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3.3.2 Number of research papers per teachers in the Journals notified on UGC website during the last five years (10)

Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Link to the recognition in UGC enlistment of the Journal /Digital Object Identifier (doi) number		
						Link to website of the Journal	Link to article/paper/abstract of the article	Is it listed in UGC Care list/Scopus/ Web of Science/ot
Experimental investigation on performance of waste cement sludge and silica	Dr. D Rameshkumar	**Department of Civil Engineering**	Journal of The Institution of Engineers	2020	2250215 7, 2250214 9	https://link .springer.c om	Experimental Investigation on Performance of Waste Cement Sludge and	SCI
A multimodal biometric authentication scheme based on feature fusion for	Dr. Radhakrishnan R	**Department of Civil Engineering**	Journal of Ambient Intelligence and Humanized Computing	2020	**1868-5145**	https://link .springer.c om	https://link.spri nger.com/articl e/10.1007/s126 52-020-02184-8	Scopus
Pedestrian level of service at Unsignalized Intersection and Junction	Ms. Anitta Aloysious	**Department of Civil Engineering**	IOSR Journal of Dental and Medical Sciences	2019	2279-0861	https://ww w.iosrjourn als.org	https://www.io srjournals.org/i osr-jdms/papers/Vo l19-	Research gate and google scholar
Traffic scheduling for Green city through energy efficient Wireless sensor	Vinodh P Vijayan1, Biju Paul	Computer Science and Engineering	International Journal of Advanced Trends in Computer	July – August 2019	ISSN 2278-3091		https://doi.org/ 10.30534/ijatcs e/2019/818420 19	scopus
Flood Prediction Using IoT Enabled Sensor Network and Machine Learning	Sneha Suresh1, Meenu Mathews, Anju K S, Lincymol Abraham, Dr.Vinodh P Vijayan	Computer Science and Engineering	International Journal of Computing, Communication s and	April - June 2020	ISSN 2319-2720		https://doi.org/ 10.30534/ijccn/ 2020/06922019	Google Scholar
Optimizing Sensor Network in Sustainable City	Gargy Ponnachan1, Drisya Merin Saji2, Bismi Nazar3, Jossy P Xavier4, Dr. Vinodh P Vijayan5	Computer Science and Engineering	International Journal of Computing, Communication s and	April - June 2020	ISSN 2319-2720		https://doi.org/ 10.30534/ijccn/ 2020/03922019	Google Scholar

