***

ATME College of Engineering

has presented paper entitled ***Evaluation of Mechanical Properties of Jute Fiber, Boron Carbide Reinforced Epoxy Hybrid Composites***

in the "international Conference on Recent Trends in Science & Technology ICRTST - 2021 "
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof *Niranjan Kumar V S*

ATME College of Engineering

has presented paper entitled *Response of different rates of biodiesel waste based on chilli yield and soil fertility*

in the "international Conference on Recent Trends in Science & Technology ICRTST - 2021 "
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

International Conference
on Recent Trends in Science & Technology
8th & 9th July 2021
ICRTST - 2021

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Md Nadeem M***

ATME College of Engineering

has presented paper entitled ***Design and Modification of Fixture for General Purpose Internal Grinding CNC from Special Purpose Internal Grinding CNC Machine***

in the "international Conference on Recent Trends in Science & Technology ICRTST - 2021"
organized by ATME College of Engineering, Mysuru held on 8th and 9th July 2021.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

INTERNATIONAL RESEARCH JOURNAL OF ENGINEERING AND TECHNOLOGY (IRJET) E-ISSN: 2395-0056
VOLUME: 07, SPECIAL ISSUE | JUNE 2020 WWW.IRJET.NET P-ISSN: 2395-0072
International Conference on Recent Trends in Science & Technology-2020 (ICRTST - 2020)
Organised by: ATME College of Engineering, Mysuru, INDIA

UTILIZATION OF METAKAOLIN AS A PARTIAL REPLACEMENT BY CEMENT WITHSELF-COMPACTING CONCRETE

Manu Vijay [1]
Associate Professor, Department of Civil Engineering, ATME College, Mysuru, Karnataka, India

Naveen Kumar S M[2]
Assistant Professor, Department of Civil Engineering, Adichunchanagiri Institute of Technology, Chikkamagaluru Karnataka, India.

Abstract: In current research an attempt has been to study the fresh and hardened characteristics of SCC mixes with partial substitute of cement by using industrial product consisting of Metakaolin(MK) through devlopM40 Grade self compacting concrete. To evaluate rheological properties of developed mixes is studied by way of trial and error technique to judge as SCC via allowable rheological trails as per EFNARC Guidelines. To develop conventional SCC and SCC Mixes with alternative of MK levels from 5-20% by way of weight of cement after with extraordinary combinations of Superplasticizer (SP) with suitable water cement ratio. To take a look at the hardened properties viz; compressive &splitting tensile strength of evolved SCC mixes in laboratory The general cubes and cylinders have been casted and cured for different ages and tested in the laboratory at the ages of 7,28 and 56 days respectively. Finally to compare outcomes of traditional SCC and SCC mixes with MK.

Keywords: Self compacting concrete metkolin

1.0 INTRODUCTION

Develop in Japan, during in 1983, had been centered on the removal of poor compaction whichwas diagnosed as a major purpose of poor sturdiness of concrete systems reported with the aid of Ouchi (1998). Scc is highly compaction concrete with much higher fluidity with out segregation and is capable of filling every corner of form work under its self weight best reported via Okamura (1997). SCC is a fluid mixture, which is appropriate for putting in difficult conditions and also in congested reinforcement, with out vibration. In order to fulfill the performance requirements the following three kinds of SCC available viz:

(i) Powder sort of SCC: This is proportioned to give the required self-compatibility by decreasing the water-powder ratio and offer ok segregation resistance
(ii) Viscosity agent type SCC: This type is proportioned to offer self-compaction by means of the use of viscosity modifying admixture to provide segregation resistance. Super plasticizers and air entraining admixtures are used for acquiring the desired deformability.
(iii) Combination type SCC: This type is proportioned so as to obtain self-compatibility mainly by way of lowering the water powder ratio, as in the powder type, and a viscosity modifying admixture is added to reduce the quality fluctuations of the fresh concrete due to the variation of the surface moisture content of the aggregates and their gradations at some stage in the production.

2.0 MATERIALS AND METHODS

2.1Materials used.

2.1.1 Cement: The cement used for the investigation become Portland pozzolana Cement (PPC-43grade).It showed to the necessities of Indian Standard Specification (IS: 1489-1(1991). 2.1.2 Sand: Good river sand in absence of any earthy rely and natural count. Particles are angular in form passing through 4.75mm and keeping on 150 micron sieve. Confirming to IS 383-1970 (Part1). 2.1.3 Coarse aggregates: The most size of aggregate is commonly used to 20mm. Aggregate of size 12 mm is

International Research Journal of Engineering and Technology (IRJET) E-ISSN: 2395-0056
Volume: 07, Special Issue | June 2020 Www.Irjet.Net P-ISSN: 2395-0072
International Conference on Recent Trends in Science & Technology-2020 (ICRTST - 2020)
Organised by: ATME College of Engineering, Mysuru, INDIA

"Comparative Study on Behaviour of RC Framed Buildings with Infills modelled using FEMA 356 & IS: 1893"

Mr. Puneeth K

Asst.Professor, Department of Civil Engineering, ATMECE, Mysore, India

---

Abstract- Infilled frames have continued the interest of researchers for a long period but they have been unable to shape a place in the codes of practices of many countries. Masonry wall imparts a sizeable amount of stiffness and strength to a building frame and used in the buildings for architectural or aesthetic reasons. Infills are normally considered as a non-structural constituent and its presence has been ignored by many engineers. The performance of the structure can be greatly enhanced by the increase of strength arising from the masonry infill. Infill frames are extensively constructed with brick masonry. The primary objective of this study is to review the performance of reinforced concrete frame structures with and without the presence of masonry infills modeled using FEMA 356 and IS: 1893 method. ETABS software is used for the behavioral study of all the RC frame models.

Key Words – *Equivalent diagonal strut, masonry infilled frame, seismic.*

1. Introduction

Reinforced Concrete structures with infilled masonry frames are constructed at first because of simplicity of development and speedy work in advancement. RC frame buildings with masonry infill walls house families, cover school kids, and give office for laborers and so on. Infilled RC casings are compound structures shaped through union of moment resisting plane frame in addition to infill dividers. Infilled RC frame structures provide lateral resistance in areas of high seismicity, especially in those areas where masonry is still a convenient material, owed to economical and outmoded reasons and consistently reduce the bending moments in the frame and thus reducing the prospect of breakdown.

Infills are constructed using bricks or concrete blocks between beams and columns of a reinforced concrete casing. Infills afford an auditory blockade amongst spaces and from outside clamor, which is predominantly vital in residential areas. Masonry infills offer an effective fire barrier, and when made of brick or concrete block they give protection and fortress from interlopers. The masonry infills however built as auxiliary components performs as an integral part of the structural system. The sort of infill material utilized in nearby construction practice and its properties will have an imperative impact on the appropriateness of each design approach. Infills contribute to lateral rigidity as well as resistance of structures they belong. The differences of rigidity and strength are reliant on the mechanical possessions of the material used for the infill and likewise the interface prevailing amongst the infill and frame. Infill solidifies the frame laterally by a directive of scale and increases its ultimate strength to very high values. The interface amongst the frame and the infill wall is also powerfully influenced by the provision of infill wall in the frame.

The Indian Standard code (IS: 1893) in 2016 & FEMA 356 procurements afforded a procedure for the investigation and design of RC frames using infills. Appropriately designed infills can upsurge general strength, lateral resistance and energy dissipation of the building

[1] G Prasanna Lakshmi et al., (2016) conducted investigation on "Seismic evaluation of residential building with masonry wall using ETABS" in which precedent earthquakes showed poor performance of reinforced concrete frames without infilled masonry wall. A number of various researchers have found the measures to decrease earthquake damages. A lot of methods are suggested for modeling of brick masonry infills such as finite element, equivalent frame and equivalent strut method. New draft Indian standard criteria for earthquake resistant design of structures part 1 describe the diagonal equivalent strut method for analysis of masonry infill in RC building. The author has adopted IS code method in modelling of Infills. The investigation evidently shows that the diagonal strut approach is very efficient in simulating the seismic response of RC frame with masonry infill.

[2] M D Raghavendra Prasad et al., (2016) conducted investigation on "Nonlinear behavior of reinforced concrete infilled frames using ATENA 2D " to understand the performance of the infilled frames. The numerical analysis is carried out using popular finite element software's ATENA 2D (2003).The codes of practice are generally silent on the infill

Co-composting Versus Direct Ponding of Sewage Sludge on Soil Nutrients Redistribution

Balaganesh P, Vasudevan M, Suneethkumar SM, Natarajan N

Abstract— Depriving soil fertility serves as one major cause for reduced crop growth rate and production, which in turn affects the food productivity. Various soil conservation measures to sequester the soil nutrients are adopted in developing countries locally and conventionally. In another scenario, present day sewage treatment plants (STP) across the nation are struggling to treat the receiving water quantity effectively. The fluctuations in receiving quantity of waste water resulted in untreated excess sludge dumping in nearby places. In order to synergize the excess sludge dumping in a feasible way by land management practices, the present study aims to compare two methods of sludge incorporating into soil, namely co-composting and direct ponding. Samples were collected from two different plots receiving sludge for different duration (fresh and old) at different depths (12 cm, 24 cm and 36 cm) and analyzed for various physicochemical parameters. The study also highlights the co-composting of sewage sludge with other community wastes to contribute a better analogy on nutrient redistribution. The obtained results of 17.34 mg/l total organic carbon and 1.392 mg/l total nitrogen at 36cm depth in old sludge ponding sites reveals the improved capability of sludge leachate against the soil nutrient attenuation. It finds application in agricultural practice to promote crop growth under controlled conditions of sewage sludge amendment as ponding and co-composting.

***Keywords— Agriculture, Co-composting, Land Management, Nutrient recycling, Sewage Sludge, Soil Organic Matter*.**

I. INTRODUCTION

The conventional and intensive agricultural methods cause soil fertility degradation, erosion and soil compaction, in addition to polluting surface waters [1][2]. The prevalence of soil nutrients in the agricultural field depends largely on the cultivation practices and effective management of agricultural residues. Soil conservation measures using agricultural residues have proven to be effective in restoring soil quality, rather improving productivity [3]. However, there is an increasing demand for sustainable waste management from agricultural as well as domestic origin, which seeks an intriguing opportunity to be settled as a favorable solution for multi-faceted problems with waste management.

Revised Manuscript Received on December 05, 2019.

***** Correspondence Author

Balaganesh P*, Civil Engineering, Bannari Amman Institute of Technology, Sathyamangalam, India. Email: balachem.aec@gmail.com

Vasudevan M, Civil Engineering, Bannari Amman Institute of Technology, Sathyamangalam, India. Email: vasudevan@bitsathy.ac.in

Suneethkumar SM, Civil Engineering, Bannari Amman Institute of Technology, Sathyamangalam, India.
Email: suneethkumarsm@bitsathy.ac.in

Natarajan N, Civil Engineering, Dr.Mahalingam College of Engineering, Pollachi, India. Email: itsrajan2002@yahoo.co.in

Co-composting using municipal and agricultural waste materials promises safe, economic and eco-friendly solution for bringing out organic fertilizers as part of resource recovery [4]. The suitability and efficiency of co-composting system to minimize waste handling problems in a community depends primarily of the selection of co-substrates and prevailing environmental conditions [5]. Trupiano et al. [6] studied the impact of biochar and different combinations of co-compost on low fertile soil and reported that even though biochar itself have the potential to enhance soil nutrients, co-composting is recommended as a suitable technique to sustain the chemical characteristics of soil. In any case, incorporating compost in soil seems to improve soil nutrient redistribution and crop productivity [7][8].

In general, small scale community-based wastewater treatment plants in India experience overloading pressure of handling excess inflow as well as limited scope for infrastructural development [9]. In most of the cases, they are tempted to dispose the excess inflow to the nearby land either as untreated, or as mixed with partially treated water. This type of direct ponding has resulted in a considerably marsh-type land with very high organic contents which resembles eutrophication in wetland system. It is imperative that these organic-rich soils can be productive if employed effectively. This can be understood by few direct sewage sludge application studies. Melo et al. [10] studied about the 10 years direct application of sewage sludge in tropical climatic conditions and compared with mineral fertilization. Their experimental evaluation resulted in better biogeochemical properties by sewage sludge application rather than mineral fertilization, conversely there is no systematic approach available for such an attempt so far. Kayikcioglu and Abreu [11][12] reported that sewage sludge application on low fertile soil is the best sustainable agricultural practice to economically improve the soil fertility (Soil organic matter, Phosphorous, Nitrogen) but the potential toxic elements increases in the soil and may pose threat with respect to the amount of sewage sludge addition. In this study, we attempt to verify changes in soil nutrients distribution during various sludge application methods such as direct ponding, as well as reuse as an active ingredient in co-composting. We further attempts to investigate the potential impact of altering nutrient ratios of co-composting on land development options.

II. MATERIALS AND METHODS

A. Study Area

The STP with a capacity 7.5 MLD (million liters per day) located in the residential campus of Bannari Amman Institute of Technology,

IOP Conf. Series: Materials Science and Engineering **955** (2020) 012103 doi:10.1088/1757-899X/955/1/012103

Evolution of Strategic Planning for Water Sustainability in Coastal Cities of India –Contemporary Issues and Way Forward

Shiva Nandhini Sivakkumar[1*], Vasudevan Mangottiri[2], Natarajan Narayanan[3], Suneeth Kumar Saragur[4]

[1]Graduate Student, Department of Civil Engineering, Bannari Amman Institute of Technology, Sathyamangalam, Tamil Nadu-638401, India

[2]Assistant Professor, Department of Civil Engineering, Dr. Mahalingam College of Engineering and Technology, Pollachi, Tamil Nadu-642003, India

[3]Associate Professor, Department of Civil Engineering, Bannari Amman Institute of Technology, Sathyamangalam, Tamil Nadu-638401, India

[4]Professor, Department of Civil Engineering, ATME College of Engineering, Mysore, Karnataka-570028, India

[*]Corresponding Author Email ID: shivanandhini.ce17@bitsathy.ac.in

Abstract
Fresh water availability along coastal India is a critical issue pertaining to and affected by population explosion, rapid urbanisation and industrialisation. The coastal livelihood and infrastructure in India have subsequently grown post-independence without any substantial scientific planning for infrastructural developments such as public water distribution systems and wastewater drainage. Due to the predominant inconsistency in meeting the regular water consumption demands as against water availability, uncontrolled water distribution systems became critically responsible for harnessing our freshwater resources (surface water and groundwater). There is an ever-demanding need for strategic planning for Indian coastal cities with inclusive technological interventions to effectively utilise the available resources for achieving water sustainability. This paper reviews on the contemporary challenges and possible strategies for planning and implementing innovations in community water supply sector for coastal cities in India. Considering the pros and cons while strategic planning in the diverse geo-marine environment, we realise that ultimately the choice of water conservation mechanism must be unique for a given region, but consistent with the sustainable goals considering the overall well-being of the ultimate beneficiaries.

Key Words: Water Resources; Water Scarcity; Water Supply; Strategic Planning; Sustainable Development

1. Introduction

History remarks the start of human settlements and civilizations at the river banks and coastal areas. Nonetheless, more than two-third of current world population and lion-share of large cities are situated within a range of 80 km from the coasts and deltas. The promise of the national constitution to provide safe and secured drinking water and sanitation are most rarely attended with its due care in the dark side of the developments, where we see people are struggling for existence in the slums and coastal

VIT
Vellore Institute of Technology

ISA VIT
ENLIGHTENING MINDS

E-Proceedings of First International Conference on Automation, Signal Processing, Instrumentation and Control-iCASIC-2020 (February 27-28, 2020)

Organized by:
School of Electrical Engineering

In association with
International Society of Automation

Vellore Institute of Technology, Vellore
Vellore-632 014, Tamil Nadu, India.

ATME College of Engineering

in association with

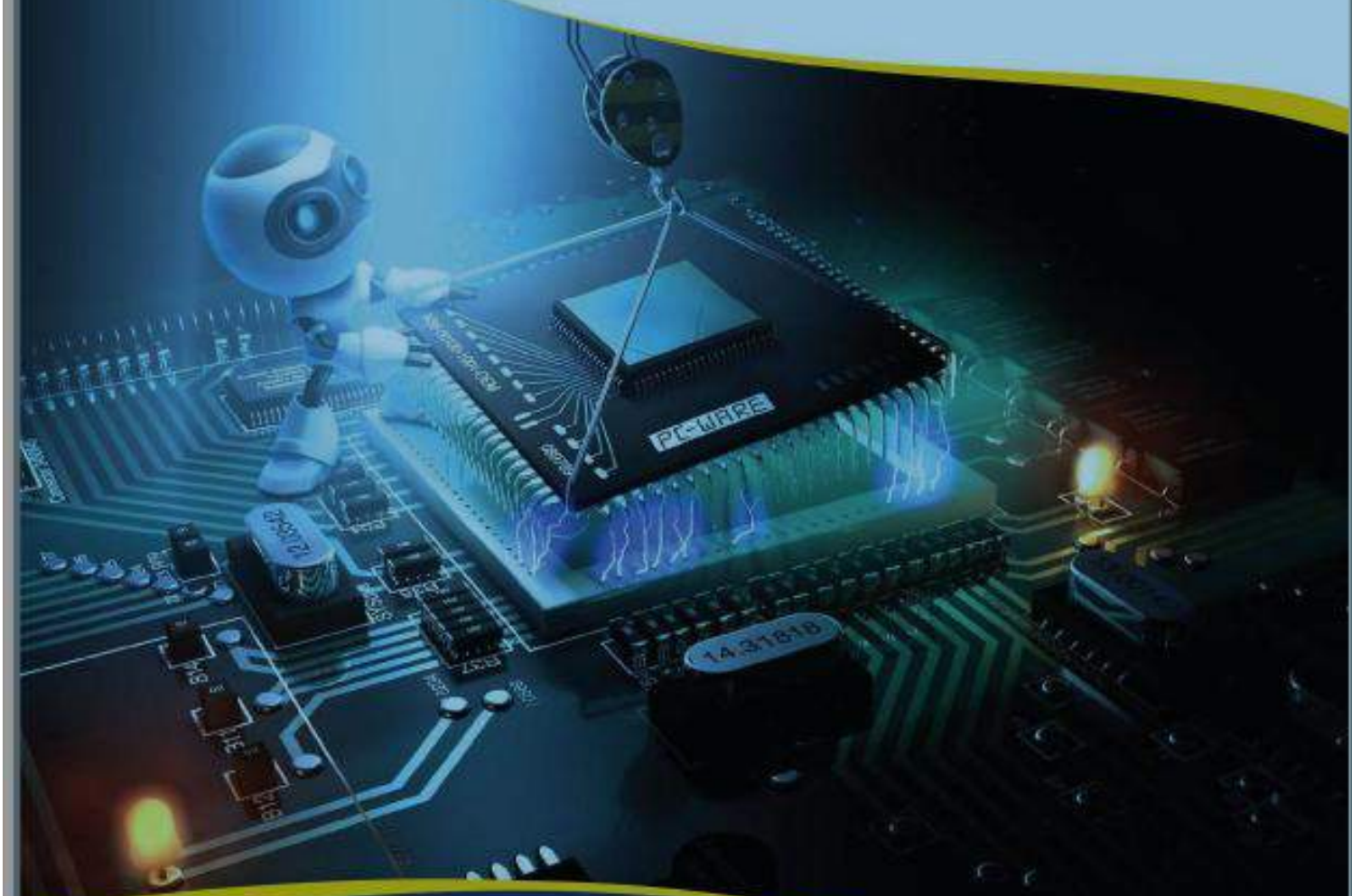
The Institution of Electronics and Telecommunication Engineers

Computer Society of India

ICRTST 2020

International Conference
on
Recent Trends in Science & Technology
ICRTST - 2020

17th & 18th June 2020



Volume - I

Editor

Dr. K J Suresha

ISBN No. : 978-93-5396-830-4

ATME College of Engineering, 13th KM, Mysore - Kanakapura - Bangalore Road, Mysore - 570 028
Phone: +91-821-25 93 335 | Fax: +91-821-25 93 328 | Web: www.atme.in

Geetha Shishu Shikshana Sangha (R)

GSSS Institute of Engineering & Technology for Women

(Affiliated to VTU, Belagavi, Approved by AICTE, New Delhi & Govt. of Karnataka)

MYSURU-570 016 | Karnataka | India

Accredited Branches by NBA, New Delhi UG - ECE, CSE, ISE, TE & IT

(Validity: 01.07.2017 - 30.06.2020)

ICEECCOT-2018

Third IEEE International Conference on Electrical, Electronics, Communication, Computer Technologies and Optimization Techniques

IEEE Advancing Technology for Humanity

IEEE BANGALORE SECTION

This is to certify that Dr./Prof./Mr./Ms.

