Key Indicator – 3.2 Research Publication & Award

3.2.1 Research Publications in the Journals notified on UGC website during AY: 2022-23

Sr. No.	Name of Dept.	Type (National / International)	Name of the teacher	Title of the paper	Title of the Journal /research Publication
1	Electronic & Telecommunication Engineering	International	Dr. S. B. Patil	Predictive Models for ABS and TPMS based on Gaussian Naïve Bays	International Journal on Recent and Innovation Trends in Computing and Communication
2	Electronic & Telecommunication Engineering	International	Dr. S. B. Patil	Multiclass classification of Brain MRI through DWT and GLCM feature etraction with various Machine Learning Algorithms	International Journal on Recent and Innovation Trends in Computing and Communication
3	Electronic & Telecommunication Engineering	International	Dr. S. B. Patil	A Hybrid Approach for the Automated Classification and Grading of a Brain Tumor	NeuroQuantology
4	Electronic & Telecommunication Engineering	International	Dr. S. B. Patil	Current Signature Analysis of open circuit fault Dignosis in 3Q-Voltage Source Inverter under Variable Load Conditions	SSRG International Journal Of Electronics and Communication Engineering
5	Electronic & Telecommunication Engineering	International	Dr. S. B. Patil	Customized CNN Model for Multiple Illness Identification Trends in Rice and Maize	International Journal on Recent and Innovation Trends in Computing and Communication
6	Mechanical Department	International	Dr.S.K.Pawar	A Taguchi Method Optimization for Engine Parameters of VCR Engine Fuelled with Xanthium Strumarium L.Oil Biodiesel Blend	International Journal Of Renewable Energy Research
7	Mechanical Department	International	Dr.S.K.Pawar	RSM Approach for Optimizing Engine engine Operating Parameters of VCR engine fuelled with Xanthium Strumarium L.Seed Oil biodiesel blends	Materials Today: Proceedings
8	Mechanical Department	International	Dr.S.K.Pawar	Use Of Fatty Acid Chemical Composition for Predicting Higher Calorific Value of Biodiesel	International Journal of Ambient Energy
9	Mechanical Department	Ir	Prof M.B.Bankar	A Taguchi Method Optimization for Engine Parameters of VCR Engine Fuelled with Xanthium	International Journal Of Renewable Energy Research

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				Strumarium L.Oil Biodiesel Blend	
10	Mechanical Department	International	Dr.S.K.Pawar	Studies on Xanthium Strumarium L.Seed oil:Biodiesel Synthesis and Process Optimization	Materials Today: Proceedings
11	Mechanical Department	International	Prof M.B.Bankar	Studies on Xanthium Strumarium L.Seed oil:Biodiesel Synthesis and Process Optimization	Materials Today: Proceedings
12	Mechanical Department	International	Prof M.B.Bankar	RSM Approach for Optimizing Engine engine Operating Parameters of VCR engine fuelled with Xanthium Strumarium L.Seed Oil biodiesel blends	International Journal of Ambient Energy
13	Electronic & Telecommunication Engineering	International	Prof. S. R. Nalage	Ask me Display Board Using Rasberry pi	Journal of Emerging Technologies And Innovative Research(JETIR)
14	Electronic & Telecommunication Engineering	International	Prof. R. S. Nippanikar	Voice Activated Home Automation System Using NodeMcu 8266	Journal of Emerging Technologies And Innovative Research(JETIR)
15	Electronic & Telecommunication Engineering	International	Prof. S. R.Nalage	IOT Based Attendance Monitoring System Using RFID	Journal of Emerging Technologies And Innovative Research(JETIR)
16	Electronic & Telecommunication Engineering	International	Prof. S. D. Pasalkar	Smart Agriculture Irrigation system	Journal of Emerging Technologies And Innovative Research(JETIR)
17	Electronic & Telecommunication Engineering	International	Prof. S. D. Pasalkar	IOT Based Smart Glasses That Can Read Book	Journal of Emerging Technologies And Innovative Research(JETIR)
18	Electronic & Telecommunication Engineering	International	Dr.S.I.Nippanikar	Wireless Air & Sound Monitoring system Using NodeMcu826	International Journal Of Innovative Research In Science,Engineering and Technology(IJIRESET)
19	Electronic & Telecommunication Engineering	International	Prof. J.J. Bandal	Smart Green House Using IOT	International Journal Of Innovative Research In Science,Engineering and Technology(IJIRESET)
20	Electronic & Telecommunication Engineering	International	Prof.T.M.Dudhane	IOT Based IV Bag Monitoring & Alert system	Journal of Emerging Technologies And Innovative Research(JETIR)
21	Electronic & Telecommunication Engineering		Dr.Dr.S.I.Nippanikar	Automatic Women Safety Device	Journal of Emerging Technologies And Innovative Research(JETIR)