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Title	Authors	Department	Journal	Date	ISSN		Link	Indexing
A Research for Implementing Image Interpolation Using Inpainting	P.J. Sajith, S.U. Aswathy, Bibin Vincent, R.S. Anoop Sreekumar	Computer Science and Engineering	International Journal of Recent Technology and Engineering	Sep/22	ISSN: 2277-3878		https://www.ijrte.org/wp-content/uploads/papers/v8i2S11/B1080098251	scopus
A Research for Implementing Image Interpolation Using Inpainting	P.J. Sajith, S.U. Aswathy, Bibin Vincent, R.S. Anoop Sreekumar	Computer Science and Engineering	International Journal of Recent Technology and Engineering	######	ISSN: 2277-3878		https://www.ijrte.org/wp-content/uploads/papers/v8i2S11/B1080098251	scopus
DART Wear: Danger Alert Reassuring Track Wear	Arya Nair, Arya Rajagopal, Betsy Biju, Clara C.J, Jinu P Sainudeen	Computer Science and Engineering	International Journal of Advances in Computer Science and	Jun/20	ISSN 2320 - 2602		https://doi.org/10.30534/ijacst/2020/03962020	Google Scholar
Prediction of Question Tags Based on LDA and Deep Neural Network	Ashwin Cherry Mathew, Sreenimol K.R	Computer Science and Engineering	International Journal of Computing, Communications and	April - June 2020	ISSN 2319-2720		http://www.warse.org/IJCCN/static/pdf/file/ijccn02922020.pdf	Google Scholar
Online Placement and Recruitment System	Akshay Venugopal, Ashik Pally, Balaji V Shenoi, Bibin T Varghese, Sreenimol K R	Computer Science and Engineering	International Journal of Advances in Computer Science and	Jun/20	ISSN 2320 - 2602		http://www.warse.org/IJACST/static/pdf/file/ijacst05962020.pdf	Google Scholar
Digital Resume - Personal Website Builder	Anandu N, Anandu Shimon, Nimmymol Manuel	Computer Science and Engineering	International Journal of Computing, Communications and	Jun-22				Google Scholar
Crypt Analysing and Image Encryption Using WU's Algorithm	Pooja Jayan, Pritty Sara Fredy, Rintu Joseph, Roshni P S, Nimmymol Manuel	Computer Science and Engineering	International Journal of Multidisciplinary in Cryptology and	May20	ISSN 2320 - 2610		http://www.warse.org/IJMCIS/static/pdf/file/ijmcis01932020.pdf	Google Scholar
Indoor Navigation System For Visually Impaired Using Real Time	Reo J Mathew, Harilekshmi D Panicker, Akzeeb Bose, Divya S B	Computer Science and Engineering	International Journal of Computing, Communications and	April - June 2020	ISSN 2319-2720		http://www.warse.org/IJCCN/static/pdf/file/ijccn05922020.pdf	Google Scholar
Realtime smart energy meter and load automation	Anandu Chandran, Akshay anilkumar, Allen Geo Jacob, Abin Tom, Divya S B	Computer Science and Engineering	International Journal of Advances in Computer Science and	Jun/20	ISSN 2320 - 2602		http://www.warse.org/IJACST/static/pdf/file/ijacst02962020.pdf	Google Scholar
Hackdroid: Child Safe Browser with Parent Control, In.	Alby Binoy, Alpha Gigi, Aswathy Sukumaran, Neena Joseph	Computer Science and Engineering	International Journal of Information Systems and Computer	May - June 2020	ISSN 2319 – 7595		http://www.warse.org/IJISCS/static/pdf/file/ijiscs01932020.pdf	Google Scholar

Title	Authors	Department	Journal	Month/Year	ISSN		Link	Indexing
Site Accessibility Prediction with Random Forest Algorithm and Quadruped Bot	Akshay mon KV,Arjun Anil,Ashish Philip ,Gladstan K Saji,Sujitha M	Computer Science and Engineering	International Journal of Information Systems and Computer	May - June 2020	ISSN 2319 – 7595		https://www.researchgate.net/publication/343015891_Site_Accessibility_Predi	Google Scholar
A software based ASL Translator and ASL to Voice Emulation System	Joel D ,Karthika Rajeev,Lenin Ben,Jerome Pathrose ,M Sujitha M	Computer Science and Engineering	International Journal of Information Technology Infrastructure(IJ	May - June 2020	ISSSN 2320-2629		https://www.researchgate.net/publication/343016654_A_Software_based_AS	Google Scholar
Android Controlled Smart Wheelchair with Gesture and Voice Control	M R Sreeraj,Shahima Azad, Binumol Baby ,Ms. Neema George	Computer Science and Engineering	International Journal of Advances in Computer Science and	######	ISSN 2320-2602		http://www.warse.org/IJACST/static/pdf/file/ijacst07962020.pdf	Google Scholar
Investigation Study on Brain Tumour Detection and Classification with	Simy Mary Kurian,D Sujitha Juliet	Computer Science and Engineering	International Journal of Advanced Science and Technology	July - August 2020	ISSN: 2005-4238		http://sersc.org/journals/index.php/IJAST/article/view/29435	scopus
Cloud Based Electronic Health record security by using image encryption	Athira P,Sayana Safees,Vysnavi Biju, Ms. Simy Mary Kurian	Computer Science and Engineering	International Journal of Multidisciplinary in Cryptology and	May - June 2020	ISSN 2320 - 2610		https://doi.org/10.30534/ijmcis/2020/02932020	Google Scholar
Security Risk Assessment System for Detection and Prevention Of	Haritha Sajikumar , Kripa Sara Thomas , Jithu Biju ,Thomas T , Syamamol T	Computer Science and Engineering	International Journal of Multidisciplinary in Cryptology and	May-June2020	ISSN 2320 - 2610		DOI:10.30534/ijmcis/2020/03932020	Google Scholar
User Authentication for Smart Home using IoT Devices	Abraham John , Akash R , Ajay Manuel , Dibin Joseph , Syamamol T	Computer Science and Engineering	International Journal of Advances in Computer Science and	######	ISSN 2320 - 2602		DOI:10.30534/ijacst/2020/04962020	Google Scholar
Deep Learning based Pneumonia detection using X-Ray	Asaph M Joyer George , Akshay V Anil , Abhishek B , Gayathri R Krishna	Computer Science and Engineering	International Journal of Advances in Computer Science &	######				Google Scholar
Wifi based ad-hoc network for disaster management	Joel Abraham, Denny Salu, Renjith CS, Tinu Thomas	Computer Science and Engineering	International journal of computing, communication and networking	April - June 2020	ISSN 2319-2720		http://www.warse.org/IJCCN/static/pdf/file/ijccn07922020.pdf	Google Scholar
Smart Techie: An Online Examination System with Improved Use of	Nishamol Shaji, Santhy Rachel Thomas, Shalu Treesa, Sneha Philip, Tinu Thomas	Computer Science and Engineering	International Journal of Information Systems and Computer	May-June 2020	ISSN 2319 – 7595		http://www.warse.org/IJSCS/static/pdf/file/ijiscs04932020.pdf	Google Scholar