Nasreen Fathima

has Participated/Presented Paper titled

An Approach for Security in Internet of Things

in the Third IEEE International Conference on Electrical, Electronics, Communication, Computer Technologies and Optimization Techniques **(ICEECCOT-2018)** in association with IEEE Bangalore Section organized by GSSS Institute of Engineering & Technology for Women, Mysuru on 14th & 15th December 2018.

Dr. Parameshachari B D
Publication Chair, ICEECCOT-2018
Professor & Head,
Dept. of TCE

Dr. Reshma Banu
Organizing Chair, ICEECCOT-2018
Professor & Head,
Dept. of ISE.

Dr. Shivakumar M
General Chair, ICEECCOT-2018
Principal
GSSSIETW, Mysuru

A T M E
College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology

Date:17th & 18th June 2020
(ICRTST - 2020)

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Puttegowda D***

ATME College of Engineering, Mysuru

has participated as the Co-author for the paper entitled ***Performance Analysis of Color K-Means and Range Filter for Text Detection in Images or Video***

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)" organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

Soft Computing Approaches for Automotive Image Processing: Opportunities and Challenges

M. S. Sunitha Patel and S. Srinath

Abstract Soft computing techniques-based image processing is an emerging field in automotive applications. Soft computing techniques, such as fuzzy logic, neural computing, evolutionary computation, and machine learning, are used in developing reliable image processing techniques for automotive vehicle applications. As vehicles generally operate on different harsh roads and weather conditions, the image processing techniques shall be very reliable and intelligent to avoid road accidents. The main aim of the paper is to present, how different soft computing approaches are used to overcome the challenges faced in computing real-time automotive image processing for different vehicle automation level.

Keywords Soft computing · Image processing · Automotive images · Vehicle automation

1 Introduction

Safe driving in vehicles is the primary concern, and hence, providing enough safety information for drivers through advanced driver assistant system (ADAS) has become major requirement in automotive industry. In general, cameras in vehicles are used to capture inside-view of driver's status or outside-view of vehicle status. ADAS functionalities like drowsy and fatigue driver detection, airbag control, occupancy detection, etc. are developed using cameras inside vehicle cabin. Using outside cameras, the other ADAS functionalities, like adaptive cruise control, collision warning, lane departure warning, lane keeping assistant, blind spot detection, lane change assistant, all-round-view, and night vision, are developed [1].

M. S. Sunitha Patel (✉)
Department of CSE, ATME College of Engineering, Mysuru, India
e-mail: mssunithapatel@gmail.com

S. Srinath
Department of CSE, SJCE, Mysuru, India
e-mail: srinath@sjce.ac.in

V. Komanapalli et al. (eds.), *Advances in Automation, Signal Processing, Instrumentation, and Control*, Lecture Notes in Electrical Engineering 700.
https://doi.org/10.1007/978-981-15-8221-9_89

ICIETS-0052

International Conference on

Innovations in Engineering, Technology & Sciences (ICIETS) - 2018

Certificate

This is to certify that Dr. /Mr. /Mrs. /Miss **M S Sunitha Patel** *has published a paper entitled:*

A Cooperative Study on Image Processing Approaches for BSDS in Advanced Driver Assistance System *in International Conference on Innovations in Engineering, Technology & Sciences (ICIETS) - 2018, with Catalog "CFP18Q63-PRT: 978-1-5386-7321-8", organized by NIE Institute of Technology, Hootagalli Industrial Area, Mysore, Karnataka, India, during 20th & 21st September 2018.*

Supported by IEEE Advancing Technology for Humanity

Supported by IEEE Bangalore Section

Dr. Siva Ganesh Malla
Director, CPGC

Prof. T Ananthapadmanabha
Conference Chair, Principal

ICIETS-0052

Certificate

International Conference on Innovations in Engineering, Technology & Sciences (ICIETS)

This is to certify that Dr. /Mr. /Mrs. /Miss **M S Sunitha Patel** *has Presented a paper entitled:*

A Cooperative Study on Image Processing Approaches for BSDS in Advanced Driver Assistance System *in International Conference on Innovations in Engineering, Technology & Sciences (ICIETS) - 2018, with Catalog "CFP18Q63-PRT: 978-1-5386-7321-8", organized by NIE Institute of Technology, Hootagalli Industrial Area, Mysore, Karnataka, India, during 20th & 21st September 2018.*

Supported by IEEE Advancing Technology for Humanity

Supported by IEEE Bangalore Section

Dr. Siva Ganesh Malla
Director, CPGC

Prof. T Ananthapadmanabha
Conference Chair, Principal

Modeling of Secure Communication in Internet-of-Things for Resisting Potential Intrusion

Nasreen Fathima[1(✉)], Reshma Banu[2], and G. F. Ali Ahammed[3]

[1] Department of Computer Science Engineering, ATME College of Engineering, Mysuru, India
nasreenl6fathima@gmail.com
[2] Department of Information Science and Engineering, GSSSIETW, Mysuru, India
reshmal27banu@gmail.com
[3] Department of Computer Science Engineering, VTU Post Graduate Centre, Mysuru, India
aliahammed78@gmail.com

Abstract. Smart appliances running under Internet-of-Things (IoT) offers excellent interconnected network and gives a true encapsulation of machine-to-machine communication system. However, due to various inevitable situation as well as novelty in the IoT implementation concept, it is shrouded by various loopholes in its security system. Review of existing approaches too shows that there are less modeling and exhaustive framework to deal with this problem. Therefore, the proposed study introduces a framework that offers secure communication system between IoT nodes and internet host (i.e. gateway) by harnessing finite field encryption system of public key cryptography. The proposed system offers a unique key generation system as well as novel digital signature generation securing the entire communication. The simulation outcomes show that proposed system offer better performance than existing system.

Keywords: Internet-of-Things · Security · Secure routing · Gateway security · Encryption · Wireless sensor network

1 Introduction

The Internet-of-Things (IoT) is considered as big boon for pervasive computing as it offers higher degree of connection with increased vulnerability [1, 2]. The prime cause of security threats in IoT ecosystem are vulnerabilities of software, attacks in computer system, interception of data [3]. There are various protocols and approaches towards securing communication in IoT [4–6]. However, the biggest challenges lies in internet host which is connected with internet and is a pivotal point of intrusion from various cyber security threats. Another biggest problem associated with the IoT is the communication system between the IoT devices and the gateway nodes or internet host [7–10]. Such communication system is actually very much dynamic where there is no much robust existing model to address such problem. Therefore, the proposed system

R. Silhavy et al. (Eds.): CoMeSySo 2019, AISC 1047, pp. 389–398, 2019.
https://doi.org/10.1007/978-3-030-31362-3_38

A T M E
College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology
Date:17th & 18th June 2020
(ICRTST - 2020)

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Dr. Puttegowda D***

ATME College of Engineering, Mysuru

has participated as the Co-author for the paper entitled ***Object Detection Through Symbiotic Deep Learning: Detection and Recognition on Resource Constrained Device***

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)" organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology
Date: 17th & 18th June 2020
(ICRTST - 2020)

ICRTST 2020

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Anil Kumar C J***

ATMECE, Mysuru

has presented paper entitled ***An Experimental Study on Comparison of Credit Scoring Models***

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)"
organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

VIT
Vellore Institute of Technology

ISA VIT
ENLIGHTENING MINDS

CERTIFICATE OF PRESENTATION

International Conference on Automation, Signal Processing, Instrumentation and Control (iCASIC 2020)

This is to certify that ~~Prof/Dr./Mr./Ms./~~Mrs. IMPANA APPAJI, Asst. Professor

of ATME College of Engineering, Mysuru. has presented a paper titled

Vehicular Monitoring Using RFID

in the International Conference on Automation, Signal Processing, Instrumentation and Control (iCASIC 2020) held on 27th - 28th February 2020 at Vellore Institute of Technology, Vellore, India.

P-ID:309

President ISA D-14 | Conference Chair | Convener

ATME College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology

Date: 17th & 18th June 2020
(ICRTST - 2020)

ICRTST

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof IMPANA APPAJI, ATMECE, Mysuru

has presented paper entitled "A Study on Cyber Security for Sovereign Vehicles"

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)"

organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020

Dr. Parthasarathy I.
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj I.
Principal
ATMECE, Mysuru

A T M E
College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology
Date: 17th & 18th June 2020
(ICRTST - 2020)

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***M S Sunitha Patel***

ATMECE, Mysuru

has presented paper entitled ***An Insight into Feature Extraction Algorithms for Vehicle Platoon Management***

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)"
organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology
Date:17th & 18th June 2020
(ICRTST - 2020)

ICRTST 2020

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Kavyashree E D***

ATME College of Engineering, Mysuru

has presented paper entitled ***Big Data Analytics - Tools, Challenges, Applications, Future Scope***

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)"
organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology
Date: 17th & 18th June 2020
(ICRTST - 2020)

ICRTST 2020

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Keerthana M M***

ATME College of Engineering, Mysuru

has participated as the Co-author for the paper entitled ***STUDY ON RIP AND EIGRP ROUTING PROTOCOLS AND CONFIGURATION***

in the 'INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)" organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology

Date: 17th & 18th June 2020
(ICRTST - 2020)

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Anilkumar B H***

ATMECE, Mysuru

has presented paper entitled ***Study On Network Simulation Using Cisco Packet Tracer***

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)"
organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A STUDY ON LEARNING SPATIAL AND TEMPORAL EXTENTS OF HUMAN ACTIONS FOR ACTION DETECTION

Impana Appaji[1], Arpitha S[2], Navya S[2], Sudha M P[2], Vaishnavi C S[2]
1 Assistant Professor,
Computer Science & Engineering,
Academy for Technical and Management Excellence college of Engineering,
Mysore,
Karnataka, India.

2345 UG students,
Department of Computer Science & Engineering,
Academy for Technical and Management Excellence college of Engineering,
Mysore,
Karnataka, India.

Abstract: For the problem of action detection, most existing methods require that relevant portions of the action of interest in training videos have been manually annotated with bounding boxes. Some recent works tried to avoid tedious manual annotation, and proposed to automatically identify the relevant portions in training videos. However, these methods only concerned the identification in either spatial or temporal domain, and may get irrelevant contents from another domain. These irrelevant contents are usually undesirable in the training phase, which will lead to a degradation of the detection performance. This paper advances prior work by proposing a joint learning framework to simultaneously identify the spatial and temporal extents of the action of interest in training videos.

Keywords: Action localization, action recognition, discriminative latent variable model, split-and-merge.

NEWTON'S GREGORY INTERPOLATION PRINCIPLE TO IDENTIFY AND PREDICT THE UNKNOWN VALUES FROM ITEM-SET DATA OF THE SUPER MARKET.

Mohanesh B M
Computer Science and Engineering
A T M.ECE
Mysore, India
mohaneshbm@gmail.com

Abstract: The objective of the study is to identify unknown values and predict the values from the given supermarket data. By the concept of interpolation unknown values are identified for a given function in a set of values defined using functions. Using the concept of interpolation there is an ability to predict number of people purchasing the products from the given set of data. Newton Gregory forward interpolation formula identifies the expenditure details of the set of people using the beginning of the data given. Newton Gregory backward interpolation formula identifies the expenditure details of the set of people using the end part of the data given. Newton's divided difference formula predicts the possible number of people purchasing the particular product at any point of the given value. Real time data was taken, and the tests were conducted it showed the expected result, These results predicted expenditure with its number of people respectively. More test cases were conducted which predicted the number of people purchasing a product at particular amount.

Keywords: Super Market; interpolation; backword interpolation; forward interpolation.

RECOGNITION OF ALZHEIMER'S DISEASE USING MRI SCANS BY ARTIFICIAL NEURAL NETWORK

Mohamed Naumaan
UG Student
Department of CSE
ATMECE,Mysuru
mohamednaumaan98@gmail.com

ShaziaBaig
UG Student
Department of CSE
ATMECE,Mysuru
shaziabaig2017@gmail.com

Sheeban E Tamanna
UG Student
Department of CSE
ATMECE,Mysuru
malikatamanna98@gmail.com

Sharvanu N Pande
UG Student
Department of CSE
ATMECE,Mysuru
sharvanipande22@gmail.

Sushma V
Assistant Professor
Department of CSE
ATMECE,Mysuru
sushma.sush13@gmail.com

Abstract: Alzheimer's Disease (AD) is a permanent and dynamic psyche disease that consistently wrecks memory force and thinking capacity aptitudes that it impacts the ordinary everyday practice of person. The work showed currently is that the utility of picture dealing with the Magnetic Resonance Image (MRI) compasses to assess the opportunity of an early acknowledgment of AD. The paper shows the utilization of a couple pre-picture planning procedures, for instance K-infers bundling - implies, wavelet change, watershed estimation, fake neural framework and besides a changed figuring tweaked for some specific case. It very well may be executed utilizing open source stages, for example, OpenCV and Qt, which helps the usage and value of the created filters in the medical clinics without requiring a specific programming. The results obtained by this endeavor could help in recognizing Alzheimer's patients and sound individuals, and investigating the AD patients with the psychological results and could as needs be help the pros in perceiving the malady at earlier stages. This could intelligently help in perception and treating AD.

Keywords: Watershed, OpenCV, Wavelet Transform

International Research Journal of Engineering and Technology (IRJET) E-ISSN: 2395-0056
Volume: 07, Special Issue | June 2020 www.irjet.net P-ISSN: 2395-0072
International Conference on Recent Trends in Science & Technology-2020 (ICRTST - 2020)
Organised by: ATME College of Engineering, Mysuru, INDIA

Survey on Blockchain Technology - Merits, Demerits and Its Applications

Hameeda Banu[1], Thamitha[2], Pooja[3], Varsha J[4], Kavyashree E D[5]

[1-4]Student, ATME College of Engineering, Mysuru
[5]Assistant Professor, ATME College of Engineering, Mysuru

Abstract-Blockchain is a growing technology, It is linked to cryptography and it has a list of records called blocks. Block is a digital information and public database is a chain. Blockchain can be distributed recorded but not edited. It is devised of digital currency, bitcoin. It carries no transaction cost only infrastructure cost. Passing information from one node to another by fully automated and safe manner. It creates unique record with unique history. Falsying any single piece of data means falsifying entire chain. Blockchain helps to authenticate digital information. Three pillars of blockchain technology are decentralization, transparency, immutability. It is time stamped series of records of data that is managed by cluster of computer it has no central authority. This paper discusses on real time applications, merits and demerits.

Keywords: Blockchain, Bitcoins, Cryptocurrency, Cryptography, Records.

1. INTRODUCTION

Blockchain is a increasing catalog of proceedings, called blocks, that are associated using cryptography. Every block will have a hash value of current block, cryptographic hash of the previous block, a timestamp, and transaction data. The Blockchain technology will assure us the brilliant future. It can facilitate to create the trade, supervision and logistic systems very persistent, accurate and secure. The definition of the Blockchain technology "The blockchain is an imperishable digital record of financial business to be able to be planned to acknowledgment rebuff currently economic dealings however practically the whole thing of value" – this declaration is one of the mainly well-liked sharpness of the Blockchain, which is urbanized by Don and Alex Tapscott [1].

Blockchain was made-up by a person some populace by means of the person's name Satoshi Nakamoto in 2008 to provide seeing that the community deal ledger of the crypto prevalence bitcoin. The discovery of the blockchain used for bitcoin prepared it the initial digital coinage to resolve the double-spending setback devoid of the required trusted influence. The bitcoin work out has stimulated supplementary applications and blockchains that are apparent to the community are

A T M E
College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology
Date: 17th & 18th June 2020
(ICRTST - 2020)

ICRTST 2020

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Swapna H***

ATMECE,Mysuru

has presented paper entitled ***Induction Motor Drive System Using Push-Pull Converter And Three Phase Multilevel Inverter***

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)" organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology
Date: 17th & 18th June 2020
(ICRTST - 2020)

ICRTST 2020

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Vinod Kumar P***

ATME College of Engineering

has presented paper entitled ***Design of water waste collector by Seabin***

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)"
organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

Digital Image Watermarking using Tenth Root of Exponential Function

Prajwalasimha S N
Assistant Professor,
Dept. of Electronics & Communication,
ATME College of Engineering, India
prajwalasimha.sn1@gmail.com

Anupama Shetter
Assistant Professor,
Dept. of Electronics & Communication,
ATME College of Engineering, India
anupamashetter@gmail.com

Swapna H
Assistant Professor,
Dept. of Electrical & Electronics,
ATME College of Engineering, India
swapnah90@gmail.com

***Abstract*— In this paper, digital image watermarking using tenth root of exponential transformation has been introduced in the frequency domain. In the proposed technique, the secrete image is first encrypted and compressed using exponential function and then embedded into the host image. The resultant images obtained from the proposed algorithm is subjected for various security attacks and the results are compared with the other existing algorithms. The results obtained are better compared to the existing techniques.**

***Keywords*— Digital Image Watermarking, Exponential transformation, Frequency Domain, Embedding, Security attacks.**

I. INTRODUCTION

Digital image watermarking is a widely used common technique to tag multimedia data with an identifier for the purpose of authentication between source and destination [1]. Hiding the original information by an apparent (cipher) is the major aspect of information security [9][10]. Digital image watermarking is a process of embedding multimedia data in an image in the form images of logo or signatures for the purpose of identification and security. The digital image watermarking techniques are broadly categorized into two major classes: spatial domain and frequency domain.

In spatial domain, pixel values are directly modified on the watermark. In frequency domain, the transformed co-efficient of secrete data is subjected for modification and then embedded into the host.