22	Civil Department	International	Prof.P.G.Gaikwad	Remove Nitrate Content From Water By Using Nitronet	Journal Of Emerging Technologies & Innovative Research (JETIR)
23	Civil Engineering	International	Prof. G.S.Yadav	Physical-Chemical Assessment Of Ground Water Quality At Pirangut And Adjacent Villages physical-Chemical Assessment Of Ground Water Quality At Pirangut And Adjacent Villages	Journal of Emerging Technologies And Innovative Research(JETIR)
24	Civil Department	International	Prof.P.G.Gaikwad	Rehabilitation Of Reinforced Concrete Beams By using Ferrocement Jacketing	International Journal Of Innovative Research In Science,Engineering and Technology(IJIRSET)
25	Civil Department	International	Prof.K.R.Juare	Utilization Of Root Zone Technology (RZT) For Waste Water Treatment	International Journal Of Scientific Research In Science and Technology(IJSRST)
26	Civil Department	International	Prof.K.R.Juare	Analysis & Design Of Elevated storage Reservoir By Using STAAD-PRO	International Journal Of Scientific Research In Science and Technology(IJSRST)
27	Civil Department	International	Prof. S. P. Salunkhe	Analysis of Multi-Storied Buildings for Plan Irregularities by Using ETAB	HBRP-Journal of Earthquake Science and Soil Dynamics Engineering
28	Civil Engineering	International	Prof. S. P. Salunkhe	A Case Study on Partial Replacement of Fine Aggregate by Waste Tyre Crumb Rubber in Concrete	International Journal of Innovative Research In Science, Engineering and Technology (IJIRSET)
30	Civil Engineering	International	Prof.S.K.Bhosale	Earthquake resistant construction's techniques Base isolation ,Viscous damper	Journal of Emerging Technologies And Innovative Research(JETIR)
31	Civil Engineering	International	Prof.P.J.Gaikwad	Design Of Intersection Using Traffic Control System:Navale Bridge	Journal of Emerging Technologies And Innovative Research(JETIR)
32	Civil Engineering	International	Prof.P.J.Gaikwad	Analysis Of Soil Structure Interaction In Seismic Zone For Composite Structure	International Journal Of Multidisciplinary Research in Science,Engineering & Technology (IJMRSET)