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Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Link to the recognition in UGC		
						Link to website of the Journal	Link to article/paper/ abstract of the article	Is it listed in UGC Care list/Scopus/ Web of Science/other , mention
Smart Bin -the hygienic solution for smart waste collection and disposal via IoT	Greeshma LiyaJacob, Nishanth S, Rahul R, Ms. Tinu Thomas	Computer Science and Engineering	International Journal of Advances in Computer Science and Technology	June 2020	ISSN 2320 - 2602		http://www. warse.org/IJA CST/static/pd f/file/ijacst08 962020.pdf	Google Scholar
SMART SPEED GOVERNER	MS.APARNA JOSE	ECE	International Journal of Information Security and Software Engineering, Volume 5 Issue 2,64-	2019				
Hardware and power Efficient Single bit Full adder using GDI and PTL Technique	Ms.Jyothisree K R	ECE	Journal of Embedded system and Applications,	2019	ISSN:239 5-6712(Onl ine),ISSN 2321-8533(pri nt)Volum e 7 issue	https://c omputerj ournals.st mjournal s.in/inde x.php/JoE SA/articl e/view/5 94	https://comp uterjournals.s tmjournals.in /index.php/Jo ESA/article/v iew/594	
Low Power Hardware Efficient Comparator using Full Swing 3T	Reneesh Zacharia	ECE	International Journal of Recent Technology and Engine ering	2019	ISSN2277 3878, Volume 8 Issue 1S4	https://w ww.ijrte.o rg/wp-content/u ploads/p apers/v8i 1s4/A11 8406815 419.pdf	https://www. ijrte.org/wp-content/uploa ds/papers/v8 i1s4/A11840 6815419.pdf	
"Electric field and Surface Potential Analytical Modeling of Novel Double Gate Triple Material PiN Tunneling Graphene Nano Ribbon FET (DG-TM-PiN-TGNFET)",	Dr. T.D Subhash	ECE	Journal of Silicon (Springer),	2019-2020	1876-990X	10.1007/ s12633-020-00474-6	10.1007/s12 633-020-00474-6	
Comparison of Retrofitting Techniques for Improving LVRT Capability of Variable Speed Wind Turbine Employing SCIG	Preethi Sebastian	EEE	TEST ,Engineering AND Management	2019-20	ISSN: 0193-4120			
Bund Breakage Predictor and Automatic Field Irrigation System	Jeneesh Scaria	EEE	Journal of Telecommuni cation,Switchi ng Systems and Networks	2019-20				