Discrete Wavelet Transform (DWT), Discrete Fourier Transform (DFT) and Discrete Cosine Transform (DCT) are the frequently used frequency domain transforms for the purpose of watermarking. Robustness and imperceptibility are the major parameters of a secured watermarking technique [6]. Robustness involves the ability of a watermarked image to withstand differential attacks such as cropping of watermarked image, filtering the watermarked image to reduce noise interference and compression of watermarked image to reduce the space for storage. After watermarking process, the watermarked image is compared with host to define imperceptibility.

The proposed algorithm deals with image watermarking using tenth root of an exponential function in order to embed the watermark into the host image by 128 bits of secrete key.

II. RELATED WORK

Digital image watermarking is a process of hiding digital information in the carrier. Xiao-Long Liu & et. al. has described a new watermarking technique based on DWT. The resultant watermark image withstands various security attacks [1].

Thottempudi pardhu & et.al. proposed a last line of defense against unauthorized distribution of digital media. They enhanced the watermarking properties including imperceptibility, robustness and security in the resultant image [2]. Sachin Gaur & et. al. presented a hybrid digital watermarking method using on DWT, DCT and Singular Value Decomposition (SVD). They adopted different optimization techniques for colour images and to make it adaptive with all sub bands getting best result [3].

SVD based algorithms are resistant to geometrical transforms, such as clipping, rotation and scaling. By the adoption of the above method, robust blind extraction of the watermark and scrambling operation has been achieved, which enhances the robustness of the algorithm [4].

Ahmed S. Salama & et. al. introduced both discrete wavelet transform (DWT) and discrete cosine transform (DCT) based methods to improve the fidelity of watermarked images [5]. Khalil et. al. improved quality of obtained watermark image in terms of imperceptibility, robustness to gama correction and histogram equalization [6]. Noise interference in the watermarked domain has to be effectively examined to improve the level of security in the spatial domain [7].

III. METHEDOLOGY

In the proposed algorithm, the two phases include: embedding the watermarking into the host image and watermark extraction from the host image. Fig. 1 shows the flow diagram of proposed watermarking algorithm.

A. Embedding the Watermark

Step1: A Gray scale 256X256 image is taken as host image for the embedding process.

Step2: Comparing actual secrete key to the input key.

Step3: By getting the desired secrete key combination, the watermark of size 128X128 is subjected for tenth root of exponential function.

978-1-5386-2440-1/18/$31.00 ©2018 IEEE

INTERNATIONAL RESEARCH JOURNAL OF ENGINEERING AND TECHNOLOGY (IRJET) E-ISSN: 2395-0056
VOLUME: 07, SPECIAL ISSUE | JUNE 2020 WWW.IRJET.NET P-ISSN: 2395-0072
International Conference on Recent Trends in Science & Technology-2020 (ICRTST - 2020)
Organised by: ATME College of Engineering, Mysuru, INDIA

Design and Simulation of the Three Phase Z-source Inverter

Praveen Kumar M[1],
Assistant Professor, Dept. of EEE, ATME College of Engineering, Mysuru, Karnataka, India
Santhosh Kumar R[2],
Assistant Professor, Don Bosco Institute of Technology, Bengaluru, Karnataka, India
Vinod Kumar P[1]
Assistant Professor, Dept. of EEE, ATME College of Engineering, Mysuru, Karnataka, India

---

Abstract— *Inverter is basically an electrical device used extensively for various applications such as grid connected Wind Energy scheme or Photovoltaic scheme for a transition of dc to ac supply. Basically inverters are categorized as two current source inverter (CSI) and voltage source inverter (VSI). However, due to limitations of conventional inverter, the Z source inverter configuration is presented. The Z-source inverter design can also be used to dc-dc power conversion, ac-dc power conversion and also ac-ac power conversion. Z-source concept uses a distinctive impedance circuit for coupling source and power circuit. For better understanding of this concept, detailed design analysis and simulation for a simple Boost control technique is carried out.*

Keywords- *Inverter, three phase Z source, MATlab Simulink, voltage source inverter (VSI), simple Boost control, current source inverter (CSI).*

1. INTRODUCTION

The inverter are fundamentally a DC to AC converter mainly used in UPS, Induction motor drives etc. the conventional inverters are categorized into two types namely, i) Current source inverter ii) Voltage source Inverter. The Fig. 1 depicts the conventional three phase VSI. The main limitation of traditional inverter is that the VSI output voltage always less compared to the input supplied voltage and for many application higher voltages than the input is required. For getting higher voltage more the input voltage at the output, a boost converter is used. The Design, Simulation of Single phase Z-source Inverter are reported in [1]. The basic diagram of Z source inverter is described in [2][6]. Two control methods to get Highest voltage boost is described in [3]. The detailed working of Z-source inverter concept is reported in [4]. Z-source converter closed loop controller design using PWM technique is described in [5]. The design of LC filter to obtain pure sinusoidal voltage is described in [8]. [7] Presents the improved control of Z source inverter for speed control of induction motor.

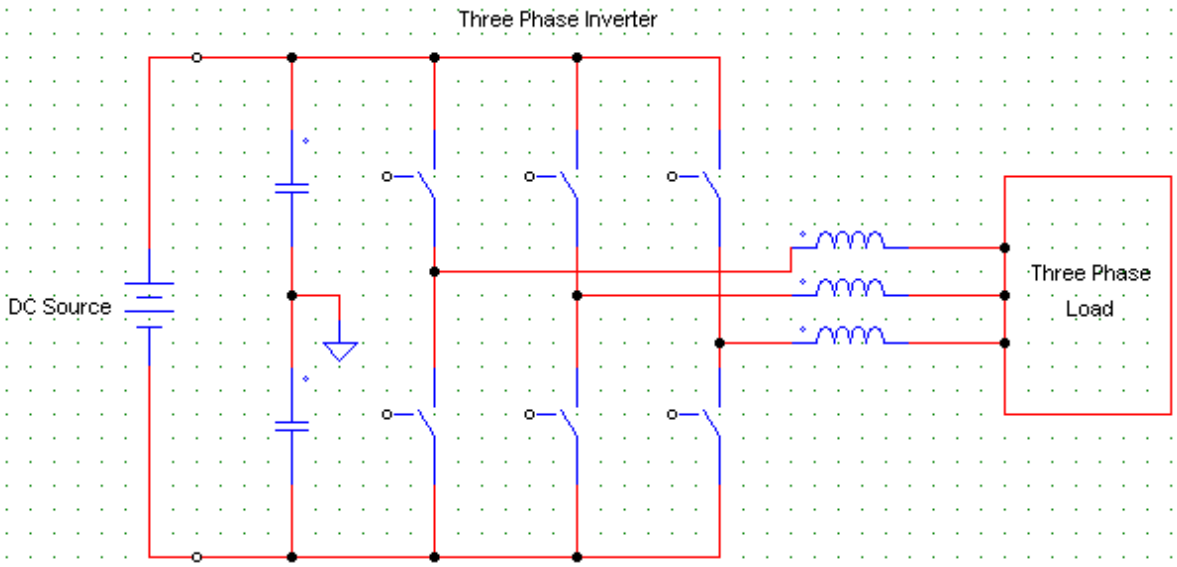


Fig. 1: Traditional three phase VSI

A T M E
College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology

Date: 17th & 18th June 2020

(ICRTST - 2020)

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof SATHISH K R, ATMECE, Mysuru

has presented paper entitled "Power Quality Analysis of Distribution System Integrated with Multiple PVs"

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)"

organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology

Date:17th & 18th June 2020
(ICRTST - 2020)

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Prathibha M K***

ATME College of Engineering, Mysuru

has presented paper entitled ***Detection of various stages of Lung Cancer***

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)"
organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020.

Dr. Parthasarathy I.
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj I.
Principal
ATMECE, Mysuru

ATME College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology
Date: 17th & 18th June 2020
(ICRTST - 2020)

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ✓ Chandrashekar P, ATMECE, Mysuru.

has presented paper entitled Design of 64X64 single port SRAM Array using 45nm.

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)"

organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

International Research Journal of Engineering and Technology (IRJET) E-ISSN: 2395-0056
Volume: 07, Special Issue | June 2020 www.irjet.net P-ISSN: 2395-0072
International Conference on Recent Trends in Science & Technology-2020 (ICRTST - 2020)
Organised by: ATME College of Engineering, Mysuru, INDIA

INTELLIGENT WHEELCHAIR FOR HANDICAPPED PERSONS

Pavithra A C[1], PRAJWAL M[2], PUNYA M[2], RUPESH KUMAR G V[2] YASHWANTH V[2]

[1]Assistant Professor, Department of ECE, ATMECE, Mysuru
[2]Student, Department of ECE, ATMECE, Mysuru

***Abstract*—**Smart robotic wheelchair has a great significance in life of a disabled person. With several merits, a wheelchair becomes a dilemma for a disabled person when comes to self-propulsion. This project describes an economical solution of robot control systems. The presented wheelchair control system can be used for different sophisticated robotic applications. The robotic wheelchair comprises of the features like sensing hindrances and circuitry to avoid colliding to obstacle. Implementing embedded systems solution on self-propelled wheelchair enhances upgradability. Physical disability is a curse to human life. The fundamental operation of the wheelchair to handicapped person with safe movement. For ensuring the safety of movement, obstacle sensing, crack detection and living being identification features have been included. Additionally, a controlled LCD has been provided considering the case of auditory disabled people. Access to control hone appliances has also been offered.

Keywords: **Arduino kit, Relay, DC Motor, IR sensor module and Accelerometer sensor**

1. INTRODUCTION

People with physical disabilities every time find it complicated to navigate through their house without the assistance of someone. But to navigate through one's own home without contribute of any one all time can be demoralizing for the person as well. It can be handled wireless methods. The future intelligent robotic wheelchair can learn the layout of its environment (hospital, rehabilitation center, hone, etc.) through a narrated, guided tour given by the user or the uses caregivers. Subsequently, the wheelchair can move to any previously-named location under voice command (e.g., 'Take me to the cafeteria"). This technology appropriate for people who have lost mobility due to brain injury or the loss of lines, but who retain speech. The technology can be enhanced with Tongue Motion Driver to move the chair by the movement of tongue which will be easier for totally paradise people. It can be modified by gesture technology or voice commanded technology. The technology can also enhance safety for users modified by caterpillar tracks which can be used through stairs.

The system comprises of two major units. The first unit is a simple user's of two hand gesture unit. The second unit is the wheelchair unit. The first gesture unit consists of ARM7 controller which monitors the motions of fingers and transmits the corresponding control signal to the wheelchair unit. The wheelchair unit also consists of ARM7 controller for controlling the movement of wheelchair. The second gesture unit consist of ARM7 controller the controller can detect the audio announcement [2].

The bright and innovative design will help for the handicapped person along with reducing life style of those types of patient. Our job will be too helpful for the users so far. For the revolution obviously this chair has to be further developed and manufactured. 'The world will see the continuous invention with pioneering Excellences [1].

Four fundamental requirements for self-governing operations for people with motor-impairments are Mobility, Ambient control, Health monitoring and emergency handling stands vital for transitioning to living independently. Blending the four above enlisted fundamental requirements and the solution presented in this paper will serve with great potential in becoming solid solution for real life problems of the motor impaired. This proposed embedded system solution is not limited to wheelchair implementation instead it can be further modified and elevated to varied robotic vision development [2].

The smart wheelchair based on eye tracking is presented in this paper. is not only represent the eye movement to control electrical wheelchair but also remotely to control some electrical device such as turn ON/OFF light and also to communicate with caretaker via sent message to smartphone. The smart wheelchair based on eye tracking could improve the quality of live to the disability person whose eye still is be used as normal [3].

The software simulation of solar power-driven Touch Screen Wheelchair by means of Bluetooth Module. The circuit works properly to move as the command given by the user. The detection of some obstacle is successfully controlled by the

INTERNATIONAL RESEARCH JOURNAL OF ENGINEERING AND TECHNOLOGY (IRJET) E-ISSN: 2395-0056
VOLUME: 07, SPECIAL ISSUE | JUNE 2020 WWW.IRJET.NET P-ISSN: 2395-0072
International Conference on Recent Trends in Science & Technology-2020 (ICRTST - 2020)
Organised by: ATME College of Engineering, Mysuru, INDIA

A LabView based Instrumentation System for a Wind-Solar Hybrid Power Station

Pavithra A C[1], Veronika A[2], Shilpa shree S[2] , Nithyashree S K[2]

[1]Assistant Professor, Department of Department of ECE, ATMECE, Mysuru
[2]Student, ATMECE, Mysuru

Abstract— Range of renewable energy technologies are from the well-established, such as hydropower, to the emergent, such as a wind-solar hybrid system. To measure and control system variables each technology has its own individual instrumentation a requirement. The LabView data acquisition hardware and software module has become one of the most widely used tools to capture, view, and process controls, instrumentation, and power system data both in academia and the industry (Franz, 2003, and Travis, 2002) from National Instruments. A LabView based real time data acquisition and instrumentation of a 1.5 kW wind-solar hybrid renewable energy system. The addition of the new LabView module to the system provides the much-needed real time information on the system variables, such as wind speed, wind direction, dc power, ac power, ac/dc voltages and currents. To provide a hands-on laboratory experience related to electrical, electronics, and instrumentation this real-time data acquisition system is being used extensively. This paper discusses many aspects of data acquisition, instrumentation, interfacing, and programming based on an existing 1.5 kW wind-solar hybrid power station.

Keywords- LabView, anemometer, Solar photovoltaic panels and Charge controller and inverter

1. Introduction

Data acquisition can be accomplished manually using paper and pencil, recording readings from a multimeter or any other instrument at the simplest level. Data acquisition of this form may be adequate for some applications. However, data recording applications that require large number of data readings which requires very frequent recordings are must include instruments or microcontrollers to acquire and record data precisely (Rigby and Dalby, 1995). Laboratory Virtual Instrument Engineering Workbench (LabView) is a powerful and flexible instrumentation and analysis software application tool which was developed in 1986 by the National Instruments (National Instruments, 2002). LabView has become a vital tool in today's emerging technologies and widely adopted throughout academia, industry, and government laboratories as the standard for data acquisition, instrument control and analysis software. An existing 1.5 kW rated wind-solar hybrid power station. The renewable energy-based power system's design and construction was reported earlier (Pecen, et al., 2000. Particularly some components in the renewable energy plants such as batteries and dc-to-ac power inverters can lead to power quality and grid stability problems when wind-solar power systems are connected to fossil-fuel based turbine and generators (Patel, 1999). Due to the vast dynamics differences involved in wind turbines and steam turbines these interactions will happen mostly. The hybrid wind-solar power station operates in parallel, and charges a 12 V battery bank which includes six deep cycle lead acid batteries. The solar panels are installed on a frame which tracks the sun light during the day from an initial position of 0 degree to 320 degree. Also 1.5 kVA rated dc-to-ac power inverter based on solid-state devices, protection equipment such as ac and dc circuit breakers, fuses, surge arrester, a set of linear and non-linear loads, connecting cables, and junction boxes are included in the system. Students are introduced to the studies of steady state voltage and currents in the system, due to small linear and nonlinear load effects (Pecen and Timmerman, 1999) illustrating power quality problems may occur. As a part of the undergraduate electrical power and machinery laboratory content as well as a demonstration unit for visiting high school and community college students (Pecen, et al., 2003) the wind-solar hybrid power station has been used.

INTERNATIONAL RESEARCH JOURNAL OF ENGINEERING AND TECHNOLOGY (IRJET) E-ISSN: 2395-0056
VOLUME: 07, SPECIAL ISSUE | JUNE 2020 WWW.IRJET.NET P-ISSN: 2395-0072
International Conference on Recent Trends in Science & Technology-2020 (ICRTST - 2020)
Organised by: ATME College of Engineering, Mysuru, INDIA

Obstacle Avoiding Vehicle

Bhuvan MS[1], Manjaunath K[2]

[1]Electronics and Communication Dept., ATME College of Engineering, Mysore, India
[2]Asst Prof Electronics and Communication Dept., ATME College of Engineering, Mysore, India

---

Abstract- The ability to detect and avoid obstacles in real time is an important design requirement for any practical application of autonomous vehicles. Therefore, a significant number of solutions have been proposed for this problem. Unfortunately, most of these solutions demand a heavy computational load, which makes them difficult, if not impossible, to implement on low cost, microcontroller based, control structures, This paper proposes a novel, reactive algorithm for real time obstacle avoidance, compatible with low cost ultrasonic sensor, fast enough to be implemented on embedded microcontrollers. We called this algorithm "*the bubble rebound algorithm*". According to this algorithm, only the obstacles detected within an area called "sensitivity bubble" around the robot are considered. Upon detection of an obstacle, the robot "rebounds" in a direction having the lowest density of obstacles, and continues its motion in this direction until the goal becomes visible, or a new obstacle is encountered. The performances and drawbacks of the method are described, based on the experimental results with simulators and real robots.

Key Words: Obstacle Avoidance; Ultrasonic sensor; Reactive Algorithm.

1. INTRODUCTION

The capacity to recognize and evade obstacles continuously is a significant plan necessity for any down to earth use of independent vehicles. In this way, a noteworthy number of arrangements have been proposed for this issue. Sadly, the greater part of these arrangements request an overwhelming computational burden, which makes them troublesome, if not impossible, to implement on low cost, microcontroller-based, control structures. The latter algorithms are more complex, this system provides an alternate way to the existing system by replacing skilled labour with robotic machinery involve detection of an obstacle as well as some kind of quantitative measurements concerning the obstacle's dimensions. Once these have been determined, the obstacle avoidance algorithm needs to steer the robot around the obstacle and resume motion toward the original target

This paper presents the results an algorithm for obstacle avoidance relying on low cost ultrasonic or infrared sensors, and involving a reasonable level of calculations, so that it can be easily used in real time control applications with microcontrollers

2. LITERATURE REVIEW

"line follower and obstacle avoidance bot using arduino" has been designed and developed by Aamir attar, Aadilansari, Abhishekdesai, Shahid khan, Dipashrisonawaleto make a self-governing robot which brilliantly distinguishes the hindrance in its way and explores as indicated by the activities that client set for it. So this framework gives a substitute route to the current framework by supplanting gifted work with automated hardware, which in turn can handle more patients in less time with better accuracy and a lower per capita cost [1].

"Obstacle-avoiding robot with IR and PIR motion Sensors" has been designed and developed by Aniket D. Adhvaryu et al has proposed that created robot stage was not intended for explicit undertaking however as a general wheeled self-governing stage. It can hence be utilized for instructive, investigate or mechanical usage. Understudies can utilize itto learn the microcontroller programming using C++, Arduino Uno 1.6.5 compiler, IR and PIR sensors characteristics, motor driving circuit and signal condition circuit design. Research on hindrance shirking robot at the polytechnic level can assist understudies with developing correspondence, specialized abilities and cooperation. The structure of such robot is entirely adaptable and different techniques can be adjusted for another execution. It shows that PIR sensors are progressively touchy contrasted with IR sensors while recognizing individual [2].