33	Civil Engineering	International	Prof.R.C.Divekar	Utilization of Waste material for Manufacturing of Bricks	International Journal of Innovative Research In Science, Engineering and Technology (IJIRSET)
34	Civil Engineering	International	Prof S.S. Jadhav	Strengthening of RCC Beam Using GFRP Sheet	International Journal of Innovative Research In Science, Engineering and Technology (IJIRSET)
35	Civil Engineering	International	Prof S.S. Jadhav	To Enhance The Productivity And Speed of Construction Using Automation Industry	Journal Of Emerging Technologies & Innovative Research(IJETIR)
36	Computer Department	International	Prof.P.M.Marne	Image Classification Of Rice Leaf Diseases Convolutional Neural Network Algorithms	Journal Of Emerging Technologies & Innovative Research(JETIR)
37	Computer Department	International	Prof.K.S.Khamkar	The Jarvis Voice Assistant Using Python	International Journal of Innovative Research In Science, Engineering and Technology (IJIRSET)
38	Computer Department	International	Prof. S. B. Shirke	Real-Time Weather Detection And Sending Notification	International Journal of Innovative Research In Science, Engineering and Technology (IJIRSET)
39	Computer Department	International	Prof. S. B. Shirke	Stock Market Price Prediction	International Journal of Innovative Research in Computer and Communication Engineering(IJIRCCE)
40	Computer Department	International	Prof P.M. Marne	Driver Drowsiness Alert Detection for Vehicle Acceleration Using Machine Learning	International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)
41	Computer Department	International	Prof. S. B. Shirke	Multi-Image Steganography Using Advanced Encryption Standard	International Journal of Innovative Research in Computer and Communication Engineering(IJIRCCE)
42	Computer Department	International	Prof. B. R. Bhatti	Pet Feeding & Food Dissipate Using IOT Technology	International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)
43	Computer Department	International	Prof B. D. Thorat	Using Machine Learning, Crop and Fertilizers Prediction for Drip Irrigation System	International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)

44	Computer Department	International	Prof. K.S.Khamkar	Face Recognition System Using Machine Learning With OpenCV and Telegram BOT	International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)
45	Computer Department	International	Prof P.M.Marne	Blood Management System using Blockchain Technology	International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)
46	Computer Department	International	Prof B. D. Thorat	Field Condition Management	International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)
47	Computer Department	International	Prof B. D. Thorat	Sales forecasting using machine learning techniques	International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)
48	Computer Department	International	Prof. B. R. Bhatti	A Systematic Review of Encryption and Keylogging for Computer System Security	International Research Journal Of Modernization In Engineering Technology And Science (IRJMETS)
49	Computer Department	International	Prof P.M.Marne	Image Classification of Rice Leaf Diseases Using CNN Algorithm	International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)
50	Mechanical Department	International	Prof. N. D. Bagul	Automatic Tire Inflation System For Defence Vehicle	International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)
51	Electronic & Telecommunication Engineering	International	Dr. T. M. Dudhane, Prof. Sandeep R. Nalage, Prof. Pradip V. Taware, Prof. Sandhya S. Nalage	Explore the potential of IOT and Smart Cities for improving urban infrastructure, reducing energy consumption and enhancing quality of life	IJFANS International Journal of Food and Nutritional Science
52	Electronic & Telecommunication Engineering	International	Dr. Sanjay I. Nipanikar, Prof. Jyoti J. Bandal, Prof. Sachin R. Mahajan, Prof. Reshma R. Zende	Developments in Cloud Computing Applications in Health Care Learning System	IJFANS International Journal of Food and Nutritional Science
53	Mechanical Department	International	Dr. S.K. Pawar, Prof. Mangesh Bankar, Prof. Shrikant Khemkar, Prof. Vishwajit Jadhav, Prof. Rahul Thombare	Optimization of Heat Transfer in Industrial processes such as heat exchangers and cooling systems improved efficiency and reduced energy consumption	IJFANS International Journal of Food and Nutritional Science

54	Mechanical Department	International	Prof. D .B. Shelke, Prof. Lahu Maskepatil, Prof. Nilesh Bagul, Prof. Sagar Jagtap, Prof. Shilpa Gole	Development of light weight and high strength materials for use in Automotive and aerospace structures.	IJFANS International Journal of Food and Nutritional Science
55	Computer Department	International	Prof. B. R. Bhatti, Prof. Priyanka Kedge Prof. Sayli Dighe, Prof. Priyanka Varpe	Development in block chain technology and its applications in Health care learning system	IJFANS International Journal of Food and Nutritional Science
56	Computer Department	International	Prof. K.S.Khamkar, Prof. Bhagwan Thorat, Prof. Pradnya Shinde, Prof. Nagnath Dolare	Development in machine learning and deep learning techniques for natural language processing in Health care learning system	IJFANS International Journal of Food and Nutritional Science
57	Civil Department	International	Prof. Geetanjali Yadav Prof. Kaustubh Juare, Prof. Niklesh Kank, Prof. Shital Salunkhe	Design and operation of efficient, sustainable and intelligent transportation systems including connected and automated vehicles and alternative fuel vehicles	IJFANS International Journal of Food and Nutritional Science
58	Civil Department	International	Prof. P.J.Gaikwad, Prof. Rucha Divekar, Prof. Poonam Gaikwad, Prof. Sushama Jadhav	New Materials and technologies for Civil Engineering applications such as nanomaterials, self-heating concrete and high-performance steel	IJFANS International Journal of Food and Nutritional Science

