INDEX

2.3.1 ADDITIONAL INFORMATION OF STUDENT CENTRIC METHODS

2020-21

PRINCIPAL
Dr. T. Thimmaiah Institute of Technology

1. Project Expo- 1st Prize Winner Certificate

Golden Valley Educational Trust
Dr.T.Thimmaiah Institute of Technology
Affiliated to Visvesvaraya Technological University , Belagavi
Oorgaum Post KGF 563120

Certificate of Achievement

This is to Certify, that
Menahi Shayan
of AMC Engineering College from the Department of Computer Science Engineering has participated in the "Dr. TTIT Virtual Expo - 2021" organized by *Dr. T. Thimmaiah Research & Innovation Council in association with* Institution's Innovation Council, Dr TTIT, K.G.F held on 04th August 2021 & was awarded the "First Prize" for their Project Titled "Automated Oven".

Prof. Ruckmani Divakaran
Dean - Academics

Dr. H. G. Shenoy
President IIC & Vice-Principal

Dr. Syed Ariff
Principal

Golden Valley Educational Trust
Dr.T.Thimmaiah Institute of Technology
Affiliated to Visvesvaraya Technological University , Belagavi
Oorgaum Post KGF 563120

Certificate of Achievement

This is to Certify, that
VINODKUMAR
of SJCIT CHICKBALLAPUR from the Department of Civil Engineering has participated in the "Dr. TTIT Virtual Expo - 2021" organized by *Dr. T. Thimmaiah Research & Innovation Council in association with* Institution's Innovation Council, Dr TTIT, K.G.F held on 04th August 2021 & was awarded the "First Prize" for their Project Titled "SYSTEM FOR ASSESSING SUITABILITY OF WATER FOR IRRIGATION".

Prof. Ruckmani Divakaran
Dean - Academics

Dr. H. G. Shenoy
President IIC & Vice-Principal

Dr. Syed Ariff
Principal

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PRINCIPAL
Dr. T. Thimmaiah Institute of Technology
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Golden Valley Educational Trust

Dr.T.Thimmaiah Institute of Technology
Affiliated to Visvesvaraya Technological University , Belagavi
Oorgaum Post KGF 563120

Certificate of Achievement

This is to Certify, that
Mohammed Shoaib
of Dr.TTIT, KGF from the Department of Electronics and Communication Engineering has participated in the "Dr. TTIT Virtual Expo - 2021" organized by *Dr. T. Thimmaiah Research & Innovation Council in association with* Institution's Innovation Council, Dr TTIT, K.G.F held on 04th August 2021 & was awarded the "First Prize" for their Project Titled "Grading of Harvested Mangoes Based on Quality Evaluation and Maturity Prediction using Machine Learning technique".

Prof. Ruckmani Divakaran
Dean - Academics

Dr. H. G. Shenoy
President IIC & Vice-Principal

Dr. Syed Ariff
Principal

Golden Valley Educational Trust

Dr.T.Thimmaiah Institute of Technology
Affiliated to Visvesvaraya Technological University , Belagavi
Oorgaum Post KGF 563120

Certificate of Achievement

This is to Certify, that
Wasi Ulla Khan Junaid
of Dr.T.Thimmaiah Institute of Technology from the Department of Mechanical Engineering has participated in the "Dr. TTIT Virtual Expo - 2021" organized by *Dr. T. Thimmaiah Research & Innovation Council in association with* Institution's Innovation Council, Dr TTIT, K.G.F held on 04th August 2021 & was awarded the "First Prize" for their Project Titled "Smart Automated Pill Dispenser".

Prof. Ruckmani Divakaran
Dean - Academics

Dr. H. G. Shenoy
President IIC & Vice-Principal

Dr. Syed Ariff
Principal

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Dr.T. THIMMAIAH INSTITUTE OF TECHNOLOGY

(Estd. 1986) Oorgaum, Kolar Gold Fields, Karnataka – 563120
(Affiliated to VTU, Belgaum, Approved by AICTE - New Delhi)

Golden Valley Educational Trust

Dr.T.Thimmaiah Institute of Technology

Affiliated to Visvesvaraya Technological University , Belagavi
Oorgaum Post KGF 563120

Certificate of Achievement

This is to Certify, that

Praveen Reddy N

of Dr.T.Thimmaiah Institute of Technology from the Department of Electrical and Electronics Engineering

has participated in the "Dr. TTIT Virtual Expo - 2021" organized by *Dr. T. Thimmaiah Research & Innovation Council in association with* Institution's Innovation Council, Dr TTIT, K.G.F held on 04th August 2021 & was awarded the "First Prize" for their Project Titled "Regenerative Breaking on E - Bike".

Prof. Ruckmani Divakaran	Dr. H. G. Shenoy	Dr. Syed Ariff
Dean - Academics	President IIC & Vice-Principal	Principal

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Oorgaum, K.G.F. - 563 120.