"Obstacle Avoidance Robotic Vehicle Using Ultrasonic Sensor, Android and Bluetooth for Obstacle Detection" has been designed and developed by Vaghela et.al has mentioned that enormous amount of work has been done on wireless gesture controlling of robots. Various methodologies have been analyzed and reviewed with their merits and demerits under various operational and functional strategies. Thus, it can be concluded that features like user friendly interface, light weight and portability of android OS based smart phone has overtaken the sophistication of technologies like

A T M E
College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology

Date: 17th & 18th June 2020

(ICRTST - 2020)

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof Shalini V S

has presented paper entitled Evaluation of Three Image Fusion Technique using Maximum Likelihood Classifier

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)"

organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of E&E, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

A T M E
College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology

Date:17th & 18th June 2020
(ICRTST - 2020)

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Keerthi A Kumbar***

ATME College of Engineering, Mysuru

has presented paper entitled ***ARDUINO INCLINOMETER USING MPU6050***

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)"
organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020.

Dr. Parthasarathy I.
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L.
Principal
ATMECE, Mysuru

A T M E
College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology
Date:17th & 18th June 2020
(ICRTST - 2020)

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Pradeep Kumar Y***

ATME College of Engineering, Mysuru

has presented paper entitled ***Machine Learning and EEG in Diagnosing Depression: A Survey***

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)"
organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020.

Dr. Parthasarathy I.
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L.
Principal
ATMECE, Mysuru

Non Chaotic Crypt: An Implementation based on Modified Pseudo Hadamard Transformation

Publisher: IEEE

S N Prajwalasimha ; Jayashree S Shet ; K Supriya All Authors

Abstract: In this paper, transformation and non-chaotic substitution based image cryptosystem has been proposed. The transformation phase involves 2-D Pseudo Hadamard Transform wit... **View more**

Metadata

Abstract:
In this paper, transformation and non-chaotic substitution based image cryptosystem has been proposed. The transformation phase involves 2-D Pseudo Hadamard Transform with constant co-efficient (PHTC) and substitution is performed using S-box with 128 bits of secrete key. Due to two stage encryption process, the strong correlation between adjacent pixels is effectually reduced and high entropy is observed in the cipher image. The cipher image is imperiled for several security analysis and the result proves strong resistivity against differential attacks. Even though the algorithm encrypts image in two stages, utilizes very less execution time. The results attained are relatively better compared to other prevailing algorithms.

Published in: 2020 International Conference on Communication and Signal Processing (ICCSP)

Date of Conference: 28-30 July 2020 **INSPEC Accession Number:**

Date Added to IEEE *Xplore*: 01 September 2020

DOI: 10.1109/ICCSP48568.2020.9182339

A T M E
College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology
Date:17th & 18th June 2020
(ICRTST - 2020)

ICRTST 2020

CERTIFICATE

This is to certify that Mr/Mrs/Ms/Dr/Prof ***Mohanakumara K C***

A.T.M.E College of Engineering

has presented paper entitled ***Study of utilization of Bio-fuels and Environmental impacts***

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)" organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020.

Dr. Parthasarathy L
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

INTERNATIONAL RESEARCH JOURNAL OF ENGINEERING AND TECHNOLOGY (IRJET) E-ISSN: 2395-0056
VOLUME: 07, SPECIAL ISSUE | JUNE 2020 WWW.IRJET.NET P-ISSN: 2395-0072
International Conference on Recent Trends in Science & Technology-2020 (ICRTST - 2020)
Organised by: ATME College of Engineering, Mysuru, INDIA

Kevlar Based Fibre Reinforced Polymer Composite- A Review

Deepak M.V.S[1], Dr. K. M. Subbaya[2]

[1]Asst Prof, Dept. of Mech Engg, A.T.M.E.College of Engineering, Mysuru, Karnataka, India,
[2]Prof, Dept. of I & P Engg, The NIE, Mysuru, Karnataka, India.

Anuhya Chikkala[3], Gondi Mohan Venkateswara Sai[3], Janapa Reddy Rajesh Kumar[3],

Gottumukkala Roopa Shri[3],

[3]Dept. of Mech Engg, Gayathri Vidya Parishad.College of Engineering, Vishakhapatnam, Andhra Pradesh, India

---

ABSTRACT: The review article showcased here is to understand the mechanical and tribological characteristics such as tensile, flexural, impact, wear, chemical and thermal properties of various available fibres such as Glass, carbon, Graphite and Kevlar fiber reinforced polymer matrix composites. The characteristics of the various fibre-reinforced polymer composites with reference to their proportion and the areas of usage are discussed. The review looks into the studies on various types of Kevlar composites. It provides an orientation to optimise the present day Kevlar materials and a platform to explore and investigate new combinations

Keywords:, Glass fiber, Kevlar fiber, Carbon fiber, Epoxy resin, characteristics, advanced composites

A. Introduction

Composites naturally found are can be technically synthesised materials obtained from multiple constituents displaying significance in physical, chemical properties, thermal, optical characteristics. They are observed to remain distinct and exhibit uniqueness within the processed product. FRPC's are known as Fibre-reinforced polymer composites are basically called as plastic, is an artificially evolved composite material made of reinforced fibres in a polymer resin matrix. The fibres that are commonly used are glass, carbon, aramid etc and similarly various other reinforcements such as asbestos, paper or wood have been occasionally adopted. The resin to obtain the polymer thermosetting plastic is polyester, epoxy, vinylester and phenolic based

Resins are still in vastly applied. FRPC's are applied in applications such as in automotive, marine aerospace and construction based industries. Most composites usually exhibit strong, stiff fibres in a matrix which is relatively less weak for the same. The purpose is to create a product which is strong and stiff and is of a lower density. Commercially available material such as glass, Kevlar and carbon fibres in matrices based on thermosetting polymers mainly epoxy, vinyl and polyester resins. There are occasions when thermoplastic polymers may be preferred, The cost of based on cost [1]. To emphasise further these composites when fabricated by adding the fibres exhibit complexity. Considerable improvements may be sought in fracture toughness, thermal stability, creep, wear, etc [2].

Fibre-reinforced polymer composites are extensively applied in advanced engineering structure, with their usage ranging from aircraft, helicopters and spacecraft, boats, ships. These can also be used in versatile applications such as automobiles, sports goods. They are also used in civil infrastructure, chemical processing equipment, bridges and buildings etc. Fibre-reinforced polymer composites are steadily growing at a faster rate. These materials are applied in the current markets and gaining importance in new markets such as biomedical devices and civil structures. An essential factor that's led to increase in applications from the recent years is the development of advanced forms of Fibre-reinforced polymer composites. The combination of resin systems and fibres are mouldable after initial production. FRPC's have additional classes of hybrid materials during the initial stages of manufacturing, the cost is impacted by applying carbon nanotubes and nano materials [3]

B. Properties of FRP as a Composite Material

Fibre-reinforced polymer composites are a class of materials system combined of two or more micro-macro-elements that differ in structure, physical and chemical amalgamation. They are distinctively insoluble in each other. Applying Fibre-reinforced polymer composites has a great importance in various technical domains like automotive industry, construction industry, manufacturing industry. The purpose of Fibre-reinforced polymer composites is to finally obtain better properties and ease of production comparing to the existing components. These composite usually refers to a "matrix" material with fiber reinforcement [4].

C. Classification of Composite Materials

Composite Materials are basically classified as Polymer Matrix Composites, Metal Matrix Composites or Ceramic Matrix Composites. They appear or take forms with the type of Fiber- reinforced Particulate, Laminar based composites. The composites in most of the situations are useful materials and in few cases, the downside properties of such materials should be well defined. The general properties of such materials is shown in Table 1

Table 1 .Advantages and Disadvantages

Composite materials are mostly classified in fiber or matrix phases as shown in Fig. 1

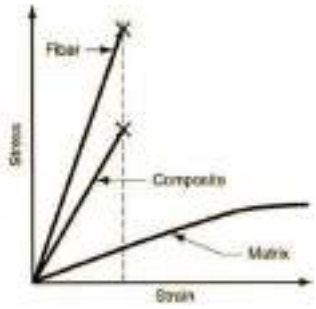


Fig 1. Stress Strain Diagram for Composite Phases

Fibers

Fibers exhibit the nature of effective reinforcements. They comply the defined conditions. They transfer strength to the matrix constituent. By doing this they enhance their properties. The extent of applying of a fiber composite can be gauged by its shape, orientation, and length, composition of the fibers and the mechanical properties of the matrix [5]. The branch of infrastructure engineering give importance to Carbon fibers, Glass, Aramid and Kevlar based fibres. The mechanical properties of the fibers displayed in Table 3 and the stress-strain behavior is showed in Fig.1.

Table 2. Mechanical properties of Fibers

Material	Specific gravity (gr/cm^3)	Tensile Strength (N/mm^2)	Modulus of elasticity (N/mm^2)
Glass Fiber	2.54	2400	70000
Carbon Fiber	1.75	3100	220000
Kevlar Fiber	1.46	3600	124000

Aramid Fibers: It's also known as a Kevlar fiber in the markets as shown in Fig. 5. The structure of Aramid fiber is anisotropic in nature. It usually appears yellow in color. Aramid fibers are costly compared to glass fibre. They exhibit good stiffness. Its good in tension applications such as Cables and tendons, but are more prone to failure in compression. Kevlar has strength, high stiffness high tensile, high modulus. They have low weigh and density. Impact-resistant structures are usually manufactured through these materials. The various types of Kevlar are Kevlar-29, Kevlar-49, Kevlar-100, Kevlar-119, and Kevlar-129

Carbon Fibers: Carbon fibers are basically anisotropic in nature. It is produced at 1300ºC. They exhibit excellent creep level, resistance to chemical effects. They exhibit high strength, low conductivity, low density and high elastic modulus which are beneficial. The drawback is that they are expensive with low compressive strength

Glass Fibers: Glass fibers are basically isotropic in nature. It is vastly applied filament. The various types of glass fibers are E-Glass, S-Glass, C-Glass etc. The identity properties of glass fibers are high strength, water resistant, low cost with and resistance to chemical attack

Mechanical properties of these vary with the orientation of the reinforcing fibers and type of fibres[6]. Continuous and aligned fibers are long, straight and the fibers are oriented parallel to each other. They also appear in Woven Form, Chopped Form in which fibers are short and are randomly and discontinuous arranged as shown in Fig. 2.

Fig 2: Fiber orientation in a) continuous b) woven and c) chopped form

Matrices form the second biggest percentage of the composite material. They are which classified as shown in Fig. 3. Selection of the relevant matrix impacts the efficiency of the performance in fibers. The matrix is meant to hold the fibers together. It helps totransfers loads to the fibers and protects the fibers from external impacts

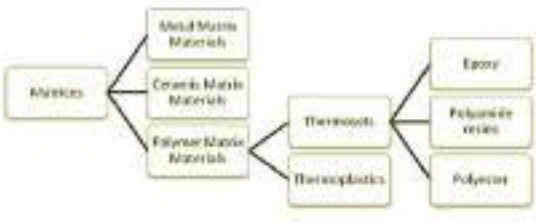


Fig 3.Clasification of Matrix Material

The material properties of moisture need to be considered for the choice of matrix. Shear stiffness, longitudinal compressive strength is given importance. The strain, failure, fatigue, impact is also very important features. The chemical and physical features of the matrix such as melting, curing temperature, viscosity and reactivity with fibers will decide the type of fabrication process. Properties of matrices can be summarized as follows [7]

- It leads to reduction in moisture absorption
- It displays less shrinkage and coefficient of thermal expansion
- Sufficient modulus, strength and elongation
- Must be elastic to transfer load to fibers
- It retains high strength at elevated temperature and displays chemical resistance
- It needs to have ease of processing and good dimensional stability

Adhesives

The purpose of the adhesive is to fix the composites to solid and stable surface. It provides a shear load path. The structural adhesives which are commonly found are Epoxy, Vinyl Ester and Polyester which are the polymer matrix material. Properties of Epoxy and Polyester adhesives are shown in table 3

Table.3. General Properties of Epoxy and Polyester

Properties of Epoxy Adhesives	Properties of Polyester Adhesives
• High cost • Good electrical properties • High bond strength and flexibility • High temperature resistance, • Low shrinkage during curing • Better adhesion between fibre and matrix • Resistance to chemicals , solvents and water • Resistance to creep and fatigue • Limited temperature application range upto 175°C • Moisture absorption affecting dimensional properties • High thermal coefficient of expansion • Extremely harmful to the skin	• Low cost • Good mechanical strength • Good electrical properties • Low viscosity and versatility • Good heat resistance • Cold and hot molding • Curing temperature is 120°C • Good handling properties • Poor chemical resistance • High curing shrinkage • Fair weatherability

The previous decade has witnessed the use of polymers as reinforcement. They are increasingly extended to wide applications for structural strengthening in construction related applications. Fibre-reinforced polymer composites strength enhancement is dependent on the blending and fabrication of the FRP material. Laboratory tests are done to check the laminate strength. Elongation tests are performed to understand the bondage with the surface items should be considered during construction to succeed in Fibre-reinforced polymer composites applications [8]

D. Aramid fibres characteristics

They are basically used as reinforcements in high tensile modulus and strength based applications. These fibers have 5-10% higher mechanical properties when compared to other fibres. They perform better than steel or glass on equal weight basis. They also exhibit excellent heat and wear resistance.

Kevlar fibres are identified by medium to high strength, low elongation, and high modulus. They exhibit densities ranging from 1.35g/cm^3 to 1.45g/cm^3. They display high specific tensile strengths over twice that of nylon and polyester. It's five times higher compared that of steel wire**.** The specific ultimate tensile strength of Fibre-reinforced polymer composites is generally higher than that of inorganic fiber composites with high strength. The specific modulus of Kevlar reinforce epoxies are three times higher than that of S glass-epoxy and is equivalent to that of graphite fibers and one-third that of boron epoxy. Kevlar has five times the strength of steel wire. They have fatigue life cycle of 10^7 cycles. The exhibit a creep behavior at 50% of the break load and at10^7 cycles is around 0.3%.

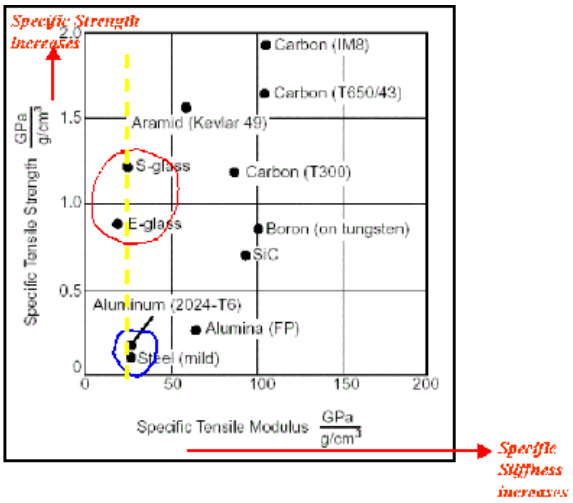


Fig.4**.** Specific tensile modulus and strength of reinforcements

Thermal Properties

Fibre-reinforced polymer composites are dependent upon the selection of resin systems. Kevlar composites have a useful temperature range from -320 to 400°F (-196 to 204°C). They retain strength modulus at a temperature in excess of 300°C to 640°C.

Impact properties

The aramid based Fibre-reinforced polymer composites resist shattering upon impact. The relevance of the fibers stops the crack propagation. Impact strengths of Fibre-reinforced polymer composites transverse to fiber alignment are in the middle of E glass- epoxy and graphite-epoxy composites. [9]

Chemical Properties

The various particulate materials such as $Na_2 SO_4$, $Na_2 CO_3$, and compounds of their mixtures is observed by x-ray diffraction. Due to the ash being found high in $Na_2 SO_4$, it contributes to water absorption. Only 6 to **10%** of the total sodium in the fibers is dissolved after 15 days, and more than 50% is dissolved within 6 h of exposure to water and it was subsequently noticed that differences in the sodium dissolution and the percentages of the sodium dissolved in water suggest that either sodium is distributed in a disorganised manner throughout the fibers. It is found to be residing mainly in the interior regions, or that the fibers differ in their porosities *to* water.

On a closer examination by x-ray photoelectron spectroscopy of Kevlar-49 and Kevlar-29 fibers to understand the nature, it was noticed that the first few atomic layers of the fiber is found to exhibit surface composition different from the theoretical composition of bulk PPTA

No major differences between Kevlar-29 and Kevlar-49 were found. There is also no evidence of an exudates caused by exposure to high temperatures. Fibers containing residual H_2SO_4 will rapidly darken, particularly at elevated temperatures which are found to have 25% loss in strength. [10]

E. Advanced Composites

The latest combination of thermosetting composite materials using Boron and Kevlar-49 fibres will be strengthened by establishing their mechanical properties related to the production economy. This clearly investigates the aim to characterise these Fibre-reinforced polymers based on the performance. Its economic impact is instantly deployed by manufacturers and designers. Fibre-reinforced polymer composites with polyimide and polyester thermosetting plastics were prepared and tested for various mechanical aspects. Accumulated and comprehensive results state that tensile strength is comparable similar to respective fibre composites due to its dominant fibre characteristics. The compressive strengths is found to be less and emphasises on matrix dependent. Based on the economics of production, Boron-polyester composite provides the best performance in terms of cost per unit tensile properties in comparison to the Boron-polyimide composite. It exhibited better results in terms of cost per unit compressive and flexural properties. The results of the boron based fibre-reinforced polymer composites tend to serve as dependent reference to designer. It helps in choosing a better characterized composites more specifically during preliminary engineering design stage.[11]

F. Advanced composites application

- Aramid reinforced composites absorb 2-4 times more load than fibre such as carbon and glass.
- Pressure vessels were tested to successfully withstand 25-30% in excess in comparison to glass and carbon fibre
- In combination with hybrid Kevlar and carbon fibre is found to have extensive usage in planes, aircrafts and space equipments.
- Aramids are adopted in construction of beams and also for the reinforced concrete materials
- Ropes, cables and high strength wires deploy Kevlar 29 considering its specific strength is 7 times more than steel and 20 times especially more in sea conditions. Hence adopted for electro mechanical cables and fibre optics
- Based on its high temperature characteristics and fire resistive property its deployed to manufacturing protective clothing in fire proof apparels and gloves
- On the basis of its excellent impact behavior its applied in ballistic kits
- Wear applications use short fibres are employed in the production of brake pads and clutches [12]
- Upon the replacement of asbestos with 10% of Kevlar pulp it was noticed that the life got extended by 3 to 5 times.
- Printed and Electronic circuit boards can be made lighter and thinner by incorporating low specific weight and high density properties of Kevlar materials [13]

G. Conclusion

By the review paper we can express that the Kevlar fibre with LY-556 Epoxy resin was found to display good tensile strength, flexural strength and impact strength. It also finds vast applications which are relevant in aircraft and automobile bodies

considering a fact that it reduces weight and gives more strength. The studies further showed that with the variation in the fibre type and fillers used has a significant effect on the tensile and flexural properties of the specimens, the three varieties of fibres used are plain bi-woven glass fibre reinforced laminate, plain bi-woven graphite fibre reinforced laminate and plain bi-woven Kevlar Fibre reinforced laminate.