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1

Source details

International Journal on Recent and Innovation Trends in Computing and Communication

Scopus coverage years: 2019, from 2021 to Present
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E-ISSN: 2321-8169
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International Journal on Recent and Innovation Trends in Computing and Communication
ISSN: 2321-8169 Volume: 10 Issue: 9
DOI: https://doi.org/10.17762/ijritcc.v10i9.5715
Article Received: 02 July 2022 Revised: 09 August 2022 Accepted: 18 August 2022 Publication: 30 September 2022

Predictive Models for ABS and TPMS based on Gaussian Naïve Bays

Mr. SachinVanjire[1], Prof. (Dr). Sanjay Patil[2]
[1]Research Scholar, Department of Electronics and Telecommunication, Sinhgad College of Engineering, Pune, Maharashtra, India.
[2]Principal, Rajgad Dnyanpeeth's Shree Chhatrapati Shivajiraje College Of Engineering Pune, Maharashtra, India patilsbp@gmail.com
[1]sachin.k.vanjire@gmail.com, [2]patilsbp@gmail.com

Abstract: - The car industry is currently preoccupied with the issue of safety. The increasing number of accidents occurring around the world as a result of automobile problems is a major contributing factor to these incidents. The amount of complicated electronics that is used in vehicles is becoming more prevalent every day. A great effort has been made in evaluating vehicle features in relation to vehicle components. Through such systems, a smart architecture and complex function designs are involved. During all of this vehicle transformation and evolution, the automotive industry recognises a high demand for vehicle safety. While designing and manufacturing this system, automotive experts understand a need for a strict monitoring and feedback system for complex vehicle architecture, which can notify the end user if there is any indication of a failure ahead of time.

In order to effectively participate in vehicle design activities, it is critical to grasp the significance of safety features. Tire system failures and braking system failures have played a large role in several recent traffic accidents. The failures of the tyre system and the braking system in the vehicle are addressed in this study. While investigating this system, it is discovered that it is supported by complex electrical systems, which include an ECU (electronic controller unit), sensors, and a wire system.

Through the use of these technologies, censored data can be processed in a timely manner and made available for diagnostic purposes. Nevertheless, car diagnostics is needed after any vehicle failure but that does not serve the aim of maintaining vehicle safety. As a result, predictive analysis or predictive diagnostics may be a viable option for informing the driver about the health of a particular vehicle component in advance. In this study, the author discusses the concepts of vehicle prognostics for the tyre pressure monitor system and the antilock braking system, which are accomplished using a statistical method of machine learning. In today's world, machine learning is expanding in breadth, and the world is becoming more aware of its enormous potential in the field of data analytics. It is the purpose of this study to introduce methodologies by which machine learning can assist vehicle predictive analytics to attain the intended goal of vehicle safety.The author of this article discusses how Bayesian statistics may be used to produce predictions in the form of probability estimation. The prediction's outcome is thoroughly analysed.

Keywords — Gaussian Naïve Bays, ABS, TPMS.