2. KSCST sanctioned letter

Karnataka State Council for Science and Technology
(An autonomous organisation under the Dept. of Science & Technology, Govt. of Karnataka)
Indian Institute of Science Campus, Bengaluru - 560 012
Telephone: 080-23341652, 23348848, 23348849, 23348840
Email: office.kscst@iisc.ac.in, office@kscst.org.in ♦ Website: www.kscst.iisc.ernet.in, www.kscst.org.in

Mr. H. Hemanth Kumar
Executive Secretary

22nd April 2021

Ref: 7.1.01/SPP/10

The Principal
Dr. T. Thimaiah Institute of Technology
Dr. T. Thimmaiah Road Oorgaum Band Line Colony
Nethaji Nagar Kolar Gold Fields
Karnataka - 563 120

Dear Sir/Madam,

Sub : Sanction of Student Project - 44th Series: Year 2020-2021
Your Project Proposal Reference No. : ***44S_BE_2954***
Ref : Your Project Proposal entitled " ***AN EFFICIENT IOT BASED COVID-19 MONITORING SYSTEM USING CNN CLASSIFIER***

We are pleased to inform that your student project proposal referred above, has been approved by the Council under "Student Project Programme - 44th Series" with a budgetary break-up as detailed below:

Student / s	Ms. Priyanka.D	**Budget**	
	Ms. Priyanka.S	**Particulars**	**Amount (Rs.)**
	Ms. Chandrakala.V	Materials/Consumables	4,500.00
	Ms. Vinutha.S	Labour	-
Guide/s	Mrs. Kanimozhi.S	Travel	-
		Miscellaneous	-
Department	Electronics And Communication Engineering	Report	500.00
		Total	**5,000.00**
	FIVE THOUSAND RUPEES ONLY		

1/4/21
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3. Best paper Award

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ICRTTEAS 2021

Best Paper Award Certificate

*This is to certify that paper titled "**Design a Millimeter Wave with an Array of Microstrip Patch Antenna for 5G Applications**", authored by **Prof. R Tamilvani, Miss. Nikhila Patil, Miss. Tabbassum F, Miss. Umera Parveen & Mr. Venkatesh A** has been chosen as one of the Best Papers in **Electronics & Communication Engineering** track, presented in the 3rd International Conference on Recent Trends in Technology, Engineering and Applied Science - ICRTTEAS 2021 held virtually on 19th and 20th July 2021.*

Dr. Palaniswamy K M, Convener | Prof. Ruckmani Divakaran, General Chair | Dr. H.G. Shenoy, Vice Principal | Dr. Syed Ariff, Principal

CertificateID: ICRTTEAS2021/B1033

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ICRTTEAS 2021

Best Paper Award Certificate

*This is to certify that paper titled "**Significance Of Plastic In Improving The Properties Of Regur Soil**", authored by **Prof. M.Maneela, Ms. Bhavana S, Mr. Hanumanthesha M J, Mr. Manjunath T & Mr. Naveenkumar B N** has been chosen as one of the Best Papers in **Civil Engineering** track, presented in the 3rd International Conference on Recent Trends in Technology, Engineering and Applied Science - ICRTTEAS 2021 held virtually on 19th and 20th July 2021.*

Dr. Palaniswamy K M, Convener | Prof. Ruckmani Divakaran, General Chair | Dr. H.G. Shenoy, Vice Principal | Dr. Syed Ariff, Principal

CertificateID: ICRTTEAS2021/B1027

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(Affiliated to VTU, Belgaum, Approved by AICTE - New Delhi)

ICRTTEAS 2019

International Conference on Recent Trends in Technology, Engineering and Applied Science

Best Paper Award

CERTIFICATE

This is to certify that Dr/Prof./Mr./Ms. S. SREEDHAR KUMAR, SYED THOUHEED, GUNASHREE, BHUVIKA, ANUSHA, ISHWARYA, Dr. T.T.I.T has secured **Best paper Award** for presenting the paper titled NEW APPROACH OF MULTILEVEL CLUSTERING FOR REPLICATION DETECTION IMAGES in the "International Conference on Recent Trends in Technology, Engineering and Applied Science (ICRTTEAS-2019)" held during **12th** and **13th April 2019** at Dr. T. Thimmaiah Institute of Technology, Kolar Gold Fields, Karnataka

Prof. Ruckmani Divakaran
Dean (Administration)

Dr. Shenoy H G
Vice Principal

Dr. Syed Ariff
Principal

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Approved By AICTE Govt. of India New Delhi | ISO 21001: 2018 Certified

ICRTTEAS 2021

Best Paper Award Certificate

This is to certify that paper titled "Detecting system of Air Pollution , vibrations, Temperature and Shares live data", authored by Mr. Shivananda, Mr. Arun Kumar B.K, Mr. Guntamadugu Chandu, Dr. Manjunath A & Mr. Ganesh D has been chosen as one of the Best Papers in Mining Engineering track, presented in the 3rd International Conference on Recent Trends in Technology, Engineering and Applied Science - ICRTTEAS 2021 held virtually on 19th and 20th July 2021.