Title	Author	Department	Journal	Year	Volume/Issue	ISSN	Link	Link	Indexing
Peltier Integrated Jacket	Mrs. Jeepa K.J	EEE	Journal of Microcontroller Engineering and Applications	2019-20					
Photovolatic Cell Based Water Purfier For Flood Affected and Polluted Areas	Shoma Mani	EEE	Journal of Microcontroller Engineering and Applications	2019-20				computers.jo urnalspub.inf o/index.php?j ournal=IJSSE &page=article &op=view&pa th%5B%5D= 537	
Accident Alert System using Rasberry Pi	Eugene Peter	EEE	International Journal of Information Security and Software Engineering	2019-20	Vol. 5: Issue 2		http://jo urnalspu b.com/Jo urnalsDet ails.aspx? jid=106		
A Transformer based Multilevel Inverter with Lesser Components	Mr.Phejil K Paul	EEE	Journal of Microelectron ics and Solid State Devices	2019-20				DOI: https://doi.or g/10.37591/j omsd.v6i2.33 47	
Peltier Integrated Jacket	Ms.Neeba Sabu	EEE	Journal of Microcontroller Engineering and Applications	2019-20					
Investigation on the effect of different backsheet materials on performance characteristics of a Photovoltaic/Ther mal (PV/T) system	Dr.Vaishak S	MECHANICAL	Renewable Ene	2020		0960-1481	https://w ww.journ als.elsevi er.com/re newable- energy	https://ideas. repec.org/a/e ee/renene/v1 68y2021icp1 60-169.html	
Experimental Analysis of Synergetic effect of Part Cooled EGR on Magnetic field assisted Combustion of Liquefied Petroleum Gas	Dr.Libin P Oommen	MECHANICAL	Arabian Journal for Science and Engineering	2020		2.2E+07	https://w ww.sprin ger.com/j ournal/1 3369	https://www. springerprofe ssional.de/en /expe.imenta l-analysis-of- synergetic- effect-of-part- cooled- exhaus/1810 9446	
Development of Performance Evaluation Model for Public Sector Industrial Organizations in Kerala	Dr. Sibu C. Chithran	Management Studies	International Journal of Recent Technology and Engineering	2019		2277- 3878	https://w ww.ijrte.o rg/	https://www. ijrte.org/wp- content/uploa ds/papers/v8 i2S10/B1154 0982S1019.p df	Scopus
Designing Learning Environments for Developing a Curious Mind Among Engineering Students: A Facilitator Perspective	Dr. Sibu C. Chithran	Management Studies	Journal of Management and Innovative Information Technology	2019		2395- 4981			National Journal

Title	Author	Department	Journal	Year	ISSN	URL	URL	Type
A Study on Factors Influencing Women Buying Behavior towards Cosmetic Products in Tamil Nadu	Dr. Sibu C. Chithran	Management Studies	Journal of Management and Innovative Information Technology	2019	2395-4981			National Journal
Public Sector Management: HR Functions in Systems Thinking Perspective	Dr. Sibu C. Chithran	Management Studies	Research Directions	2019	2321-5488	http://www.researchdirections.org/	https://www.researchgate.net/publication/332345325_PUBLIC_SECTOR_MANAGEMENT-HR_FUNCTIONS_IN_SYSTEMS_THINKING_PERSPECTIVE	UGC Journal
A Study on the Women Buying Behavior towards Cosmetics Products in Kerala	Dr. Sibu C. Chithran	Management Studies	Journal of Emerging Technologies and Innovative Research	2019	2349-5162	http://www.ijrar.org/		UGC Journal

Accident Alert System using Raspberry Pi

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Eugene Peter[2],*
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ABSTRACT