INTRODUCTION

Every automotive manufacturer in the modern vehicle era is extensively involved in the development of strategic components for automobiles. Using a strong and clever electronics architecture, these car components make it easier and more flexible to operate the vehicle. Sensors, actuators, wiring systems, and intelligent systems based on microcontrollers all play a vital role in this operation improvement. Vehicle data acquisition systems are an integral component of the complicated vehicle electronics architecture, and they play a vital role in this. While a manufacturer is developing complicated vehicle features, it is also necessary to effectively monitor these systems at the same time. Predictive maintenance may be the best solution for future vehicle maintenance when the primary purpose is to keep the vehicle safe on the road. A disciplinary approach to dealing with the vehicle's electronic systems is required due to the increased complexity of these systems. The author of this study conducts tests with data generated by smart systems that have been developed for tyre pressure monitoring and antilock brake systems. Losses resulting from vehicle failures and accidents could not be prevented with vehicle diagnostic examination. Because of the availability of created data, timely analysis may be performed. The data can be retrieved in real time through a remote system and saved. This information can be used for predictive analytics purposes in the future. Several efficient statistical approaches are now being investigated by researchers, and more are expected in the future.

The author experimented with the data supplied by the ABS and TPMS systems using a Baysian model that was constructed using Baysian statistical methodologies. Based on this probability estimation of an important parameter, it is possible to calculate the health of the targeted system and to predict its future health as well. An effective machine learning technique is given in this paper, which may be used to develop a predictive solution for various car components. Because ABS and TPMS

2

Source details

International Journal on Recent and Innovation Trends in Computing and Communication

Scopus coverage years: 2019, from 2021 to Present
(coverage discontinued in Scopus)
Publisher: Auricle Global Society of Education and Research
E-ISSN: 2321-8169
Subject area: Engineering: Electrical and Electronic Engineering | Computer Science: Information Systems | Computer Science: Computer Networks and Communications | Computer Science: Human-Computer Interaction
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International Journal on Recent and Innovation Trends in Computing and Communication
ISSN: 2321-8169 Volume: 11 Issue: 7
DOI: https://doi.org/10.17762/ijritcc.v11i7.8003
Article Received: 12 May 2023 Revised: 22 June 2023 Accepted: 28 July 2023

Multiclass Classification of Brain MRI through DWT and GLCM Feature Extraction with Various Machine Learning Algorithms

Shweta Suryawanshi[1*], Dr. Sanjay B. Patil[2]
[1*]Research Scholar, Department of E&TC, Sinhagad College of Engineering, SPPU, Pune-411041, India
suryawanshi.shweta02@gmail.com
[2]Dept. of E&TC, Rajgad Dnyanpeeth's Shree Chhatrapati Shivajiraje College of Engineering, Pune, India
patilsbp@gmail.com

Abstract—This study delves into the domain of medical diagnostics, focusing on the crucial task of accurately classifying brain tumors to facilitate informed clinical decisions and optimize patient outcomes. Employing a diverse ensemble of machine learning algorithms, the paper addresses the challenge of multiclass brain tumor classification. The investigation centers around the utilization of two distinct datasets: the Brats dataset, encompassing cases of High-Grade Glioma (HGG) and Low-Grade Glioma (LGG), and the Sartaj dataset, comprising instances of Glioma, Meningioma, and No Tumor. Through the strategic deployment of Discrete Wavelet Transform (DWT) and Gray-Level Co-occurrence Matrix (GLCM) features, coupled with the implementation of Support Vector Machines (SVM), k-nearest Neighbors (KNN), Decision Trees (DT), Random Forest, and Gradient Boosting algorithms, the research endeavors to comprehensively explore avenues for achieving precise tumor classification. Preceding the classification process, the datasets undergo pre-processing and the extraction of salient features through DWT-derived frequency-domain characteristics and texture insights harnessed from GLCM. Subsequently, a detailed exposition of the selected algorithms is provided and elucidates the pertinent hyperparameters. The study's outcomes unveil noteworthy performance disparities across diverse algorithms and datasets. SVM and Random Forest algorithms exhibit commendable accuracy rates on the Brats dataset, while the Gradient Boosting algorithm demonstrates superior performance on the Sartaj dataset. The evaluation process encompasses precision, recall, and F1-score metrics, thereby providing a comprehensive assessment of the classification prowess of the employed algorithms.