Dr. Palaniswamy K M
Convener

Prof. Ruckmani Divakaran
General Chair

Dr. H.G. Shenoy
Vice Principal

Dr. Syed Ariff
Principal

CertificateID:
ICRTTEAS2021/B1019

PRINCIPAL
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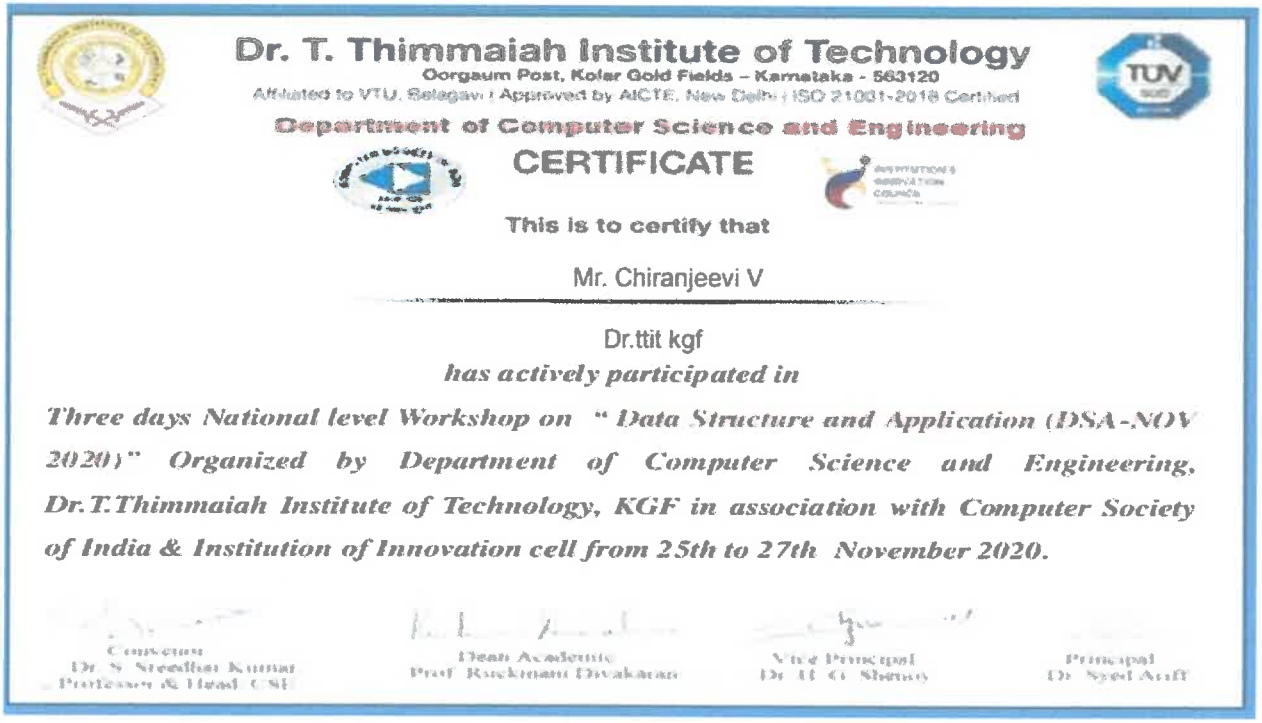
4. Webinar Certificates



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Department of Computer Science and Engineering

CERTIFICATE

This is to certify that

Mr. Chiranjeevi V

Dr.ttit kgf

has actively participated in

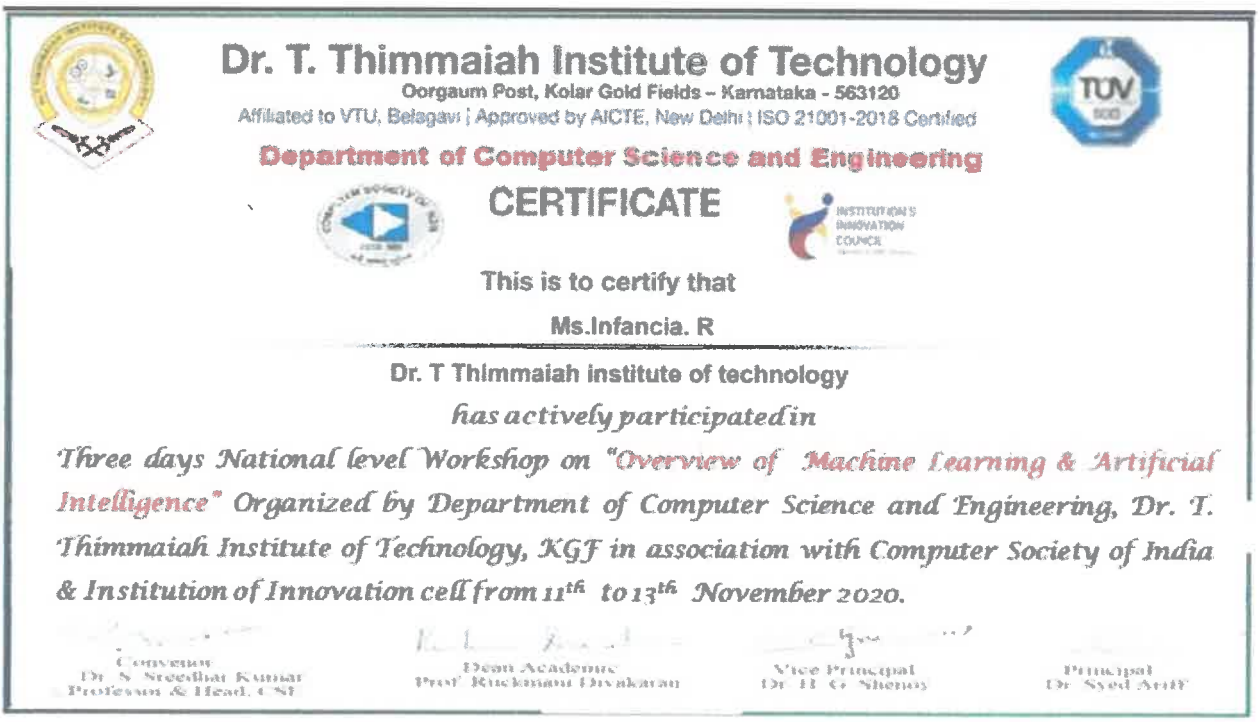
Three days National level Workshop on " Data Structure and Application (DSA -NOV 2020)" Organized by Department of Computer Science and Engineering, Dr.T.Thimmaiah Institute of Technology, KGF in association with Computer Society of India & Institution of Innovation cell from 25th to 27th November 2020.