Road accidents are grooming in India day-by-day. Over speeding, poor quality of roads, insufficiency in light etc. are the highlighted reasons for this. These reasons eventually lead to the loss of life. Studies shows that approximately 1.3 lakhs of lives were fallen on roads every year. Among this figure, a considerable percent is due to the delay in getting the patient right treatment. Accident alert system using Raspberry Pi is an automatic accident detection device which alerts the closest hospitals in the accident spot without any human aid. The accelerometer senses the shock exerted on the vehicles and the measured value is given to the Pi, where a threshold voltage value is set. When the measured value is greater than the threshold, it is considered as a major accident and the camera gets on and pictures of the vehicle's interior are taken. GPS continuously takes the location details. Both pictures and location details are stored on the server, which is sent as an e-mail to the registered mail IDs.

Keywords: global positioning system (GPS), accelerometer, Raspberry Pi (Python language), server, e-mail to the hospitals

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INTRODUCTION

Cars are introduced in the market with a lot of latest technologies. Intelligent locking system, navigation, safety systems, etc. are the main among these technologies. As safety is our primary concern, this project presents an "Accident alert system using Raspberry Pi" which aims an automatic system that alerts the hospital at the very next moment after an accident has happened. It does not require any actions from humans to perform since it is fully automatic. Accelerometer measures the shock exerted on the vehicle and is given to the Pi. GPS is used to get the location details and the camera takes the interior pictures of the vehicle. Registered mail ids in the server will get those details of location and pictures as an e-mail. Time is not a matter for its operation. Whether the time is early morning, noon or midnight, it functions well. Waiting for another vehicle for help, accessing police stations, such kind of time lapse are avoided here. The direct arrival of accident speeds up the situation and the doctors of the respective centers can be prepared for the treatment. This project aims to avoid the life loss due to time delays to a far extent and thus serve the society PRINCIPAL.

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STM JOURNALS

Peltier Integrated Jacket

Gokul Das[1], Kiran Uthaman[1], Ajay Anilkumar[1], Jeepa K.J.[2]*, Neeba Sabu[2]

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Abstract

Any individual who means to travel open air must be set up to arrangement with a wide range of climate beginning from the dry hot condition to the chilled coolness. The furthest points of both the conditions can prompt genuine medical issues. Changes in single degree can influence body's natural chemistry prompting different variations from the norm. There is a constraint to which layers of garments can be heaped onto our body just as finding a way to sell out ourselves from the outrageous blistering climate. A fitting answer for the furthest points of climate is presented. With the dash of a solitary catch, the client can control the internal heat level because of the outer temperature. Intense mountain affliction, high height hack are regular issues found among hikers which are caused because of the temperature varieties. Correspondingly, in cool nations it is hard for the people to endure. In each such circumstance the proposed framework helps the client productively. Such a suit encourages the client to control and screen the interior temperature of the suit from high temperatures to low temperatures, contingent upon the season. If it watches the client from such ailment caused because of atmosphere changes and surprising warming or cooling impacts. This framework is consequently a proficient and resolved answer for the radical change in climate which makes numerous evil impacts people. The helpfulness and common sense of such a suit is the propelling variable of setting out on the proposed framework.