H. References

[1] Martin Alberto Masuelli, Introduction of Fibre-Reinforced Polymers – Polymers and Composites: Concepts, Properties and Processes- intech 2013

[2] Hinton M.J., Soden P.D., Kaddour A.S. Failure Criteria in Fibre-Reinforced-Polymer Composites: The World-Wide Failure Exercise. Elsevier 2004.

[3] Tong L., Mouritz A.P., Bannister M. 3D Fibre Reinforced Polymer Composites. Elsevier 2002.

[4] Roylance, D., Introduction to Composite Materials'. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA 02139, 2000.

[5] Piggott, M., Load bearing fiber composites, 2nd Edition, Kluwer Academic Publishers, Boston/ Dordrecht/ London, 2004.

[6] Malek,M. A. Saadetmanesh, H. Ehsani,M., "Prediction of Failure Load of R/C Beams Strengthened with FRP Plate Due to Stress Concentration at the Plate End." ACI Structural Journal, Vol. 95,.1, 1998

[7] Pandey,P.C. "Composite Materials" Syllabus Version 2.0, 2004.

[8] Sultan Erdemli Günaslan, Abdulhalim Karaşin and M. Emin Öncü, , International Journal of Innovative Science, Engineering & Technology, Vol. 1 Issue 9, November 2014.

[9] M.Jassal, S. Ghosh. "Aramid Fibres an overview" Indian Journal of Fibre and Textile Research, Vol 27, pp 206-330, 2002

[10] E. G. Chatzi and j. L. Koenig. "morphology and structure of kevlar fibers: a review" Polym.-plast. Technol. Eng., 26(3 & 41, 229270 (1987)

[11] Kai Kin Herbert Yeung and Kamineni Pitcheswara Rao, "Mechanical Properties of Boron and Kevlar-49 Reinforced Thermosetting Composites and Economic Implications", Journal of Engineering Science, Vol. 10, 19–29, 2014

[12] High performance text 20(8), 2000

[13] Jingshing B, Anji Y and Cha. H, Appl Polym Sci, 26 (1211) 1981

INTERNATIONAL RESEARCH JOURNAL OF ENGINEERING AND TECHNOLOGY (IRJET) E-ISSN: 2395-0056
VOLUME: 07, SPECIAL ISSUE | JUNE 2020 WWW.IRJET.NET P-ISSN: 2395-0072
International Conference on Recent Trends in Science & Technology-2020 (ICRTST - 2020)
Organised by: ATME College of Engineering, Mysuru, INDIA

IMPACT BEHAVIOR OF HYBRID NANO FILLED KEVLAR REINFORCED COMPOSITES

Deepak M.V.S[1], Dr. K. M. Subbaya[2], Thilak S R[3]

[1]Asst Prof, Dept. of Mech Engg, A.T.M.E.C.E, Mysore, Karnataka, India,
[2]Prof, Dept. of I & P Engg, The NIE, Mysore, Karnataka, India.
[3]Assoc Professor, Dept. of Mech Engg, Brindavan College of Engineering, Bangalore, Karnataka, India

Anuhya Chikkala[4], Prabhu Veera Gowda K.N[5], Santosh. S[5], Stanley Almos S[5], Sujith. S[5]

[4]Dept of Mech Engg, Gayathri Vidya Parishad.College of Engineering, Vishakhapatnam, Andhra Pradesh, India

[5]Dept of Mech Engg, A.T.M.E.C.E, Mysore, Karnataka, India

ABSTRACT: Polymer Matrix Composites (PMC) is gaining significant importance due to their unique feature of high to weight ratio, lower wear loss, better tensile strength etc. Behaviour of different fibre reinforced polymer composites are studied with respect to their composition and the applications are discussed. The Kevlar reinforced composite usually withstand impact and the fibers resists propagation of crack. Kevlar's exhibit good mechanical properties like tensile strength, stiffness, low weight and density. Impact and shock applied components are being produced using these materials. The experimental assessment studies the impact properties of Kevlar composites focussing on varying combinations. The addition of ceramic filler material such as nano Silicon Carbide and alumina would further improve its overall mechanical and wear characteristics. The purpose of the experiment is to understand the influence of nano Silicon Carbide and Alumina on woven Kevlar fabric. It provides an orientation to optimise the present day Kevlar materials and a platform to explore and investigate new combinations.

***Keywords*: Kevlar fiber, Epoxy resin, Nano fillers, Impact Strength, Fracture study**

1. Introduction

Polymer Matrix Composites (PMC) is being increasingly applied for engineering applications due to their versatile adaptability related to mechanical and tribological behaviors. Fibre reinforced polymers also known as polymer composite is a homogenous combination of a polymer oriented matrix coupled with reinforcements in the form of fibre. Carbon, Aramid, Glass etc are the few of widely used fibres [1]. Lots of such fibres are extremely investigated for their mechanical and aerospace applications [2]. Polymer Matrix Composites are increasing their presence in the domains automotive, marine, aerospace sectors. It's also gaining prominence in the domain of infrastructure and construction industries. Composites are getting wider acceptance to their strength and stiffness which enhances the matrix properties substantially. The purpose is to explore the variations and produce component which satisfies the design and manufacturing requirements [3,4]. Filler materials combined with fibres also enhances the intrinsic properties of fracture strength, fatigue, wear, creep, abrasion and stability due to thermal conditions [5]

Kevlar fibre in particular is getting a lot of prominence for its excellent mechanical properties. It exhibits better impact resistance when compared to glass and carbon fibres [6]. It is being increasingly used in sports and marine application in recent times for its ability to withstand impact loads and fracture reduction [7]. The investigation present study is to investigate the fracture properties of Kevlar based epoxy based laminate composite and the influence of Silicon Carbide filler to enhance the fracture strength of the laminate [8].

The materials are easy to fabricate using techniques such as hand lay-up and also advanced processing methods directed to vacuum bagging, resin transfer mechanism, injection molding and are incorporated on large scale. It is relatively cost effective and offers wider options to process different types of matrix, reinforcements and fillers to cater to various automotive and aerospace applications [3].

2. Experimental

2.1. Materials

Aramid based fibre specific to Kevlar 49 fabric is selected in the mat or the woven form was used as the reinforcement. The previous experimentation and studies indicate its stability and blending with epoxy resin. Hardener to resin ratio has been considered in 1:10 ratio. The specimens are prepared using hand layup technique under dry conditions. The curing was done at a required load of 4-5 MPa and was done at ambient condition of temperature for an entire day. Nano Silicon Carbide and Nano Alumina particle reinforcement the ratio 1:1 was incorporated into Kevlar Epoxy matrix and is as indicated table 2.1

Table 2.1: Details of the prepared test samples

Sample code	Matrix	Reinforcement	SiC-Al_2O_3 (1 :1) (wt%)
1	Epoxy	Kevlar fiber	0%
2	Epoxy	Kevlar fiber	1%
3	Epoxy	Kevlar fiber	2%
4	Epoxy	Kevlar fiber	3%

2.2. Fabrication procedure for preparing test specimens

Fibre reinforced polymer composites are produced by various manufacturing methods. Kevlar-Epoxy specimens used in our experimentation are obtained by a suitable production process i,e hand lay-up. Curing under controlled environment was successfully done. The specimens need to be protected from any corrosive conditions and are cleaned to remove any residual particles. Hand Lay-up process involves designing a mould to cure the final product to a thickness of up to 4mm in requirements of the ASTM specifically to ASTM D 638 standards. LY-556 is the epoxy resin and K6 is the hardener used based on the type of epoxy resin. It has low viscosity, good thermal stability and curable at room temperature. The curing is frequently monitored for its temperature and pressure conditions. To prevent the formation of voids the specimens are frequently rolled maintaining suitable pressure. Issues of porosity and impregnation are handled and ensured to result in specimen with uniform thickness and density which is desirable to achieve accuracy while testing

2.3: Impact testing procedure

The procedure for conducting the mechanical testing under the impact category is followed as per the ASTM D- 256 norms. The procedural standards require the specimen to have a notch. This is done in order to facilitate the accumulation of stress at that point. The specimens are loaded vertically. A pendulum hammer needs to be set at an angle which ensures the specimen is fractured in a single swing. The absorption of force before breakage is recorded and tabulated in terms of joules and the values of the combinations are made note. Subsequent trails are conducted to understand the effect of nano filler and its ability to improve the mechanical behavior.

3. Results and discussions:

The impact energy data of the Kevlar-Epoxy, Kevlar-Epoxy+1% filler, Kevlar-Epoxy+2% filler, Kevlar-Epoxy+3% filler composite is given in Table 3.1. The results indicate an increase in the impact energy based on the percentage enhancement of the hybrid nano filler. Kevlar-Epoxy+3% filler showed the best results for impact energy as indicated in the table. Closer investigation reveals the mode of failure to be a fibre pullout. The surface examination indicates a brittle fracture and the distribution of fillers are found to be uniform on the surface of crack. The matrix-fiber distribution has been compatible with no voids or internal cracks.

Table 3.1: Results from impact test for samples

Specimen Code	Specimens	Impact Energy (Joules)
1	K-E	50
2	K-E + 1% SiC-Al_2O_3	54
3	K-E + 2% SiC-Al_2O_3	61
4	K-E + 3% SiC-Al_2O_3	65

4. Conclusion:

The impact properties of Kevlar-Epoxy incorporated with hybrid nano fillers has been investigated. Based on the observation, the 3% SiC-Al_2O_3 based reinforced thermosetting composites displayed higher impact strength. The higher impact energy has established that impact energy showed improvement based on the addition of ceramic fillers. The hybridization has enhanced mechanical properties and wears characteristics. Based on the requirement of the particular components, the obtained inferences can be incorporated in industries for manufacturing and applying components under the specified conditions of environment. Further studies can be used to improvise the applications of these materials.

5. References:

[1] Martin Alberto Masuelli, Introduction of Fibre-Reinforced Polymers – Polymers and Composites: Concepts, Properties and Processes- intech 2013

[2] Hinton M.J., Soden P.D., Kaddour A.S. Failure Criteria in Fibre-Reinforced-Polymer Composites: The World-Wide Failure Exercise. Elsevier 2004.

[3] M.Jassal, S. Ghosh. "Aramid Fibres an overview" Indian Journal of Fibre and Textile Research, Vol 27, pp 206-330, 2002

[4] E. G. CHATZI and J. L. KOENIG. "Morphology And Structure Of Kevlar Fibers: A Review" Polym.-plast. Technol. Eng., 26(3 & 41, 229270 (1987)

[5] Tong L., Mouritz A.P., Bannister M. 3D Fibre Reinforced Polymer Composites. Elsevier 2002.

[6] Roylance, D., Introduction to Composite Materials'. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA 02139, 2000.

[7] Elias Randjbaran, Rizal Zahari, Nawal Aswan Abdul Jalil, "Hybrid Composite Laminates Reinforced with Kevlar/Carbon/Glass Woven Fabrics for Ballistic Impact Testing". e Scientific World Journal Volume 2014

[8] Jeremy Gustin, Aaran Joneson, James Stone, "Low Velocity Impact Of Combination Kevlar/Carbon Fiber Sandwich Composites", Department of Mechanical Engineering and Applied Mechanics, North Dakota State University , Fargo, ND 58105, 2013

ATME College of Engineering

INTERNATIONAL CONFERENCE
on Recent Trends in Science & Technology

Date: 17th & 18th June 2020

(ICRTST - 2020)

ICRTST 2020

CERTIFICATE

This is to certify that Mr. Mrs./Ms./Dr./Prof Devaraj MR, ATMECE, Mysuru.

has presented paper entitled Influence of reinforcement materials on Mechanical, Metallurgical and tribological Behavior of Aluminum composite - Review

in the "INTERNATIONAL CONFERENCE on Recent Trends in Science & Technology (ICRTST - 2020)"

organized by ATME College of Engineering, Mysuru held on 17th and 18th June 2020

Dr. Parthasarathy I.
Organizing Chair, ICRTST-2020
Professor & Head
Dept. of EEE, ATMECE, Mysuru

Dr. Basavaraj L
Principal
ATMECE, Mysuru

icrtteas DRTTIT <icrtteas@drttit.edu.in> Sat, Jul 18, 2020, 7:16 AM

to me

Dear Researchers

Greetings for the Day!!!

We are happy to inform you that, your paper can be considered for the publication of SCOPUS indexed "Advances in Mathematics Scientific Journal"/ "TEST- Engineering and Management Journal" with following consideration and checklist. A detailed plagiarism report of your submission is attached below. Please follow the instructions towards conformation of publication and participation in our 2nd ICRTTEAS 2020 (Virtual) Conference on July 24th and July 25th 2020.

Checklist

1. The Plagiarism report should be less than 20% the time of payment of registration Fee
2. The Submission should be limited to 6 pages only. In IEEE Format whose template is attached below. (An extra 1000/- INR shallbe charged per page beyond 6th page (i.e. from 7th page onwards)
3. The revised manuscript should be strictly prepared following the given paper template
4. A registration Fee of 8500/- INR should be paid to below mentioned account

Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

IDBI BANK LTD. Rangapet Branch

INTERNATIONAL RESEARCH JOURNAL OF ENGINEERING AND TECHNOLOGY (IRJET) E-ISSN: 2395-0056
VOLUME: 07, SPECIAL ISSUE | JUNE 2020 WWW.IRJET.NET P-ISSN: 2395-0072
International Conference on Recent Trends in Science & Technology-2020 (ICRTST - 2020)
Organised by: ATME College of Engineering, Mysuru, INDIA

Mechanical Characterization of Aluminum-TiB_2 Metal Matrix Composites by In-Situ Method

Dr. Manjunatha H.S[1], Dr. G.Mallesh[2], Pradeepkumar V.G[3]

*[1]*Assistant Professor, Department of Mechanical Engineering, ATME CE*
*[2]*Professor, Department of Mechanical Engineering, SJCE, Mysore.*
*[3]*Assistant Professor, Department of Mechanical Engineering, SJCE,*

ABSTRACT: In the current day engineering design and development activates many Scientists, Researchers and Engineers are striving hard to develop new and better engineering materials, which accomplish high strength, low weight and energy efficient materials since the problems of environment and energy are major threshold areas. The development of new materials is growing day by day to replace the conventional materials in aerospace, marine engineering, automobile engineering industries etc., hence, composite materials are found to be an alternative.

In this paper attempts are made to develop Al 6061-Mg-TiB_2 composite materials for light weight applications using In-situ salt reaction stir casting process by varying the weight percentage of TiB_2 (0,3,6,9 and 12 wt %).Microstructure and Mechanical characterization was carried out as per ASTM Standard which includes SEM, XRD analysis, micro hardness, tensile strength and ductility tests. It was noticed that the composites developed exhibit greater properties when compared with matrix alloy.

Keywords*: Al6061, TiB_2, Halide salts, Microstructure and Mechanical properties.*

1. INTRODUCTION

Composite materials are the mixture of two or more materials which are different in its form and chemical composition. These materials are widely used in many engineering applications generally composites are classified based on the matrix and reinforcement [1, 2, 3]. Aluminum based metal matrix composites have good specific modulus, strength, wear and fatigue characteristics so that these composites play very significant role in the field automobile, aerospace, chemical and transportation industries [4, 5, 6].Aluminum 6061 is the mainly used 6xxx series which offering good mechanical, corrosion resistance, and workability [7, 8, 9].

Among various reinforcements titanium diboride is an exceptional ceramic material due to its high strength, hardness, superior wear resistance and good thermal stability and more prominently it does not react with molten aluminum [10, 11, 12]. The aluminum 6061 embedded with different ceramic particles can be synthesized using various manufacturing methods like stir casting, in situation stir casting process, powder metallurgy, squeeze casting etc.,[14,15,16]. In situation stir casting process has been found to be one of the most essential techniques in the fabrication of aluminum reinforced with TiB_2 due to the fact that this process is thermodynamically stable, uniform distribution of reinforcement in the matrix and economical. [17, 18, 19]. Composites are synthesized using an exothermic reaction route with addition of inorganic salts like K_2TiF_6 and KBF_4 [21, 22].

2. EXPERIMENTAL PROCEDURE

Al 6061 alloy reinforced with TiB_2 by varying different wt fractions are used to prepare composite material to study the mechanical characteristics of the composite materials developed using In-situ technique.
In this process, the reinforcement phase is formed in situation, by adding halide salts to form required combination of composites.

Table.1 Chemical Composition of Al 6061 alloy

Element	Mg	Fe	Si	Cu	Mn	V	Ti	Al
Weight %	1.08	0.17	0.63	0.32	0.52	0.01	0.02	Balance

Al 6061 rods were weighed and placed in a coated graphite crucible and heated using an electrical furnace up to 850°C. The chemical composition of Al 6061 aluminum alloy is presented in Table 1. A coating was applied inside the crucible to avoid contamination. The temperature of the molten aluminum was maintained at 850^{0}C. The measured quantities of

INTERNATIONAL RESEARCH JOURNAL OF ENGINEERING AND TECHNOLOGY (IRJET) E-ISSN: 2395-0056
VOLUME: 07, SPECIAL ISSUE | JUNE 2020 WWW.IRJET.NET P-ISSN: 2395-0072
International Conference on Recent Trends in Science & Technology-2020 (ICRTST - 2020)
Organised by: ATME College of Engineering, Mysuru, INDIA

Design and Development of Air Blast Shot Peening Machine to Study the Effect of Shot Peening Process on Microstructure and Residual Stress in Al-2024 Aluminum Alloy

[1]Suresh Kumar. S, [2]Dr. G. Mallesh

[1]Associate Professor, Department of Mechanical Engineering ATME College of Engineering- Mysuru, India
[2]Professor Department of Mechanical Engineering, SJCE, Mysuru, India

---

Abstract: Shot peening is a cold working process used to produce a compressive residual stress layer and modify the mechanical properties which enhances the surface hardness, roughness, residual stress and fatigue life of the components by striking a surface with shot to create plastic deformation. Shot peening can be done using air blast systems and centrifugal blast wheels. In the air blast systems, shots are made to strike on a peened surface with high pressure air and accelerated through a nozzle and in the centrifugal blast wheel shots are introduced through rotating wheel by the centrifugal force. Selection of the peening process depends on the type of material and size of the components. In this paper attempts are made to design and develop air blast shot peening machine to study the effect of peening on Al-2024 aluminium alloy. It is evident from the results that use of peening process enhances hardness, surface roughness and residual stress in the material.

Keywords- *Air Blast Shot Peening Machine, Al-2024 aluminium alloy, Residual stress*

I. INTRODUCTION

Al2024 aluminium alloys are extensively used in vehicle and aerospace industries because of low weight and high strengths. Al alloys have good mechanical properties, corrosion resistance and good fatigue life. Due to this many researchers select Al alloys to enhance its properties by various surface treatment techniques.