Convenor
Dr. S Sreedhar Kumar
Professor & Head, CSE

Dean Academic
Prof Ruckmani Divakaran

Vice Principal
Dr. H G Sheeny

Principal
Dr. Syed Asif



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Department of Computer Science and Engineering

CERTIFICATE

This is to certify that

Ms.Infancia. R

Dr. T Thimmaiah institute of technology

has actively participated in

Three days National level Workshop on "Overview of Machine Learning & Artificial Intelligence" Organized by Department of Computer Science and Engineering, Dr. T. Thimmaiah Institute of Technology, KGF in association with Computer Society of India & Institution of Innovation cell from 11th to 13th November 2020.

Convenor
Dr. S Sreedhar Kumar
Professor & Head, CSE

Dean Academic
Prof Ruckmani Divakaran

Vice Principal
Dr. H G Sheeny

Principal
Dr. Syed Asif

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CERTIFICATE OF PARTICIPATION

This certificate is presented to
Mr Ganesh.D
DR. T. THIMMIAH INSTITUTE OF TECHNOLOGY

for attending webinar on "Digital Mining - Vision 2030", organized by Department of Mining Engineering, Dr. T.T.I.T, KGF on 16th July 2021.

Dr Manas Mukhopadhyay	Prof. Ruckmani Divakaran	Dr. H.G. Shenoy	Dr. Syed Ariff
Head	Dean (Academics)	Vice Principal	Principal

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CERTIFICATE OF PARTICIPATION

This certificate is presented to
Mr AMARNATH
DR T.TIT

for attending webinar on "PLETHORA OF MINERAL PROCESSING" organised by Department of Mining Engineering, Dr. T.T.I.T, KGF, on 23rd June, 2021.

Dr Manas Mukhopadhyay	Prof. Ruckmani Divakaran	Dr. H.G. Shenoy	Dr. Syed Ariff
Head	Dean (Academics)	Vice Principal	Principal

PRINCIPAL
Dr. T. Thimmaiah Institute of Technology
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EAST WEST INSTITUTE OF TECHNOLOGY

#63 Off Magadi Road, Vishwaneedam Post, Near Anjana Nagar, Bengaluru-560091

Civil Engineering Association

Department of Civil Engineering

EAST WEST INSTITUTE OF TECHNOLOGY

CERTIFICATE OF PARTICIPATION

This is to certify that ***MOHAMMED ASJAD*** *of* ***DR.TTIT*** *has participated in the One Week Webinar on "Challenges in Civil Engineering", held from 13th July 2020 to 18 th July 2020, organised by Department of Civil Engineering, EWIT, in association with Indian Concrete Institute-BENC- Student Chapter, Bangalore.*

SPEAKERS

Dr. Mahesh Prabhu K
Assoc. Prof.Dep. of Civil Engineering
Government Engineering College, Ramanagara

Dr. Pradeep R
MBBS, Ph.D
Physician

Dr. Mudduraj
Asst. Prof. Dep. of Civil Engineering
U.V.C.E., Bangalore

Dr. Anjaneyappa
Assoc. Prof. Dep. of Civil Engineering
RV College of Engineering, Bangalore

Dr Venkatesh B
Scientist E & Head, Hard Rock Regional Centre
National Institute of Hydrology, Belagavi

Dr. B.K Purandara
Scientist F, Hard Rock Regional Centre
National Institute of Hydrology, Belagavi

Ms. A Mamatha
Organising Secretary

Ms. Kumuda V
Organising Secretary

Dr. M S Nagaraja Gupta
HOD Dept. of Civil Engg.