Keywords—peltier cell, seebeck, microcontroller, battery, IR sensor

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INTRODUCTION

Temperature related inconveniences are increasing day by day. The major issues such as hypothermia, heat strokes that arise due to sudden temperature changes have been the major issue for people throughout the world. People often feel either extreme hotness or coolness due to the climate variations. Some of these abnormal conditions due to temperature variations has lead to unfortunate deaths. There are certain technologies that are developed to make people thermally pleasant such as air conditioning units and heating units and they have proved to be successful in making people feel comfort in their domicile but are not personal mobile solutions. Thus, it was essential to build a system which provides convenient thermal comfort out of the dwellings. This kind of suit can provide a comfortable environment to the user. People often get unpleasant due to shifting of temperatures. People, who spend a lot of time outdoor, in cold or hot weather conditions, are familiar with the difficulties related to temperature variations. Any change in temperature that might make people unpleasant, can be eliminated by introducing a suit that regulates the temperature and act as a mobile solution for the user and exclude the usage of many layers. Here a jacket that can act as both heating and cooling system is introduced. When it is too hot, the system cools down the body and when it is too cold, the system heats up the body. By using this, the user is able to eliminate the heat related inconveniences and maintain a comfortable temperature level as per the user requirement. For this, the user has to just wear the proposed jacket. This system helps people to survive and work in cold countries as well as in hot ones. This jacket acts as a guard against the temperature variations and helps people to
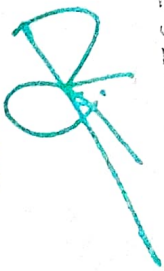
Comparison of Retrofitting Techniques for Improving LVRT Capability of Variable Speed Wind Turbine Employing SCIG

Preethi Sebastian

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Sasidharan Sreedharan

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Usha Nair

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Abstract: Rapid infiltration of wind farms into central power grid has prompted authorities to insist on low voltage ride through capability (LVRT) of wind turbines to prevent cascading failures. A large number of existing wind farms still employ squirrel cage induction generators (SCIG) because of their robustness and low cost. Their main drawback is absence of LVRT capability. This paper proposes enhancing the LVRT of a variable speed wind turbine(VSWT) employing squirrel cage induction generators by three techniques, braking chopper, energy storage and STATCOM.The transient behaviour of the VSWT using retrofitting devices is analyzed and simulated in MATLAB/Simulink. The losses occurring due to lack of LVRT capability was studied by collecting data from a wind farm in India employing variable speed SCIG. A comparison of technical performance and economic feasibility of the above three techniques was also done.

Key Words: LVRT, VSWT, SCIG, chopper, energy storage device, STATCOM.

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Investigation on the effect of different backsheet materials on performance characteristics of a photovoltaic/thermal (PV/T) s...

Investigation on the effect of different backsheet materials on performance

S. Vaishak Purnanand V. Bhale ☒ ☒

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Highlights

• Effect of three different backsheet materials on the performance of a PV/T system is studied

• Study is conducted for a refrigerant-based PV/T system using a validated mathematical model

• Effect of packing factor and backsheet thickness is also studied

Abstract

Photovoltaic Thermal (PV/T) systems are identified as attractive renewable energy technologies for residential and commercial building applications. They provide higher conversion efficiency and better space utilization than independent photovoltaic PV) and solar thermal systems. The collector design and choice of backsheet are of utmost importance for meeting the long-term reliability, life and performance of a PV/T system. Generally, Copper (Cu)/Aluminum (Al) and Tedlar-Polyester-Tedlar (TPT) are utilized for collector design, whereas glass is also identified as potential backsheet material having specific advantages. The present work analyzes the performance of a refrigerant-based PV/T system with three backsheet materials namely Glass, TPT and Cu using a validated numerical model. It was found that PV/T collector with the TPT backsheet has low cell temperature, whereas the collector with Cu backsheet provides the highest coefficient of performance (COP). Besides, the effect of packing factor and thickness of the backsheet on cell temperature and COP was also studied and reported.
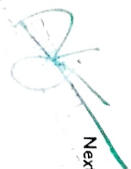
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Assimilative capacity approach for air pollution control in automotive engines through magnetic field-assisted combustion of ...