Surface remedy procedure gaining interest as it modifies micro structure due to plastic deformation and stress hardening which alters mechanical properties [1]. Mechanical components fail due to repetitive loading which induces surface crack. Shot peening is surface treatment process used to enhance mechanical properties by inducing compressive residual stresses. Shots are made to strike on metal surface and plastic deformation takes place. Surface modification and fine crystallization makes material with high hardness, corrosion resistance, fatigue strength and wear resistance [2]. Induction type shot peening machine was used to carryout shot peening process with spherical conditioned cut wires(SCCW14),standoff distance 9cm,and time duration of 40s.To cover 100% peening specimen was rotated continuously. Surface roughness increased with increase in almen intensity also for 0.3mmA higher roughness value 3.42Ais achieved. As almen intensity was increased Micro harness and Residual stress profiles are increased. Fatigue performance was increased for 0.1mmA almen intensity but no further improvement for 0.3mmA because of high surface roughness and micro cracks over peening induces micro cracks which reduce the fatigue life [3].

Effect of peening parameters such as nozzle angle and peening distance on Al2024-T3 alloy used for ship building application. Wrong selection of process parameters leads to over peening and it decreases the mechanical properties. For different thickness specimens different parameters are to be selected and experiment method is best method for proper selection of process parameters [4]. Wheel blast shot peening machine with following parameters shots average speed 40m/s, low carbon steel shots of diameter 1.2mm and 20minute time period [5].

Fatigue behavior of magnesium, titanium and Al2024 alloys after shot peening process was carried through Injector system type shot peening with steel shots of 0.36mm (SCCW14), 080mm (S330) and glass beads with average size 0.65mm. Compressive residual stress leads to lower crack growth rate [6].

In the present work air blast shot peening machine was designed and fabricated. It's working principle and operation is explained. Shot peening was carried out with various time period on Al2024 aluminium alloy to know effect of peening on various properties such as residual stresses, hardness, roughness and microstructure.

II. WORKING OF AIR BLAST SHOT PEENING MACHINE

Air blast shot peening Fig. 1works on the principle of venture sucking shots from a hopper. Nozzle Fig. 2contains two ports on vertical port high pressure air is passed and inclined port carries shots due to negative pressure. Air is passed

yathisha n assistant professor <biregowda7@gmail.com>

ICRTST -2020 Intimation of acceptance

1 message

Dr Bhagyashree S R <icrtst2020@gmail.com> Tue, Mar 3, 2020 at 3:08 PM
To: biregowda7@gmail.com

Dear Author,

Greetings….

Thank you for submitting your article to ICRTST 2020.

The article has been reviewed by our reviewers and comments have been received regarding the article. We have enclosed the comments and the plagiarism report for your kind perusal. You are requested to consider the comments and make the necessary revision in the article. The acceptable limit of similarity index for publication in Scopus indexed journal is 20%.

Paper_ID	Title of the paper	Reviewer Comments	Final Decision and Remarks
268	Design and Fabrication of Digital Mileage Measuring Device for Vehicle	To Authors: Please look in to below mentioned points. * Litrerature survey information of respective journal is not mentioned in any section, this may be included. * Modelling of the secondary tank using Solid Edge shown in Fig.1 is showed as main tank in Fig.2 * In Table 1 author not metiond which trial is variation of speed and constant speed. * Conclusion says 'a model of digital mileage measuring	Revision Required

A study of physical, mechanical and tribological properties of a biomaterial using magnesium alloy

AIP Conference Proceedings **2274**, 030013 (2020); https://doi.org/10.1063/5.0027004

K. Srinivasa[a], S. Chethan[b], N. Yathisha[c], *and* M. S. Arjun[d]

View Affiliations

ICNTET-2018-1054

Certificate

Interntional Conference on New Trends in Engineering & Technology

This is to certify that Dr. /Mr. /Mrs. /Miss **Puttegowda D** *has presented a paper entitled:*

A Video Mining Framework for Event Classification using Semantic Vocabulary Learning *in International Conference on New Trends in Engineering & Technology (ICNTET) - 2018, with Catalog "CFP18P34-PRT: 978-1-5386-5629-7" organized by GRT Institute of Engineering & Technology, Tiruttani, Chennai, Tamil Nadu, India during 7th & 8th September 2018.*

Supported by IEEE Advancing Technology for Humanity

Supported by IEEE Madras Section

Dr. Siva Ganesh Malla
Director, CPGC

Dr. S. Arumugam
Principal, Conference Chair

Dr. Syed Arifullah
GHHR & MR

International Conference on

Innovations in Engineering, Technology & Sciences (ICIETS) - 2018

Certificate

This is to certify that Dr. /Mr. /Mrs. /Miss **Impana Appaji** *has published a paper entitled:* **Optimal traffic light control using Wireless Sensor Networks** *in International Conference on Innovations in Engineering, Technology & Sciences (ICIETS) - 2018, with Catalog "CFP18C63-PRT: 978-1-5386-7321-8", organized by NIE Institute of Technology, Hootagalli Industrial Area, Mysore, Karnataka, India, during 20th & 21st September 2018.*

Supported by IEEE Advancing Technology for Humanity

Supported by IEEE Bangalore Section

Dr. Siva Ganesh Malla
Director, CPGC

Prof. T Ananthapadmanabha
Conference Chair, Principal

Dayananda Sagar Institution®

DAYANANDA SAGAR ACADEMY OF TECHNOLOGY & MANAGEMENT

(Affiliated to VTU Belgaum & Approved by AICTE New Delhi)

[illegible] Accredited by NBA New Delhi (Validity: 26-07-2018 to 30-06-2021)

[illegible] main road, Bangalore-560 082

FIRST INTERNATIONAL CONFERENCE

ON

ADVANCED TECHNOLOGIES IN INTELLIGENT CONTROL, ENVIRONMENT, COMPUTING & COMMUNICATION ENGINEERING (ICATIECE-2019)

On 19th & 20th March, 2019

IEEE

Certificate

IEEE

This is to certify that Mr./Ms./Mrs. SHRUTHI P of DEPT. OF CSE, ATME COLLEGE OF ENGINEERING, MYSURU has presented a paper titled "WINE QUALITY PREDICTION USING DATA MINING" in the "First International Conference on Advanced Technologies in Intelligent Control, Environment, Computing & Communication Engineering" ICATIECE-2019, held on 19th & 20th March 2019 at Dayananda Sagar Academy of Technology & Management, Bangalore-82.

Mr. Keshav Bapat	Dr. K A Sumitra Devi	Dr. B R Lakshmikantha
Chair IEEE Bangalore Section	Steering Committee Chair	General Chair
Bangalore	Dean Academics	Principal

SmartCom 2019

Third International Conference on

Smart Trends for Computing & Communications

Certificate

This is to certify that

Seemanthini K, Dr. Manjunath S.S, Shrinivasa G, Kiran B and Sowmyashree P

has contributed a paper titled

Video Synchronization and Alignment using Motion Detection and Contour Filtering.

Third International Conference on Smart Trends for Computing and Communications (SmartCom 2019) held during January 24-25, 2019 at Hotel Novotel, Siam Square, Bangkok, THAILAND.

The paper has also been selected for publication in the (SmartCom) conference proceedings as per the guidelines issued by Springer.

We wish the authors all the very best for future endeavors.

Nileshsingh Thakur
Editor
SmartCom 2019

Milan Tuba
Supporting Chair
SmartCom 2019

Mihir Chauhan
Conference Secretary
SmartCom 2019

GR NITA VIT ifip Springer

SmartCom 2019

Third International Conference on

Smart Trends for Computing & Communications

Certificate

This is to certify that

Dr Manjunath S.S, Seemanthini K, Shrinivasa G and Kiran B.

has contributed a paper titled

A Cognitive Semantic Based Approach for Human Event Detection in Videos.

Third International Conference on Smart Trends for Computing and Communications (SmartCom 2019) held during January 24-25, 2019 at Hotel Novotel, Siam Square, Bangkok, THAILAND.

The paper has also been selected for publication in the (SmartCom) conference proceedings as per the guidelines issued by Springer.

We wish the authors all the very best for future endeavors.

Nileshsingh Thakur
Editor
SmartCom 2019

Mitan Tuba
Supporting Chair
SmartCom 2019

Mihir Chauhan
Conference Secretary
SmartCom 2019

GR FOUNDATION · NIET · ifip · Springer

ISSN : 2456-3307

website : www.ijsrcseit.com

International Journal of Scientific Research in Computer Science, Engineering and Information Technology

Scientific Journal Impact Factor = 4.032

Ref : IJSRCSEIT/Certificate/Volume 4/Issue 6/3443

08-May-2018

CERTIFICATE OF PUBLICATION

This is to certify that **Mr.Sathish.K.R** has published a research paper entitled 'Single Phase Solar Inverter with Smart Charge Control ' in the International Journal of Scientific Research in Computer Science, Engineering and Information Technology (IJSRCSEIT), Volume 4, Issue 6, May-June 2018.

This Paper can be downloaded from the following IJSRCSEIT website link

http://ijsrcseit.com/CSEIT1846189

IJSRCSEIT Team wishes all the best for bright future

Editor in Chief
International Journal of Scientific Research in Computer Science, Engineering and Information Technology

UGC Approved Journal [Journal No : 64718]

Springer Link

Vehicle Speed Warning System and Wildlife Detection Systems to Avoid Wildlife-Vehicle Collisions

Emerging Research in Electronics, Computer Science and Technology pp 961-968 | Cite as

- S. R. Bhagyashree (1) Email author (bhagyashreeraghavan@gmail.com)
- T. Sonal Singh (1)
- J. Kiran (1)
- Likhitha S. Padmini (1)

1. Department of ECE, ATME College of Engineering, , Mysuru, India

Conference paper
First Online: 24 April 2019

Part of the Lecture Notes in Electrical Engineering book series (LNEE, volume 545)

Abstract

One serious problem that all the developing nations are facing today is injuries and death of animals due to road accidents. Report says that, there are around 300,000 collisions per year. However, many of the databases exclude accidents that have vehicle damage less than $1,000 (https://apiar.org.au/wpcontent/uploads/2017/07/23_APJCECT_ICT-268-281.Pdf (https://apiar.org.au/wpcontent/uploads/2017/07/23_APJCECT_ICT-268-281.Pdf), [1]). Accidents lead to the reduction in wildlife. Eventually, this may lead to reduction and endangered of rare species. A system has to be designed to overcome this problem. In this paper, the problem is addressed by focusing on designing an IoT-based system which will perform two functions one is alerting the driver whenever an animal is nearer to the vehicle and the second one is alerting the driver whenever he exceeds the speed limit, especially in the forest region.

Keywords

Injuries Accidents IoT-based system

Notes

Design and novel approach for ternary and quaternary logic circuits

Publisher: IEEE

R.N. Uma Mahesh ; J. Sudeep All Authors

Abstract: At beginning era of digital design, the binary logic is used in all industrial applications. The binary logic uses 2 states i.e. 0's and 1's to represent each state. Sinc... **View more**

Metadata

Abstract:

At beginning era of digital design, the binary logic is used in all industrial applications. The binary logic uses 2 states i.e. 0's and 1's to represent each state. Since the binary logic uses 2 states, it requires more number of bits to represent a number. For example, the number 25 is represented in $(11001)_2$ this format. So this number 25 requires 5 bits to represent it. And also occupies more area and more power is required in designing the circuit. Therefore ternary logic is introduced. Here the ternary logic uses less number of bits to represent a number compare to binary logic. It also reduces the area and also the power of the circuit. The ternary logic uses 3 states i.e. 0,1,2 where logic 0 is considered as low state and logic 1 is considered as middle state and logic 2 is considered as high state. The same number 25 to represent in ternary logic requires 3 bits. i.e. It is represented as $(221)_3$ in ternary logic. The further enhancement of ternary logic is quaternary logic. The quaternary logic uses 4 states i.e. 0,1,2,3 states. The quaternary logic further reduces number of bits and also enhances the power compare to binary and ternary logic. The number (25) in quaternary logic is represented as $(121)_4$ in this format.

Published in: 2017 2nd International Conference for Convergence in Technology (I2CT)

Certificate

International Conference on New Trends in Engineering & Technology (ICNTET)

This is to certify that Dr./Mr./Mrs./Miss **Guruprasad K N** *has Participated in International Conference on New Trends in Engineering & Technology (ICNTET) - 2018, with Catalog "CFP18P34-PRT: 978-1-5386-5629-7", Organized by GRT Institute of Engineering & Technology, Tiruttani, Chennai, Tamil Nadu, India during 7th & 8th September 2018.*

Supported by IEEE Advancing Technology for Humanity

Supported by IEEE Madras Section

Dr. Siva Ganesh Malla
Director, CPGC

Dr. S. Arumugam
Principal, Conference Chair

Dr. Syed Arifullah
GHHR & MR

ICNTET-2018-0988

Certificate

Interntional Conference on New Trends in Engineering & Technology

This is to certify that Dr. /Mr. /Mrs. /Miss **Guruprasad K N** *has presented a paper entitled:* **Design and Implementation of an Arduino based Dual Axis Autonomous Solar Tracker** *in International Conference on New Trends in Engineering & Technology (ICNTET) - 2018, with Catalog "CFP18P34-PRT: 978-1-5386-5629-7" organized by GRT Institute of Engineering & Technology, Tiruttani, Chennai, Tamil Nadu, India during 7th & 8th September 2018.*

Supported by IEEE Advancing Technology for Humanity

Supported by IEEE Madras Section

Dr. Siva Ganesh Malla
Director, CPGC

Dr. S. Arumugam
Principal, Conference Chair

Dr. Syed Arifullah
GHHR & MR

ICNTET-2018-0988

International Conference on New Trends in Engineering & Technology (ICNTET) - 2018

Certificate

This is to certify that Dr./Mr./Mrs./Miss **Guruprasad K N** *has published a paper entitled:* **Design and Implementation of an Arduino based Dual Axis Autonomous Solar Tracker** *in International Conference on New Trends in Engineering & Technology (ICNTET) - 2018 with Catalog "CFP18P34-PRT: 978-1-5386-5629-7", Organized by GRT Institute of Engineering & Technology, Tiruttani, Chennai, Tamil Nadu, India during 7th & 8th September 2018.*

Supported by IEEE Advancing Technology for Humanity

Supported by IEEE Madras Section

Dr. Siva Ganesh Malla
Director, CPGC

Dr. S. Arumugam
Principal, Conference Chair

Dr. Syed Arifullah
GHHR & MR

Image De-Noising Algorithm based on Filtering and Histogram Equalization

Publisher: IEEE

Anupama Shetter ; S N Prajwalasimha ; Swapna Havalgi All Authors

Abstract: In this paper, a collective median filtering and histogram equalization based de-noising technique is proposed for images. Initial noise detection is performed by conside... **View more**

Metadata

Abstract:
In this paper, a collective median filtering and histogram equalization based de-noising technique is proposed for images. Initial noise detection is performed by considering neighboring pixel values then median filtering is performed to remove high density noise. The filtered image is then subjected for histogram equalization to regain correlation between adjacent pixels. The final image enhancement is done by contrast adjustment method. The experimental results show that the proposed algorithm provides high quality restored images compared to existing ones.

Published in: 2018 2nd International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC)I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC), 2018 2nd International Conference on

Date of Conference: 30-31 Aug. 2018

INSPEC Accession Number: 18493237

Date Added to IEEE *Xplore*: 28 February 2019

DOI: 10.1109/I-SMAC.2018.8653714

ISBN Information:

Publisher: IEEE

ICNTET-2018-

GRT

International Conference on New Trends in Engineering & Technology (ICNTET) - 2018

CPGC

Certificate

This is to certify that Dr./Mr./Mrs./Miss DARSHINI M B has published a paper entitled: DESIGN & ANALYSIS OF TWO STAGE OPERATIONAL AMPLIFIER USING CADENCE 90nm 45nm TECHNOLOGY in International Conference on New Trends in Engineering & Technology (ICNTET) - 2018 with Catalog "CFP18P34-PRT: 978-1-5386-5629-7", Organized by GRT Institute of Engineering & Technology, Tiruttani, Chennai, Tamil Nadu, India during 7th & 8th September 2018.

Supported by IEEE Advancing Technology for Humanity

Supported by IEEE Madras Section

Dr. Siva Ganesh Malla
Director, CPGC

Dr. S. Arumugam
Principal, Conference Chair

Dr. Syed Arifullah
GHHR & MR

Certificate

International Conference on New Trends in Engineering & Technology (ICNTET)

This is to certify that Dr./Mr./Mrs./Miss DARSHINI M B *has Participated in International Conference on New Trends in Engineering & Technology (ICNTET) - 2018, with Catalog "CFP18P34-PRT: 978-1-5386-5629-7", Organized by GRT Institute of Engineering & Technology, Tiruttani, Chennai, Tamil Nadu, India during 7th & 8th September 2018.*

Supported by IEEE Advancing Technology for Humanity

Supported by IEEE Madras Section

Dr. Siva Ganesh Malla, Director, CPGC

Dr. S. Arumugam, Principal, Conference Chair

Dr. Syed Arifullah, GHNR & MR

Document details - Digital Image Watermarking based on Successive Division

Proceedings of the 3rd International Conference on Communication and Electronics Systems, ICCES 2018

October 2018, Article number 8723985, Pages 31-35

3rd IEEE International Conference on Communication and Electronics Systems, ICCES 2018; Coimbatore; India; 15 October 2018 through 16 October 2018; Category numberCFP18AWO-ART; Code 148501

Digital Image Watermarking based on Successive Division(Conference Paper)

Prajwalasimha, S.N., Pavithra, A.C.

Dept. of Electronics Communication, ATME College of Engineering, India

Abstract

In this paper, successive division and concatenation based image watermarking scheme has been proposed. Successive division reduces the pixel intensity of watermark image in order to embed the same into host. Concatenation helps in embedding multiple images of watermark into host. After de-watermarking process, the multiple images of same watermark are filtered and unified to get the desired watermark. The watermarked images are subjected for various security attacks such as noise interference and cropping effects. The retrieved watermark gives high degree of similarity to the original watermark. From the security analysis, better results are obtained for the proposed algorithm compared to other existing techniques. © 2018 IEEE.

SciVal Topic Prominence

Topic: Image Watermarking | Copyright Protection | Discrete Cosine Transforms

Prominence percentile: 97.599

Author keywords

Concatination | Cropping effect | Noise | Pixel Intensity | Security tests | Successive Division

Indexed keywords

Engineering controlled terms: Pixels | Watermarking

Engineering uncontrolled terms: Concatination | Cropping effect | Noise | Pixel intensities | Security tests | Successive Division

Engineering main heading: Image watermarking

ISBN: 978-153864765-3
Source Type: Conference Proceeding
Original language: English
DOI: 10.1109/CESYS.2018.8723985
Document Type: Conference Paper
Publisher: Institute of Electrical and Electronics Engineers Inc.

Multimedia data encryption based on discrete dyadic transformation

Publisher: IEEE

S N Prajwalasimha ; Usha Surendra All Authors

Abstract: In this paper, confusion and diffusion based private key encryption algorithm is proposed. In the multimedia data neighboring pixels are strongly correlated with each oth... **View more**

Metadata

Abstract:
In this paper, confusion and diffusion based private key encryption algorithm is proposed. In the multimedia data neighboring pixels are strongly correlated with each other. The proposed encryption algorithm is the combination of both confusion and diffusion techniques. In the confusion algorithm, discrete dyadic transformation is used to shuffle the pixel positions and in the diffusion algorithm, modified Gingerbreadman sequence generator is used to alter the value of each pixel. The key length used is 128 bits. Each digit in the secret key is subjected for initial permutation and used along with diffusion algorithm for the key sequence generation.