Dr. K. Channakeshavalu
Principal, EWIT

Dr. L R Manjunatha
Chairman, ICI-BC

Dr R T Ramesh
Secretary, ICI-BC

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(Affiliated to VTU, Belgaum, Approved by AICTE - New Delhi
ISO-21001:2018 certified

Department of Electronics and Communication Engineering

Certificate of Participation

This is to certify that Mr.Sakthi Ragavan, Dr TTIT-Dr.T.Thimmaiah Institute of Technology, #3 two saw mill line andersonprt KGF has participated in the Online Webinar on "Challenges of 5G for Future Wireless Communication" on 25th June 2020.

Resource Person
iSignal Research Labs

Dean

Vice Principal

Principal

Golden Valley Educational Trust
Dr. T. Thimmaiah Institute of Technology
Oorgaum Post, Kolar Gold Fields - Karnataka - 563120
Affiliated to VTU Belagavi,Approved by AICTE New Delhi,ISO 21001-2018 Certified

CERTIFICATE

This is to Certify, that
Mr Sakthi Ragavan from the department of Electronics and communication
of Dr.T.Thimmaiah Institute of Technology
has participated in the National level Webinar on "Prototype Validation Converting Prototype into a Start-up" organized by the Institution's Innovation Council and Research and Development Cell, Dr. TTIT, KGF
held on 23rd August 2021.

Prof. Ruckmani Divakaran
Dean - Academics

Dr. H. G. Shenoy
President IIC & Vice-Principal

Dr. Syed Ariff
Principal

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5. Journal Papers

International Journal of Material Sciences and Technology
ISSN 2249-3077 Volume 6, Number 1 (2016), pp. 1-11

http://www.ripublication.com

Evaluation of Wear Properties of Al-Mg-Si Based Hybrid Composite in Different Ageing Conditions and Predicting using ANN

H. Ghanashyam Shenoy[1], B. Sudheer Premkumar[2], M.H.Annaiah[3] and Syed Ariff[4]

[1]Professor, Dept. of Mechanical Engg.,
Dr. T. Thimmaiah Institute of Technology, KGF, India.
2 Professor, Dept. of Mechanical Engg. JNTU, Hyderabad, A.P., India.
3 Professor and Head, Dept. of AE,
Acharya Institute of Technology, Bangalore, India.
4 Principal, Dr. T. Thimmaiah Institute of Technology, KGF, Karnataka, India.
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Abstract

Material plays an important role in today's world. In a number of specialized application areas, composites can be alternatives to conventional materials. It has been demonstrated that aluminium matrix composites reinforced with various discontinuous reinforcement materials have potential for application in automobile, marine and aerospace industries. So, efforts are made to study wear properties of Al-Mg-Si (Al 6061) based hybrid composites containing mica particulates of 200 microns and short e-glass fibers of 2-3 cm length in different compositions and with different aging conditions. Vortex type of stir casting was employed in which preheated reinforcements were introduced.

The test specimens were machined to ASTM standards and were subjected to solution heat treatment and artificial ageing. Double aging was carried out on the specimens with strain (stretching) and without strain. The Specific wear rate is studied and results are discussed. Considerable improvement in wear rate was observed in double aged with strain (stretching over double aged without strain, single aged and as-cast condition. The microstructures of the composites were studied to know the dispersion of the mica and e-glass fiber in matrix. It has been observed that addition of reinforcements significantly improves the properties as compared with that of un-reinforced matrix. SEM analysis of the worn out specimens shows an improvement in wear resistance. The experimental results were validated using Artificial Neural Network and the predicted ANN results are correlated with the experimental values.

Keywords: Mica, E-glass, Al6061 hybrid composite, single aging, double aging, straining/ stretching, SEM, ANN.

EUROPEAN JOURNAL OF REMOTE SENSING
2021, VOL. 54, NO. S2, 248–264
https://doi.org/10.1080/22797254.2020.1759457

Taylor & Francis

OPEN ACCESS

A feature based change detection approach using multi-scale orientation for multi-temporal SAR images

R. Vijaya Geetha and S. Kalaivani

School of Electronics Engineering, VIT University, Vellore, Tamilnadu, India

ABSTRACT

Excellent operation regardless of weather conditions and superior resolution independent of sensor light are the most attractive and desired features of synthetic aperture radar (SAR) imagery. This paper proposes an exclusive multi-scale with multiple orientation approach for multi-temporal SAR images. This approach integrates pre-processing and change detection. Pre-processing is performed on the SAR imagery through speckle reducing anisotropic diffusion and discrete wavelet transform. The processed speckle-free images are designed by Log-Gabor filter bank in terms of multi-scale with multiple orientations. The maximum magnitude of multiple orientations is concatenated to obtain feature-based scale representation. Each scale is dealt with multiple orientations and is compared by band-wise subtraction to retrieve difference image (DI) coefficient. The series of the difference coefficients from each scale are add-on together to estimate a DI. Thus, the resultant image of multi-scale orientation gives perception of detailed information with specific contour. Constrained *k*-means clustering algorithm is preferred to achieve change and un-change map. Performance of the proposed approach is validated on three real SAR image datasets. The effective change detection is examined by using confusion matrix parameters. Experimental results are described to show the efficacy of the proposed approach.