Green Technologies for Sustainable Water |
Published: 04 January 2021

Assimilative capacity approach for air pollution control in automotive engines through magnetic field-assisted combustion of hydrocarbons

Libin Panavelil Oommen ✉ & Kumar Gottigere Narayanappa

Abstract

Deterioration of air quality through the combustion of hydrocarbon fuels has been one of the global transboundary problems put before the research community since last five decades. According to the updated statistics, 79% of energy needs in India are met by fossil fuel combustion which results in the emission of toxic pollutants like carbon monoxide, oxides of nitrogen, and unburned hydrocarbons. Air quality has seriously been affected in many parts of India, and statistically, 13 out of 15 most polluted cities in the world lie in India. Magnetic field-assisted combustion has been proven as a reliable technology in internal combustion engines for enhancing the combustion of fuels and reduction of harmful emissions that are the byproducts of incomplete combustion of fuels. In

Experimental Investigation on Performance of Waste Cement Sludge and Silica Fume-Incorporated Portland Cement Concrete

G. K. Arunvivek[1] · D. Rameshkumar[2]

Abstract An experimental investigation on improvisation of the conventional concrete mix by way of incorporating waste by products in view of facilitating partial substitution of concrete ingredients has been reported. The mechanical and durability properties of concrete mix incorporated with waste cement sludge and silica fume were test verified, and the optimal cement replacement proportion was identified. Based on test results, the technical feasibility and performance were assessed. The cement sludge content was partially replaced from 2 to 10% at an increment rate of 2% by weight of cement. The optimum cement sludge content has been identified as 4%. The optimal replacement percentage of silica fume along with 4% cement sludge was experimented up on. The silica fume content was varied from 3 to 12%, yielding dependable and optimal proportions of silica fume at 8% by weight of cement. Relationship between the 28-day compressive and flexural strength was established using an empirical correlation equation.

Keywords Cement sludge · Silica fume ·
Mechanical properties · Corrosion potential ·
Acid resistance

Introduction

In the present era, due to industrialization, infrastructure development and rapid population growth, the waste accumulation increases every year. Waste disposal is a decisive environmental issue and the waste management by way of recycling and reuse getting momentum and popularity in developing and developed countries all over the world. Partial substitution is a viable alternative to transform the wastes into beneficial concrete ingredient without causing threat to the environment [1–3]. In mass concrete production, ready mix concrete (RMC) plays a vital role. However, RMC has lot of benefits, but disposing the sludge generated during RMC plant cleaning process becomes a huge burden for RMC producers. Each day through the RMC cleaning process, large quantity of waste cement sludge is generated in batching plants [4, 5]. Improper disposal of waste cement sludge into soil or water bodies may cause environmental pollution due to their high pH value. If the waste cement sludge is disposed into the water bodies, it will harm the aquatic livings, and if it is disposed in land, it may modify the soil chemistry, restrain plant growth and pollute groundwater. The traditional practices which are followed to dispose the waste cement sludge include dumping either at construction sites or at barren lands, and batching plant yards. Most of the disposal methods are not eco-friendly. Instead, the cement sludge can be recycled and used for concrete production if it meets the requirement as per ASTM C94 (1992) [6, 7]. Therefore, the waste sludge recycling process has turn out to be indispensable. If waste sludge is reused in concrete as a cement replacing material, it can be considered as an economic cement replacement material since its reuse does not require any pre-treatment [8, 9]. Silica fume is an industrial by-product and a cementitious material. Usually,

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Springer

Pedestrian Level of Service at Unsignalized Intersection and Junction Improvement

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Abstract:
This paper aims at developing a Level of Service (LOS) model for unsignalized intersection crosswalks for pedestrians from the perspective of the pedestrian's perception of comfort and safety in unsignalized intersection environment. Firstly, the potential primary factors influencing pedestrian LOS at crosswalk were summarized from three respects: traffic conflicts, crossing facilities and delay. Secondly, data for the model were collected, including 124 participants real-time sense of comfort and safety when they crossing the selected intersection crosswalks and the design and operational characteristics of the selected intersection. The above mentioned data's are obtained by conducting questionnaire and videographic survey in the selected intersection. The study area for research work is taken at Ernakulam district of Kerala, India which includes a two three legged intersection (Angamaly LF intersection and Mattor College Junction). Based on the survey data, Step-wise regression analysis were carried out to develop pedestrian LOS model for unsignalized intersections. A reliable, statistically calibrated pedestrian LOS model for unsignalized intersections was developed, suitable for application in the vast majority of Indian urban areas.
Key Word: Pedestrian, Level of Service, Crosswalks, Unsignalized Intersection, Junction Improvement.