Published in: 2017 International Conference on Signal Processing and Communication (ICSPC)

Date of Conference: 28-29 July 2017

INSPEC Accession Number: 17615423

Date Added to IEEE *Xplore*: 05 March 2018

DOI: 10.1109/CSPC.2017.8305898

ISBN Information:

Publisher: IEEE

Document details - Digital Image Watermarking Based on Sine Transformation with Constant Co-Efficient

Proceedings of the International Conference on Inventive Research in Computing Applications, ICIRCA 2018

31 December 2018, Article number 8597431, Pages 21-24

2018 International Conference on Inventive Research in Computing Applications, ICIRCA 2018; Coimbatore; India; 11 July 2018 through 12 July 2018; Category numberCFP18N67-ART; Code 144196

Digital Image Watermarking Based on Sine Transformation with Constant Co-Efficient(Conference Paper)

Prajwalasimha, S.N., Swapna, H., Shetter, A.

Dept. of Electronics and Communication, ATME College of Engineering, India

Abstract

In this paper, digital image watermarking technique using sine transformation with a constant co-efficient has been introduced in the frequency domain. During transmission, any noise or unwanted data accumulates with the least significant bit (LSB) of the original information. In the existing techniques, the secrete image will be compressed and added with the host, which forms invisible watermark. But the compressed data of the secrete image will be added to the LSB, which then altered by the unwanted information. In the proposed algorithm, the secrete image is first compressed using sine transformation with a constant co-efficient and then embedded into the host image with last but one bit from LSB. The resultant images obtained from the proposed algorithm are subjected for various security tests and the results are compared with the other existing algorithms. The results obtained are better compared to the existing techniques. © 2018 IEEE.

SciVal Topic Prominence

Topic: Image Watermarking | Copyright Protection | Discrete Cosine Transforms

Prominence percentile: 97.599

Author keywords

Digital Image Watermarking | Frequency Domain | Noise | Security tests | Sine Transformation

Indexed keywords

Engineering controlled terms: Frequency domain analysis | Image compression | Watermarking

Engineering uncontrolled terms: Digital image watermarking | Frequency domains | Noise | Security tests | Sine transformation

Engineering main heading: Image watermarking

ISBN: 978-153862456-2
Source Type: Conference Proceeding
Original language: English
DOI: 10.1109/ICIRCA.2018.8597431
Document Type: Conference Paper
Publisher: Institute of Electrical and Electronics Engineers Inc.

Digital Image Watermarking using Tenth Root of Exponential Function

Publisher: IEEE

S N Prajwalasimha ; Anupama Shetter ; H Swapna All Authors

Abstract: In this paper, digital image watermarking using tenth root of exponential transformation has been introduced in the frequency domain. In the proposed technique, the secre... **View more**

Metadata

Abstract:
In this paper, digital image watermarking using tenth root of exponential transformation has been introduced in the frequency domain. In the proposed technique, the secrete image is first encrypted and compressed using exponential function and then embedded into the host image. The resultant images obtained from the proposed algorithm is subjected for various security attacks and the results are compared with the other existing algorithms. The results obtained are better compared to the existing techniques.

Published in: 2018 3rd IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT)

Date of Conference: 18-19 May 2018

INSPEC Accession Number: 19411085

Date Added to IEEE *Xplore*: 27 February 2020

DOI: 10.1109/RTEICT42901.2018.9012616

ISBN Information:

Publisher: IEEE

Double Stegging Design To Hide Message In Video Using AES And DWT Methods

Publisher: IEEE

M Girish ; K Manjunath ; F Juslin ; N Harshitha All Authors

Abstract: Steganography is an art of hiding the secret data or information inside the digitally covered information. Nowadays security aspects play a vital role in every system. Ha... **View more**

Metadata

Abstract:
Steganography is an art of hiding the secret data or information inside the digitally covered information. Nowadays security aspects play a vital role in every system. Hacking is being developed in such a way that any style of encryption could be break, henceforth here there is an efficient approach to encrypt the plaintext or information within the video frames using dual stegging way of embedding into the carrier messages. The proposed work is carried out through Advanced AES and DWT techniques to hide desired message in video with advanced encryption and it is simulated using MATLAB.

Published in: 2018 3rd IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT)

Date of Conference: 18-19 May 2018

INSPEC Accession Number: 19411003

Date Added to IEEE *Xplore*: 27 February 2020

DOI: 10.1109/RTEICT42901.2018.9012254

Publisher: IEEE

An Analytical Approach for Three-Valued Multiplexer and Demultiplexers

Publisher: IEEE

R.N. Uma Mahesh All Authors

Abstract: The next level of the Digital Design after the binary logic is ternary logic. The 3-valued logic comprises of 3 states i.e. 0, 1, 2 states. The 3- Valued logic uses less ... **View more**

Metadata

Abstract:
The next level of the Digital Design after the binary logic is ternary logic. The 3-valued logic comprises of 3 states i.e. 0, 1, 2 states. The 3- Valued logic uses less number of bits to represent the number compare to 2-valued logic. Here the Ternary multiplexers & Demultiplexers are designed which plays a major role in design of Ternary Combinational Circuits. In General, the Selection line is used for selection of inputs and outputs in Multiplexer and Demultiplexer. The Ternary Multiplexer Plays an important role in selection of Switches and also contributes a major part in designing of filters. i.e. Ternary IIR Filter Design and Ternary FIR Filter Design.

Published in: 2018 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS)

Date of Conference: 22-23 Feb. 2018

INSPEC Accession Number: 18245432

Date Added to IEEE *Xplore*: 05 November 2018

DOI: 10.1109/ICPECTS.2018.8521600

ISBN Information:

Publisher: IEEE

Image De-Noising Algorithm based on Filtering and Histogram Equalization

Publisher: IEEE

Anupama Shetter ; S N Prajwalasimha ; Swapna Havalgi All Authors

Abstract: In this paper, a collective median filtering and histogram equalization based de-noising technique is proposed for images. Initial noise detection is performed by conside... **View more**

Metadata

Abstract:
In this paper, a collective median filtering and histogram equalization based de-noising technique is proposed for images. Initial noise detection is performed by considering neighboring pixel values then median filtering is performed to remove high density noise. The filtered image is then subjected for histogram equalization to regain correlation between adjacent pixels. The final image enhancement is done by contrast adjustment method. The experimental results show that the proposed algorithm provides high quality restored images compared to existing ones.

Published in: 2018 2nd International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC)I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC), 2018 2nd International Conference on

Date of Conference: 30-31 Aug. 2018

INSPEC Accession Number: 18493237

Date Added to IEEE *Xplore*: 28 February 2019

DOI: 10.1109/I-SMAC.2018.8653714

ISBN Information:

Publisher: IEEE

Digital Image Watermarking based onSine Hyperbolic Transformation

Publisher: IEEE

Prajwalasimha S.N. ; Mohan C.S. ; Chethan Suputhra S. All Authors

Abstract: In this paper, Sine Hyperbolic transformation based image watermarking scheme has been proposed. Multiple watermark images are considered for embedding process. Watermark... **View more**

Metadata

Abstract:
In this paper, Sine Hyperbolic transformation based image watermarking scheme has been proposed. Multiple watermark images are considered for embedding process. Watermarked image is more vulnerable to security attacks such as noise interference, geometrical attacks and LSB neutralization attack. In the proposed algorithm, watermarks are embedded into host at various positions. The recovered watermarks are compared among themselves with respect to each pixels to get resultant watermark. Due to this, any modifications in pixel values of watermark image will be retrieved from other similar watermarks after de-watermarking process and hence provides better results against security attacks.From the security analysis, better results are obtained for the proposed algorithm compared to other existing techniques. The algorithm utilizes less execution time compared to other existing methods.

Published in: 2019 IEEE International Conference on Electrical, Computer and Communication Technologies (ICECCT)

Date of Conference: 20-22 Feb. 2019 **INSPEC Accession Number:** 19065401

Geetha Shishu Shikshana Sangha (R)

GSSS Institute of Engineering and Technology for Women

(Affiliated to VTU, Belagavi, Approved by AICTE, New Delhi & Govt. of Karnataka)

KRS ROAD | MYSURU-570 016 | KARNATAKA

3rd National Conference on Electronics, Signals and Communication

NCESC-2018

Jointly Organized by

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

(Accredited by NBA, New Delhi. Validity: 01.07.2017 to 30.06.2020)

&

DEPARTMENT OF TELECOMMUNICATION ENGINEERING

(Accredited by NBA, New Delhi. Validity: 01.07.2017 to 30.06.2020)

IEEE Bangalore Section

IJERT ISSN : 2278-0181 www.ijert.org

Participation Certificate

This is to certify that Prof. PAVITHRA.A.C

has participated/ presented a paper entitled Obstacle Avoidance Robot using ARDUINO

in the Third National Conference on Electronics, Signals and Communication (NCESC-2018) conducted in association with IEEE Bangalore Section and International Journal of Engineering Research and Technology (IJERT) on 17th May 2018.

Dr. Parameshachari B D
Organizing Chair, NCESC-2018
Professor & Head, Dept. of TCE

Dr. Sathyanarayana M V
Organizing Chair,NCESC-2018
Professor & Head, Dept. of ECE

Dr. Shivakumar M
General Chair, NCESC-2018
Principal, GSSSIETW

AIP Conference Proceedings

No Access • Published Online: 11 January 2019

Influence of patches on stress concentration of polymer composites

AIP Conference Proceedings 2057, 020004 (2019); https://doi.org/10.1063/1.5085375

N. Yathisha[1,a] and S. Suresha[2,b]

View Affiliations View Contributors

NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA

Surathkal, Mangalore - 575025, India

CERTIFICATE

This is to certify that

Prof./Dr./Mr./Ms. Chethan. S

has participated and presented a paper at

"International Conference on Polymer Composites"

ICPC 2018

Department of Mechanical Engineering

December 15-16, 2018

at **National Institute of Technology Karnataka, Surathkal.**

Prof. G.C. Mohan Kumar &
Dr. Mrityunjay Doddamani
Organizing Secretaries

Prof. & Head, ME. Dept.
Conference Chair

Gmail **Chethan S <chethans.nie@gmail.com>**

Letter Acceptance and Invitation to ICPC 2018 Conference

Sudheer Kulkarni <sudheer_dk@rediffmail.com> Tue, Nov 20, 2018 at 6:11 PM
To: chethansnie s <chethans.nie@gmail.com>

Sudheer Kulkarni
Cell:9886054526

Sent from RediffmailNG on Android

From: papers icpc2018 <papers.icpc2018@gmail.com>
Sent: Tue, 20 Nov 2018 17:35:28 GMT+0530
To: sudheer_dk@rediffmail.com
Subject: Re: Letter Acceptance and Invitation to ICPC 2018 Conference

TITLE: **Comparative Study of Mechanical Behavior of Silicon Carbide Filled and Boron Carbide Filled Glass Fiber Reinforced Vinyl Ester Composites**

by Sudheer D. Kulkarni and Chethan S.

Dear Author(s)

Greetings from NITK Surathkal!

We have received an overwhelming response for participation to Second International Conference on Polymer Composites ICPC 2018, which will be held at National Institute of Technology Karnataka, Surathkal, INDIA on 15 - 16, December 2018. We have accommodated the research papers & presentations after the screening of full paper by peer reviewers. On behalf of Organizing Committee, ICPC 2018, I am delighted to inform you that your paper entitled above has been accepted and invited for oral presentation in the forthcoming Conference.

Registration:

You are informed to complete the registration formalities as early as possible, on or before **23rd November 2018**. Complete the registration form and AIP Copy right form are attached. Please note that your paper will be published in proceedings only if you complete the registration and presentation of your paper at Conference.

Please fill the Registration form and AIP-ICPC 2018 form Agreement attached and mail the scanned copies immediately

I am looking forward to meeting you at NITK Surathkal.

Thanking You with Regards,
Organizing Committee- ICPC 2018
Dept. of Mechanical Engineering
National Institute of Technology Karnataka-Surathkal
Manglore 575025, INDIA

On Tue, Nov 20, 2018 at 4:21 PM Sudheer Kulkarni <sudheer_dk@rediffmail.com> wrote:

> Dear Sir,
>
> Please send me the acceptance letter mentioning the Paper Title to enable me to take necessary permissions to

Geetha Shishu Shikshana Sangha (R)

GSSS Institute of Engineering and Technology for Women

(Affiliated to VTU, Belagavi, Approved by AICTE, New Delhi & Govt. of Karnataka)

MYSURU-570 016 | KARNATAKA | INDIA

Accredited Branches by NBA, New Delhi UG - ECE, CSE, ISE, TE & IT

(Validity: 01.07.2017 - 30.06.2020)

IEEE Advancing Technology for Humanity

ICEECCOT-2017

IEEE Bangalore Section

CERTIFICATE

This is to certify that Dr./Prof./Mr./Ms.

Nasreen Fathima

has Participated/Presented Paper titled

Optimized Neighbor Discovery in Internet of Things (IoT)

in the International Conference on Electrical, Electronics, Communication, Computer Technologies and Optimization Techniques **(ICEECCOT-2017)** in association with IEEE Bangalore Section organized by GSSS Institute of Engineering & Technology for Women, Mysuru on 15th & 16th December 2017.

Dr. Parameshachari B D
Organizing Chair, ICEECCOT-2017
Professor & Head,
Dept. of TCE

Dr. Reshma Banu
Organizing Chair, ICEECCOT-2017
Professor & Head,
Dept. of ISE.

Dr. Shivakumar M
Dean (Academics)
GSSSIETW
Mysuru

Gmail

Dr. Puttegowda D <pgdatme@gmail.com>

Recommended documents on IEEE Xplore

noreply@ieee.org <noreply@ieee.org> Sat, Dec 18, 2021 at 4:15 PM
To: pgdatme@gmail.com

The following links from IEEE Xplore have been sent to you by Puttegowda (pgdatme@gmail.com)

Article Title	Mathematical Principle Of Index of Co-Incidence And Rook Polynomial To Identify Frequent Item-set Distribution In Super Market
Publication Title	2018 3rd IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT)
Posted Online Date	27 Feb 2020
Authors	Mohanesh Bevoor Mahalingappa; G Shrinivasa; D Puttegowda

6th World Conference on
Applied Science, Engineering and Technology

IFERP
connecting engineers...developing research

CERTIFICATE

OF PRESENTATION

02nd - 03rd January 2018 | Goa, India

This is to certify that **Anil Kumar C J.**

of A T M E College of Engineering Mysuru presented his/her research paper titled *Mathematical Logic and Logical Equivalence Implementation to find the Intermediate Key Management for DES Encryption Algorithm.* during "6th World Conference on Applied Science, Engineering and Technology" held at Goa, India on 02nd - 03rd January 2018.

IFERP

Mr.Rudra Bhanu Satpathy
Director, IFERP
India

Dr.Farhad Ilahi Bakhsh
Assistant Professor
Baba Ghulam Shah Badshah University
India

Finding the Probability of Patient being Demented using Data Mining Approach called Confidence

Publisher: IEEE

Cite This

PDF

Shruthi P All Authors

Abstract:
Nowadays large quantity of information is being generated in almost all the fields. One of the most important field which plays a major role in our day to day life is medical field. The data of patients along with the symptoms are getting generated in every corner of the world. Data Mining is the right technique which can be applied on these large amount of data to extract useful information in the field of medicine i.e., including from the stage of diagnosis of symptoms, observation of the patients and predicting the disease from which they are suffering. This paper provides the easy method for predicting the probability of patient being demented from a disease by applying the formula of association analysis technique called confidence, based on the symptoms of the patients and the data set available.

Published in: 2018 3rd IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT)

Date of Conference: 18-19 May 2018

Date Added to IEEE *Xplore*: 27 February 2020

ISBN Information:

INSPEC Accession Number: 19410924

DOI: 10.1109/RTEICT42901.2018.9012449

Publisher: IEEE

Conference Location: Bangalore, India

GEETHA SHISHU SHIKSHANA SANGHA (R)

GSSS INSTITUTE OF ENGINEERING & TECHNOLOGY FOR WOMEN

(Affiliated to VTU, Belagavi, Approved by AICTE, New Delhi & Govt. of Karnataka)

MYSURU - 570 016 | KARNATAKA | INDIA

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

(Accredited by NBA, New Delhi, Validity: 01.07.2017 - 30.06.2020)

Certificate of Appreciation

This is to certify that

Mr. / Ms. KAVYASHREE. E.D.

of ATME COLLEGE OF ENGINEERING

has been awarded Best Paper entitled 6LOWPAN NETWORK USING CONTIKI OPERATING SYSTEM

in the 3rd National Conference on Image Processing, Computing, Communication, Networking & Data Analytics (NCICCNDA - 2018) in association with CSI Mysore, CSI Bangalore Chapters and AIJR (Advanced International Journals of Research) technically co-sponsored by IEEE Bangalore Section, organized by the Department of Computer Science & Engineering, GSSSIETW, Mysuru on 28th April 2018.

28/04/2018

Dr. S Meenakshi Sundaram
Prof. & Head, Dept. of CSE
GSSSIETW, Mysuru

Dr. M Shivakumar
Principal
GSSSIETW, Mysuru

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH IN ELECTRICAL, ELECTRONICS AND INSTRUMENTATION ENGINEERING

(A High Impact Factor, Monthly, Peer Reviewed Journal)

ISSN (Online): 2278 – 8875 **ISSN (Print): 2320 - 3765**

PUBLICATION CERTIFICATE

This is to certify that

SATHISH K R

Assistant Professor, Dept. of EEE, ATME College of Engineering, Mysuru, Karnataka, India

Published a research paper titled

"Conservation of Crop Land close to Forest Area against Wildlife using Flow Sensor"

in IJAREEIE, Volume 7, Issue 4, April 2018

Certificate No: V7I4C031
Date: 20th April 2018

IJAREEIE
Impact Factor: 6.392
www.ijareeie.com

Editor-in-Chief
IJAREEIE
ijareeie@gmail.com

International Conference on Current Trends in Computer, Electrical, Electronics & Communication (ICCTCEEC) - 2017

IEEE Bangalore Section

Certificate

This is to certify that **Mr. Raghavendra L** *has presented a paper entitled:* **Adaptable Speed Bridgeless SEPIC Converter VSI Fed BLDC Motor Drive** *with paper code:* **CTCEEC-458** *in International Conference on Current Trends in Computer, Electrical, Electronics & Communication (ICCTCEEC) - 2017, with catalog "CFP17NC5-PRT: 978-1-5386-3242-0", organized by Vidyavardhaka College of Engineering, Mysuru, Karnataka, India, during 8 - 9, September 2017.*

Certificate Proof

Dr. Siva Ganesh Malla
Director, CPGC

Dr. Shobha Shankar
Organizing Chair

Dr. B. Sadashiva Gowda
Principal

International Conference on Current Trends in Computer, Electrical, Electronics & Communication (ICCTCEEC) - 2017

IEEE Bangalore Section

Certificate

This is to certify that **Mr. Raghavendra L** *has published a paper entitled:* **Adaptable Speed Bridgeless SEPIC Converter VSI Fed BLDC Motor Drive** *with paper code:* **CTCEEC-458** *in International Conference on Current Trends in Computer, Electrical, Electronics & Communication (ICCTCEEC) - 2017, with catalog "CFP17NC5-PRT: 978-1-5386-3242-0", organized by Vidyavardhaka College of Engineering, Mysuru, Karnataka, India, during 8 - 9, September 2017.*

Certificate Proof

Dr. Siva Ganesh Malla
Director, CPGC

Dr. Ravi Kumar V
Joint Organizing Chair

Dr. B. Sadashive Gowda
Principal

Finger Print Image Enhancement Using Thresholding and Binarization Techniques

Publisher: IEEE

Anupama Shetter ; SN Prajwalasimha ; H Swapna All Authors

Abstract: In order to enhance the contrast between ridges and valleys of contactless fingerprint, image enhancement algorithm based on Thresholding and Binarization is proposed. Fi... **View more**

Metadata

Abstract:
In order to enhance the contrast between ridges and valleys of contactless fingerprint, image enhancement algorithm based on Thresholding and Binarization is proposed. First, initial resizing of the input image takes along with filter on the basis of the feature that the ridges of contactless fingerprint are linear structure and relatively brighter. Then the obtained output after filtering is subjected to Thresholding and Binarization. Experimental results shows that the proposed algorithm enhances the image at faster rate compared to the existing algorithm.