ARTICLE HISTORY
Received 10 March 2020
Revised 8 April 2020
Accepted 20 April 2020

KEYWORDS
SAR image; change detection; speckle; Log-Gabor filter bank; constrained *k*-means algorithm; performance analysis

Introduction

Change detection (CD) is an analysis to predict differences of two time series images obtained at same geographical area. The aim of the CD is to detect, analyse and interpret the objects or area modified at two different instances. CD is an active scope for researchers to provide importance for several purposes such as estimation of land cover (Jesus, Arie, & Joost 2012) and land use changes (Hazarika et al., 2015; Shalaby & Tateishi, 2007), monitoring urban area changes (Ban & Yousif, 2012; Ghosh et al., 2015), assessment of deforestation (Collins & Woodcock, 1996; Kennedy et al., 2007), risk analysis, relief efforts from crisis environment and change map information. In modern decades, CD plays an important role in remote sensing particularly on synthetic aperture radar (SAR) images, which can able to track and acquire radar images through over the period at entire climate conditions. Consequently, various methods were adapted and used for CD techniques; those are reviewed in (Lu et al., 2004; Radke et al., 2005; Singh, 1989). Existing CD approaches are on the analogy of applied reasoning levels based on various strategies applied by algebraic (Maoguo Gong, Cao et al., 2012; Maoguo Gong et al., 2014; Singh & Talwar, 2014), transformation (Li & Yeh, 1998), classification (Dogan & Perissin, 2014; yousif & Ban, 2014), clustering (Maoguo Gong, Zhou et al., 2012; Shang et al., 2014), statistical methods – similarity (Chesnokova & Erten, 2013; Inglada & Mercier, 2007) and dissimilarity, probabilistic techniques (Baselice et al., 2014; Hao et al., 2014; Wang et al., 2013; yousif & Ban, 2013), thresholding (Hongtao & Ban, 2014), contour techniques (Mura et al., 2008), fusion methods, machine learning (Bovolo et al., 2010; Celik, 2010; Vijaya Geetha & Kalaivani, 2018), techniques, etc., on the consideration of pixel and object based change map (Hussain et al., 2013) learning by supervised, semi-supervised (Lal & Anouncia, 2015) and unsupervised approaches (Bazi et al., 2005; Bruzzone & Prieto, 2000). However, these approaches are identifying the differences in terms of pixels (Ma et al., 2012) or objects (Shang et al., 2014) to perform information related to single scale.

In remote sensing, SAR is active radar sensors to track earth surface and provides constant information even exclusive ambiance state. RADARSAT satellite operated by Canadian Centre for remote sensing to collect global information of ice berg monitoring, growth of crops, maintenance of forests, oceanography and geological monitoring. Depending on mode of operation, it may works in single, double or quad polarisation with C-band, 5.4 GHz of frequency range, and 1–100 m range of resolution. ENVI-ASAR launched by European Space Agency (ESA), it works in the C-band with broad range of modes, incidence

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A New Technique of digital Certificate Using Blockchain Technology

Leelavathy S R, S Divyashree, Sneha P, PreethiSPattar, Sananth Kumar R S

Department of Computer Science and Engineering
Dr. T. Thimmaiah Institute of Technology,
Kolar Gold Field, Karnataka, India

leelav68@gmail.com

Abstract. The authorizations granting certification are highly compromised in terms of security details, due to lack of authentication and antiforge mechanism. We adopt block chain technology to overcome the problem of certificate forgery which will confirm users similar to digital signature with his/her identity and accessing authorization. Block chain technology is an open distributed ledger which contains unchallengeable information in a highly protected and encrypted approach and also it ensures that each transactions can by no means be changed. In accord to a high requirement for the method that can pledge to facilitate the information in such a certificate is original, this means that the document has been originated from authoritative resource and is not fake. Interplanetary file system makes use of the content address to exclusively identity every individual file in a overall namespace involving all computing device. A quick response (qr) code is a bi- dimensional barcode which provisions data in the form of black dots and white dots. The system comprises of black squares set in a square framework on a white environment, that can be captured by an imaging mechanism like a camera.

Keywords: block chain, hash, digital certificate, interplanetary file system, quick response code.

1 Introduction

1.1 Blockchain

Block chain was invented by Satoshi Nakamoto in 2008.Block chain facilitate distributed public ledgers which adhere to unchallengeable data in the secure and encrypted method plus guarantee that the transactions can by no means be indistinct. Though Bitcoin and further crypto currencies are the most chic example of blockchain. Distributed ledger technology (DLT) which is a digital system intended for recording the transaction of resources in which the transactions and their information are recorded at different places at the identical time. A block in blockchain is a set of data. The data is further added onto the block in blockchain. The primary block in the

ICASISET 2020, May 16-17, Chennai, India

DOI 10.4108/eai.16-5-2020.2304045

Safety on Roads under Low Visibility

Pooja.m[1], Kishore Kumar .R[2], Sachin.L[3], Vinceth.A[3], Mithun Chakaravarathy.J[3]
Department of Civil Engineering, Dr.T.Thimmaiah Institute of Technology, Kolar gold field Karnataka
[1]Assistant Professor Dr.T.Thimmaiah Institute of Technology, KGF
[2][3][4]Final Year UG Students Dr.T.Thimmaiah Institute of Technology, KGF.
Email : pooja@drtit.edu.in , macmithun1@gmail.com