I. Introduction

Walking is one of the most important travel modes in Indian urban and sub- urban areas. Pedestrian is defined as a person whose mode of travelling is walking. So pedestrian plays an inevitable role in Indian traffic but they are the most vulnerable road user and are always neglected in transportation planning, construction and management. But it is a fact that at some point or the other every person is a pedestrian.Potential for conflict between different types of road users is very high at intersections it is because different traffic moving in different directions occupies the same area to cross. The nature of traffic in India is very heterogeneous so it is very hard for pedestrians to cope up with Indian traffic situation. So more care should begiven to improve pedestrian facilities, sidewalk, foot over-bridge, walkway etc. can be provided to increase the safety of pedestrian.The term LOS introduced by the highway capacity manual (HCM) represent the level of facilities a user can derive from road under various operating characteristics and traffic volume. HCM defines six LOS based on operational condition that is from LOS A to LOS F representing the best to worst level of services.Pedestrian level of service (P-LOS) expresses the degrees that the road facilities satisfy the pedestrian's demands of safety, comfort, continuum and celerity. Our study mainly focuses on effectiveness of crosswalks at the selected unsignalized intersections. The reason behind selecting unsignalized intersection was that compared to signalized intersections unsignalized intersections offer less safety to the pedestrians.

II. Pedestrian Level of Service

Pedestrian level of service indicates the environmental qualities offered to pedestrians at road traffic services and serves as a guide for development of standards of pedestrian facilities.

Objectives

1. To develop a regression model to determine the level of service of pedestrians (PLOS) at selected unsignalized intersections.
2. Validating the model using the statistical tests such as R square, T test and normality test.
3. Validating the obtained PLOS with an evaluation matrix.

ORIGINAL RESEARCH

A multimodal biometric authentication scheme based on feature fusion for improving security in cloud environment

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Abstract

In recent days, due to the advent of advanced technologies such as cloud computing, accessing data can be done anywhere at any time. Meanwhile, ensuring the data security is highly significant. Authentication plays a major role in preserving security via different access control mechanisms. As a recent trend, the biological information of the individual user is considered as verification scheme for the authentication process. Traits such as fingerprint, iris, ear or palm print are widely used to develop the authentication systems from its patterns. But, to increase the complexity of the user authentication and to ensure high security, more than a trait is combined together. In this paper, a multimodal authentication system is proposed by fusing the feature points of fingerprint, iris and palm print traits. Each trait has undergone the following procedures of image processing techniques such as pre-processing, normalization and feature extraction. From the extracted features, a unique secret key is generated by fusing the traits in two stages. False Acceptance Rate (FAR) and False Rejection Rate (FRR) metrics are used to measure the robustness of the system. This performance of the model is evaluated using three standard symmetric cryptographic algorithms such as AES, DES and Blowfish. This proposed model provides better security and access control over data in cloud environment.

Keywords Authentication · Cloud computing · Cryptography · Hashing · Multimodal biometric system · Symmetric key encryption

1 Introduction

Cloud computing is an advanced technology, which deliver services without direct management of user, based on the demand of resources (Kushida et al. 2015). It is highly scalable, robust and provides access to the data anywhere at any time. It supports performing complex, high-scale operations over cloud environment. The key advantage of this technology is in ensuring better resource management, access control and security. The service provided by cloud is expanding in different form such as Platform as a Service (PaaS), Infrastructure as a Service (IaaS), Software as a Service (SaaS) etc. (Armbrust et al. 2010). So, day by day, the number of users consuming the services of cloud is increased. The data can be stored in different cloud services where it can be accessed remotely by the user, whenever it is needed. But the major concern is in maintaining data security (Chang and Ramachandran 2016; Stallings 2017). Since the data is in remote server, it is prone to any malicious attacks and sometimes can be compromised. So, developing a highly secure data authentication and access control mechanism is

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