Published in: 2018 Second International Conference on Inventive Communication and Computational Technologies (ICICCT)

Date of Conference: 20-21 April 2018 **INSPEC Accession Number:** 18131640

Date Added to IEEE *Xplore*: 27 September 2018 **DOI:** 10.1109/ICICCT.2018.8473286

Publisher: IEEE

ISBN Information:

Signature Verification System Based on Wavelets

Publisher: IEEE

M. K. Prathiba ; L. Basavaraj All Authors

Abstract: Very large percentage of daily financial transactions is generally carried out on the basis of verification of signatures. Therefore signature plays an important role bot... **View more**

Metadata

Abstract:
Very large percentage of daily financial transactions is generally carried out on the basis of verification of signatures. Therefore signature plays an important role both for authentication and authorization of any legal documents. Signature verification is the process used to verify an individual's hand written signature is genuine or forged signature. Classification of recognition rate of genuine signature and rejection rate of forgery signature is 95% and 5% respectively.

Published in: 2017 International Conference on Recent Advances in Electronics and Communication Technology (ICRAECT)

Date of Conference: 16-17 March 2017

INSPEC Accession Number: 17289608

Date Added to IEEE *Xplore*: 26 October 2017

DOI: 10.1109/ICRAECT.2017.42

Publisher: IEEE

ISBN Information:

Conference Location: Bangalore, India

DOI: 10.1109/IACC.2017.0147 • Corpus ID: 6289667

Edge Based Segmentation Approach to Extract Text from Scene Images

T. Kumuda, L. Basavaraj • Published 2017 • Computer Science •
2017 IEEE 7th International Advance Computing Conference (IACC)

Scene text in images is finding lots of application in real life. When text in images are extracted efficiently they can be used for guiding tourists, visually impaired people, license plate detection, providing location information etc. Extracting scene text faces many problems, as images are subjected to lots of deprivation such as noise, uneven lighting, blur etc. In our work, we propose an algorithm to extract and analyze the text in from complex scene images efficiently. In the earlier… Expand

Tables and Topics from this paper

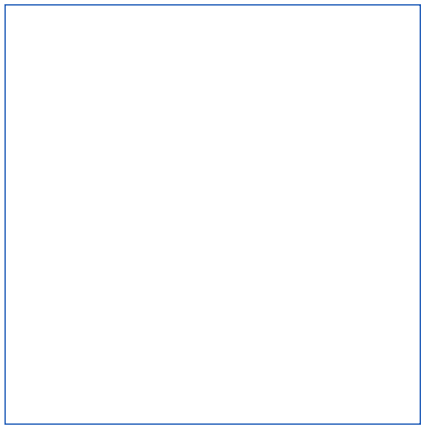


Table I

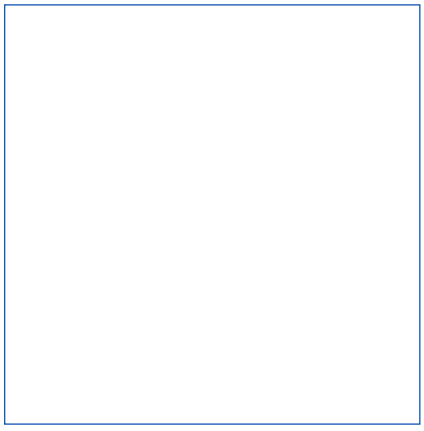


Table II

- Algorithm
- AdaBoost
- Heuristic
- Real life
- Extraction
- Mathematical morphology
- Connected component (graph theory)
- Optical character recognition
- Cluster analysis
- Discrete wavelet transform
- Rule (guideline)
- Face
- statistical cluster
- Gaussian blur

9 Citations

An Adaptive Thresholding Algorithm-Based Optical Character Recognition System for Information Extraction in Complex Images
Daniel Akinbade, A. O. Ogunde, M. Odim, B. O. Oguntunde • Computer Science • 2020

Conference Paper PDF Available

Image encryption using discrete radon transformation and non chaotic substitution

February 2017
DOI:10.1109/ICECCT.2017.8117847
Conference: IEEE International Conference on Electrical, Computer and Communication Technologies · At: INDIA · Volume: 2

Authors:

Prajwalasimha S N

Bhagyashree S R
ATME College of Engineering

Abstract and Figures

In this paper, transformation and substitution based symmetric key encryption algorithm is proposed. Strong correlation between the adjacent pixels can be observed in the multimedia images. The encryption can be made effective by changing both position and value of each pixel in the image. In the proposed algorithm, each pixel position is scrambled using discrete radon transformation (DRT) and pixel value is varied using non chaotic substitution and permutation. The key length used is 64 bits. The secrete key is divided into eight separate keys each of length 8 bits and these are used to change the pixel position along with DRT. Simultaneously, the secret key is subjected for eight set of initial permutations and each set is used to change the pixel value of the image using exclusive-OR operation

Flow chart of proposed...

Image Encryption using Discrete Radon Transformation and Non chaotic Substitutio

Prajwalasimha S N[1] Bhagyashree S R[2]

Wetland Change Detection Using Remote Sensing Techniques

[1]Sandra Maria Cherian, [2]Vittal Hegde Arkal, [3]Akshaya B J

[1,2,3]National Institute of Technology Karnataka, Srinivasanagar, Surathkal- 575025
Email: [1]sandramariacherian@gmail.com, [2]arkalvittal@gmail.com, [3]aksh.jana@gmail.com

Abstract - Remote sensing technology is used in various fields now a day's owing to the advancement in satellite technology and the availability of more precise data which can be used for various studies and analysis. Wetland change detection is gaining much importance in recent years as wetlands are being depleted at a vast rate which can adversely affect the whole balance of the ecosystem. Wetlands can be easily spotted by using remote sensing technology and by conducting various temporal analysis changes occurred on that particular wetland area can be easily detected. In this study, Landsat images are used for the analysis of wetlands in Dakshina Kannada district. Significant change of wetlands in terms of its areal extent are determined for every decade. The extensive loss of this ecologically and environmentally important spots are caused by anthropogenic activities as well as climatic change. The study reveals the total loss of area of wetlands in the entire Dakshina Kannada district between the years 1972 and 2015. The preliminary study shows that for the past two decades the decrease in wetland area exceed 27% of total area. The analysis of the result of the study and the causes could give us fair idea of area of existing wetlands and plan for preservation of existing wetland resources.

Keywords : Change detection, Landsat, Remote Sensing, Wetlands.

I. INTRODUCTION

Wetlands are areas where the water table is at or near the surface of the land, or where the land is covered by shallow water. The Ramsar Convention defines wetlands as: "areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres". They include the rivers, lakes, coastal lagoons, mangroves, peatlands, fens, bogs and coral reefs, in addition to man-made wetlands that includes fish and shrimp ponds, ponds, irrigated agricultural land, salt pans, reservoirs, canals, sewage farms, etc. Wetlands are amongst the most productive ecosystems, that are valuable as sources, sinks, and transformers of a multitude of chemical, biological, and genetic materials. They support high concentrations of birds, mammals, reptiles, amphibians, fish and invertebrate species. The value of wetlands is recognized in terms of their primary productivity, their natural ability to protect coastal urban areas from storm events, their recreational attributes, and their capacity for waste assimilation.

II. LITERATURE REVIEW

In various parts of the world wetland studies are being conducted for its better management and preservation, since wetlands are over – exploited. The study conducted by Butera et al.(1983) used maximum-likelihood algorithm for the classification for wetland mapping [13]. The normalized difference vegetation index (NDVI) and modified normalized difference water index (MNDWI) are used by Tian et al (2015) [8] whereas Dabrowska-Zielinska (2009) used various indices like, VM (vegetation moisture), LAI (Leaf Area Index), and SM (soil moisture) [11]. The following indices, which included different bands, were calculated: ARVI (Atmospherically Resistant Vegetation Index), GEMI (Global Environment Monitoring Index), EVI (Enhanced Vegetation Index), MI (Medium Infrared Index), and NDVI and finaly found the best index vegetation index, which gives the largest number of classes to present variation of vegetation due to moisture conditions in the marshland area. Betbeder et al. (2015) conducted the study to determine the optimal number and key dates of SAR images to be classified to map wetland vegetation formations [10]. Klemas (2011) incorporated both supervised and unsupervised classification to increase the accuracy of classification [14]. Jones (2009) conducted study using object based approach based on the combined use of different geo-information products relevant to wetlands: land cover maps, slopes extracted from DEMs and distance to water classes. In the study of Zhang et al (2011) a land use dynamic degree model is used to determine the land use change [15]. The study of Charles G explains how image pixels classified for a particular land cover can be analyzed within a neighbouring area to determine if and how wetland vegetation criteria were met [9]. Backscattering is measured to verify the land cover in the study conducted by Bartsch (2009) [7]. Wang (2008) studied coastal wetland changes using sea charts, topographic map and bathymetric data.

III. STUDY AREA

Dakshina Kannada district situated in the south-western part of Karnataka state lies between latitudes 12°52'00'' to 13°15'00'' N and longitudes 74°00'00'' to 75°15'00'' E. The total geographical area of the district is 4843 sq km. Dakshina Kannada is a coastal district in the state of Karnataka in India, Sheltered by the Western Ghats on the east and surrounded by the Arabian Sea on the west. Netravati, Swarna, Gurpura Kumaradhara

Geetha Shishu Shikshana Sangha (R)

GSSS Institute of Engineering and Technology for Women

(Affiliated to VTU, Belagavi, Approved by AICTE, New Delhi & Govt. of Karnataka)

KRS ROAD | MYSURU-570 016 | KARNATAKA

3rd National Conference on Electronics, Signals and Communication

NCESC-2018

Jointly Organized by

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

(Accredited by NBA, New Delhi. Validity: 01.07.2017 to 30.06.2020)

&

DEPARTMENT OF TELECOMMUNICATION ENGINEERING

(Accredited by NBA, New Delhi. Validity: 01.07.2017 to 30.06.2020)

IEEE Bangalore Section

IJERT ISSN : 2278-0181 www.ijert.org

Participation Certificate

This is to certify that Prof. PAVITHRA.A.C

has participated/ presented a paper entitled Obstacle Avoidance Robot using ARDUINO

in the Third National Conference on Electronics, Signals and Communication (NCESC-2018) conducted in association with IEEE Bangalore Section and International Journal of Engineering Research and Technology (IJERT) on 17th May 2018.

Dr. Parameshachari B D
Organizing Chair, NCESC-2018
Professor & Head, Dept. of TCE

Dr. Sathyanarayana M V
Organizing Chair,NCESC-2018
Professor & Head, Dept. of ECE

Dr. Shivakumar M
General Chair, NCESC-2018
Principal, GSSSIETW

Geetha Shishu Shikshana Sangha (R)

GSSS Institute of Engineering and Technology for Women

(Affiliated to VTU, Belagavi, Approved by AICTE, New Delhi & Govt. of Karnataka)

KRS ROAD| MYSURU-570 016 | KARNATAKA

3rd National Conference on Electronics, Signals and Communication

NCESC-2018

Jointly Organized by

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

(Accredited by NBA, New Delhi. Validity: 01.07.2017 to 30.06.2020)

&

DEPARTMENT OF TELECOMMUNICATION ENGINEERING

(Accredited by NBA, New Delhi. Validity: 01.07.2017 to 30.06.2020)

IEEE Bangalore Section

IJERT ISSN : 2278-0181 www.ijert.org

Participation Certificate

This is to certify that.....Pavithra A C.....

has participated/ presented a paper entitled.....GSM BASED WIRELESS NOTICE BOARD USING.....

.....ARDUINO.....in the Third National Conference on Electronics, Signals and Communication (NCESC-2018) conducted in association with IEEE Bangalore Section and International Journal of Engineering Research and Technology (IJERT) on 17th May 2018.

Dr. Parameshachari B D
Organizing Chair, NCESC-2018
Professor & Head, Dept. of TCE

Dr. Sathyanarayana M V
Organizing Chair,NCESC-2018
Professor & Head, Dept. of ECE

Dr. Shivakumar M
General Chair, NCESC-2018
Principal, GSSSIETW

Experimental Study on Strength of Concrete by using PS Sand as a Fine Aggregate

Mr. Srivathsa H. U.
Assistant Professor
Department of Civil Engineering
ATMECE, Mysore, India

Abstract— Concrete is considered to be the most widely used and versatile material of construction all over the world. In recent years, concrete technology has made significant advances which have resulted in economical improvements in strength of concretes. This economic development depends upon the intelligent use of locally available materials. One of the important ingredients of conventional concrete is natural sand or river sand. Scarcity of good quality Natural River sand due to depletion of resources and restriction due to environmental consideration has made concrete manufactures to look for suitable alternative fine aggregate. One such alternative is "Manufactured sand". Because of crushing quarries and converting them as fine aggregates, demand for coarse aggregates also increases. To meet this demand, another alternative to river sand is PS Sand (Processed Slag Sand) which can be used as fine aggregates in manufacturing concrete. An attempt has been made in this study to determine the compressive strength of M20 grade concrete using PS sand as fine aggregate.

Key words: Ordinary Portland cement, Natural Sand, Manufacture Sand, PS Sand and Compressive Strength

I. INTRODUCTION

Concrete is the most commonly used construction material in the world. It is basically composed of two components paste and aggregate. The paste contains cement and water and sometimes other cementitious and chemical admixtures, whereas the aggregate contains sand and gravel or crushed stone. The paste binds the aggregates together. The aggregates are relatively inert filler materials which occupy 70% to 80% of the concrete and can therefore be expected to have influence on its properties. The proportion of these components, the paste and the aggregate is controlled by the strength and durability of the desired concrete, the workability of the fresh concrete and the cost of the concrete. The global consumption of natural sand is very high, due to the extensive use of concrete. In general, the demand of natural sand is quite high in developing countries to satisfy the rapid infrastructural growth, in this situation developing country like India facing shortage in good quality natural sand. Particularly in India, natural sand deposits are being depleted and causing serious threat to environment as well as the society. Increasing extraction of natural sand from river beds causing many problems, losing water retaining sand strata, deepening of the river courses and causing bank slides, loss of vegetation on the bank of rivers, exposing the intake well of water supply schemes, disturbs the aquatic life as well as affecting agriculture due to lowering the underground water table etc are few examples. Therefore looking for an alternative to river sand has become a necessity. The cheapest and easiest alternative to natural sand is manufacturing sand by crushing rocks/stones in desired size and grade by suitable method. Due to the conversion of quarries into fine aggregates, demand for coarse aggregates increases. One such alternative to river sand is PS sand (Processed Slag) can be used as fine aggregate in manufacturing concrete.

[1] Hudson, B. P. carried out an experimental work on "Manufactured Sand for concrete" to determine workability, strength and durability of concrete with manufactured sand as replacement to natural sand in proportions of 0%, 20%, 40%, 60% and 100% is studied. The experiments were conducted on M 20 and M 30 concrete grade and it was concluded that, 60% replacement showed an increase in strength of about 20% and other replacements to an order of minimum 0.93% in both the grades.

[5] Nagabhushana and Sharadabai. H.studied the "Use of crushed rock powder as replacement of fine aggregate in mortar and concrete" Crushed Rock Powder (CRP) is used as a partial and full replacement for natural sand. For mortar, CRP is replaced at 20% 40%, 60%, 80% and 100%. The basic strength properties of concrete were investigated by replacing natural sand by CRP at replacement levels of 20%, 30% and 40%.

The objective of the present work is determine the compressive strength of M20 grade concrete by replacing Manufacture sand by Processed Slag sand with 0%, 20%, 40%, 60%, 80% and 100% and cubes are tested for 3, 7 and 28days.

II. MATERIALS

A. Cement

Portland cement is the most common type of cement in general usage. It is a basic ingredient of concrete, mortar and plaster. Of the various ingredients used in concrete, cement is the most energetically and expensive. In the present investigation OPC 43 grade cement is used.

B. Water

Combining water with a cementitious material forms a cement paste by the process of hydration. The cement paste glues the aggregate together, fills voids within it, and makes it flow more freely. Lower water to concrete ratio yields a stronger, more durable concrete, while more water gives a free-flowing concrete with a higher slump. Impure water used to make concrete can cause problems when setting or in causing premature failure of the structure.

C. Manufacture Sand

Sand is used as fine aggregate in mortar and concrete. Natural river sand is the most preferred choice as a fine aggregate material. River sand is a product of natural weathering of rocks over a period of millions of years. It is mined from the river beds and sand mining has disastrous environmental consequences. River sand is becoming a scarce commodity

Geetha Shishu Shikshana Sangha (R)

GSSS Institute of Engineering and Technology for Women

(Affiliated to VTU, Belagavi, Approved by AICTE, New Delhi & Govt. of Karnataka)

KRS ROAD | MYSURU-570 016 | KARNATAKA

3rd National Conference on Electronics, Signals and Communication

NCESC-2018

Jointly Organized by

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

(Accredited by NBA, New Delhi. Validity: 01.07.2017 to 30.06.2020)

&

DEPARTMENT OF TELECOMMUNICATION ENGINEERING

(Accredited by NBA, New Delhi. Validity: 01.07.2017 to 30.06.2020)

IEEE Bangalore Section

IJERT ISSN : 2278-0181 www.ijert.org

Participation Certificate

This is to certify that Prof. PAVITHRA.A.C

has participated/ presented a paper entitled Obstacle Avoidance Robot using ARDUINO

in the Third National Conference on Electronics, Signals and Communication (NCESC-2018) conducted in association with IEEE Bangalore Section and International Journal of Engineering Research and Technology (IJERT) on 17th May 2018.

Dr. Parameshachari B D
Organizing Chair, NCESC-2018
Professor & Head, Dept. of TCE

Dr. Sathyanarayana M V
Organizing Chair,NCESC-2018
Professor & Head, Dept. of ECE

Dr. Shivakumar M
General Chair, NCESC-2018
Principal, GSSSIETW