Abstract: It is known that crashes tend to be severe in low visibility condition than under normal clear conditions. The effects of low visibility are one of the major concerns in the road safety. In this case the visibility tends to turn zero due to fog and heavy rainfall. In this study we bring in contrast the implementation and design of accident avoidance system using Arduino and ultrasonic sensors. The ultrasonic sensors can detect the static position of the vehicle and transmits information to the warning system and provides information to the driver behind. And we also use coding for this project in order to connect the ultrasonic sensors to Arduino. We use an Arduino software for connecting both the devices. After that we need to fetch the code and if it runs without any errors then the devices can be used.

Keywords: Low visibility, Fog, Arduino, Ultrasonic sensors.

I. INTRODUCTION

Over Few Decades, Safety over Transportation is gaining attention because of frequent deaths around the world. Traffic Hazards is one of the major issues to be dealt with when it comes to transportation. Surveys have been conducted and found that the source of majority deaths across the world is due to road accidents. Hence there is a need to provide better transportation facilities that could reduce traffic hazards and save peoples life.

Adverse weather conditions in the atmosphere cause serious harm to road traffic system, especially under low-visibility conditions related to fog. Previous studies have found that traffic accidents are more likely to happen under low-visibility conditions, and most of them are secondary accidents or multi-vehicle collisions under low visibility conditions, which leads to more serious consequences (Accident occurred in Yamuna Expressway in Greater Noida). The low visibility conditions severely affect drivers' line of sight, which can lead to lack of judgment of road geometry and the real-time traffic flow system.

Human error is the most dominant factor in traffic crashes. This error ranges from complete negligence (e.g., distracted or impaired driving) to limitations of human abilities (e.g., slower reflexes with age, low visibility in inclement weather). One limitation that is usually neglected is low visibility during drizzly weather. To reduce the frequency of crashes that occur in inclement weather, it is necessary to investigate the key factors associated with these crashes thoroughly. This study will help us to identify the effects of decreased visibility on the likelihood of crashes and the factors that influence crashes during periods of decreased visibility.

In this work, a warning system is designed using Arduino and ultrasonic sensors for accident detection and prevention.

Some of the major objectives that have been focused are

a. Detection of static position or Accident of a vehicle.

b. Warning the upcoming vehicles, through the warning system.

The structure of rest of the paper is discussed as below. Section II discusses about the Existing works. Section III discusses about Methodology. Section IV discusses about proposed work. Finally, Conclusion and References were discussed.

II. EXISTINGWORK

Several Literature paper have been studied and analyzed for the System Design. Several pitfalls in the existing works have been identified. In one of the paper[1], the authors have mentioned the existing technologies and discussed about intelligent transportation system. The existing work is based on RFID and ARM controller to minimize the traffic hazards. However, RFID communication can only be effective when there is strong RF Signal strengths. In [2], VANETS technology is used to Avoid Traffic hazards using DSRC technique. In [3], Survey on various technologies have been considered such as VANETS, Wireless networks. In [4], IOT solution is provided to avoid road accidents. This survey paper could be used as a reference in the

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IoT Based Automatic Control of Sun Tracking Solar Panel for High Power Generation

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Abstract. The conversion of sun light into electric energy through solar panels is significant compared to other renewable sources. The energy extracted from the solar panel depends on solar light incident on the solar panel, but the constant variation in the sun's position decreases the power generation efficiency. In order to extract maximal energy, the solar panel should face the sunlight at normal angle throughout the day. Solar tracker tilts the panel towards the sun light direction. The automatic sun tracking solar panel will harness a significant amount of energy from available sun light. Single axis type of solar tracker is used which has one degree of freedom of rotation. Closed loop tracking approach is used with LDR's, an ATmega2560 microcontroller and a DC motor forming the principal components of the circuit model. Based on the signals generated from LDR's, microcontroller provides signals to the motor for tilting the solar panel towards the direction of maximum incident sun rays, which will increase the power generation efficiency. The efficiency of the proposed system is 71%. The information regarding status of solar tracking system is shared through IoT.

Keywords: Solar tracker, LDR, ATmega2560 Microcontroller, DC motor, IoT.

1 Introduction

Conventional power resources like petroleum fuel, lignite and fossil gases are not only getting depleted but also pollute the environment. As energy consumption and demand level continue to rise with rising global population, hence there is a need of filling the gap through renewable energy. The most significant source of renewable energy is solar energy. Photovoltaic panels were introduced to use this solar energy. Solar panel is an array of solar cells arranged in an order it absorbs sun light and converts it into electrical energy. Solar cell is made up of semiconductor substance silicon.The availability of the solar energy is unlimited; harnessing it optimally presents a challenge because of the stationary nature of photovoltaic panels.

KAIRIET 2020, May 16-17, Chennai, India

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6. Problem Solving Methodologies

F No DrTTII/IQAC/2020-21/074

Department of Electronics & Communication Engineering
Academic Year 2020-21

2.3.1 Student centric methods, such as experimental learning, participative learning and problem solving methodologies are used for enhancing learning experiences

Sl. no	Sem	Course Name	Course Code	Centric Methods					Planned Date	Execution Date (Execution within a month with proof and report)	Signature
				Flip Class	Seminar	Extra Experiments	Problem Solving	Other Activity			
		Complex Analysis, Probability and Statistical Methods	18MAT41				✓		28/6/21	28/6/21	
		Analog Circuits	18EC42				✓		14/6/21	29/6/21	
		Control Systems	18EC43				✓		20/6/21	26/6/21	
	4	Engineering Statistics & Linear Algebra	18EC44				✓		04/8/21	14/8/21	
		Signals & Systems	18EC45				✓		4-8-21	4-8-2021	
		Microcontroller	18EC46				✓		27.7.21	28.7.21	
		Microcontroller Laborato	18EC147			✓	✓		5.8.21 6.8.21	5.8.21 6.8.21	
		Analog Circuits Laborato	18EC148			✓			5/8/21 6/8/21	5/8/21 6/8/21	

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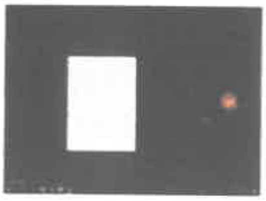
Report for Students Centric Methods

Course Name: POWER ELECTRONICS **Course Code:** 17EC73/15EC73

Course Coordinator: MANJUSHREE K CHAVAN

1) A Flip class was planned and the topic to be done was given to whole class.
2) Flip class for the subject was done on 13-11-2020
3) Notes were given prior to the Flip class conduction date to whole class.
4) Sneha M was selected to give flip class on the topic UJT relaxation circuit, Prachi Bohra for solving problems on UJT relaxation circuit and Dollar Singh for solving problems on Thyristors.
5) Since it was lockdown, Flip class was conducted using Virtual Mode.
6) Google Meet application was used to conduct and record online class as per the instructions given by the higher authorities.
7) A discussion was carried out after the Flip class and student's doubts were cleared.



https://drive.google.com/file/d/1UKJCHJD_zIRWLz96aOM_eV6CWzo:OM/view?usp=sharing

13/11/2020

Head of the Department

1/12/21

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F.No:DrTTIT/IQAC/2020-21/074AP

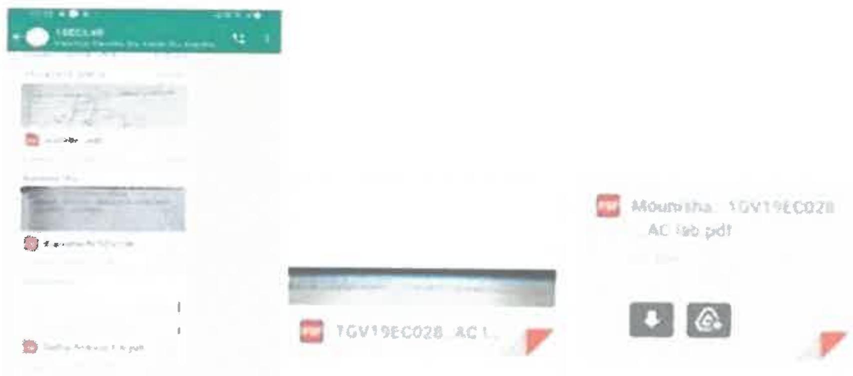
Report for Students Centric Methods

Course Name ANALOG CIRCUIT LAB Course Code 18ECL48

Course Coordinator: Tamilvani R

- The lab programs are explained in the online class through Google meet.
- The experiments that are done by the students are filters, rectifiers, 555 timers etc
- Students write the program after the explanation and submit the same in the whatsapp group

https://drive.google.com/file/d/1l2fdx_3Pn8hzSPLwrqBbl66Lox40yPYn/view?usp=sharing



Online students wrote program and send through whatsapp group

Course Instructor

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Report for Students Centric Methods

Course Name: Digital Communication Course Code: 18EC61

Course Coordinator: NANDINI GN

1. Problem solving related assignments were given to students on 18.06.2021
2. The assignment contained six questions on signaling over Additive white Gaussian Noise channels.
3. The problems were aimed to ascertain the problem solving capabilities of the students under different circumstances.
4. Deadline for completing this assignment was on or before 24.6.2021

Nandini 24.6.2021
Course Coordinator

Vijayachandra 24/6/2021
HOD

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Report for Students Centric Methods

Course Name: Biomedical Signal ProcessingCourse Code: 17EC742/15EC742

Course Coordinator: Mohana C

1. Assignment was given to students on18.11.2020
2. Assignment contains five questions to be answered out of which three problems are based on Huffman coding and TP algorithms and theory related to adaptive filters.
3. The assignment questions are aimed to increase the problem solving capabilities of the Students.
4. The submission date for the assignment is 24.11.2020.

Mohana.C
Faculty Sign

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