Keywords—Brain tumor classification, multiclass classification, machine learning algorithms, Discrete Wavelet Transform (DWT), Gray-Level Co-occurrence Matrix (GLCM), SVM, KNN, DT, Random Forest, Gradient Boosting.

I. INTRODUCTION

In modern medical diagnostics, magnetic resonance imaging) is a cornerstone for the non-invasive assessment and characterization of brain abnormalities. Brain tumors, a critical subset of neurological disorders, require an accurate and timely classification for effective treatment planning and patient care. The ability to discern between various tumor types and healthy brain tissues from MRI scans holds immense promise in improving clinical outcomes. However, due to the intricate nature of brain tumors with their diverse shapes, sizes, and locations, reliable classification through manual analysis is challenging and time-consuming. This is where machine learning emerges as a formidable ally, capable of swiftly and accurately categorizing complex MRI data.

This paper presents a comprehensive study on the multiclass classification of brain MRI scans using state-of-the-art machine learning algorithms. The fundamental objective is to leverage advanced computational techniques to distinguish between High-Grade Glioma (HGG) and Low-Grade Glioma (LGG) using the BRATS dataset and to classify further Glioma, Meningioma, and No Tumor cases utilizing the Sartaj dataset. The motivation behind this study is rooted in the urgent need for precise, automated tools that aid medical practitioners in making informed decisions for brain tumor management.

The complexity of brain tumor classification and the inherent variability of MRI scans necessitates extracting highly relevant features for accurate discrimination. In this pursuit, we employ the Discrete Wavelet Transform (DWT) to capture frequency and texture information and the Grey-Level Co-occurrence Matrix (GLCM) to quantify spatial relationships within images. These extracted features serve as crucial input for various machine-learning algorithms that underpin our classification framework.

Our approach encompasses a suite of established machine learning algorithms, including Support Vector Machine (SVM), k-nearest Neighbors (KNN), Decision Tree (DT), Random Forest (RF), and Gradient Boosting (GB). Each algorithm is tailored to the unique challenges of multiclass brain tumor classification, offering a diverse ensemble of techniques to address different nuances the data presents.

Scopus Preview

3

Source details

NeuroQuantology

Scopus coverage years: from 2007 to 2022
(coverage discontinued in Scopus)
Publisher: Anka Publishers
ISSN: 1303-5150
Subject area: Physics and Astronomy: Atomic and Molecular Physics, and Optics | Neuroscience: Cognitive Neuroscience | Neuroscience: Developmental Neuroscience
Source type: Journal

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Neuroscience – Cognitive Neuroscience	#85/107	21st

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A Hybrid Approach for the Automated Classification and Grading of a Brain Tumor

Shweta Suryawanshi[1], Sanjay Patil[2], R. B. Dhumale[3],
BSCOER, Narhe, Pune (Maharshtra), India[1]
RajgadDnyanpeeth's Shree Chhatrapati Shivajiraje College of Engineering, Pune, (Maharshtra), India[2]
AISSMS Institute of Information Technology, Pune (Maharshtra), India[4]

Abstract:

This work highlights approach of image segmentationfor automatic brain tumor diagnosis. Image segmentation can be reflected as of the utmost importanceas well asa serious method for helping the demarcation,classification, and conception of regions of interest in any medical image.Notwithstanding the depth investigation, segmentation due to various image consist is an exciting problem, disorganized objects, barrier, image noise, etc.In this paper, an effective segmentation technique on MRI using K-Means Integrated with Fuzzy C-Means is proposed.In the pre-processing step, the illumination and reflectance components are extracted from the MRI with the help of the homomorphic filtering process. The combination of Mathematical Morphological Operations and an image filtration method is used to enhance the result of the edge detection and to provide better tissues separation. The two methods of clustering are combined for segmentation like K-means clustering and Fuzzy C Clustering are used.The performance of the proposed method has been assessed by comparing the results with the real truth of every processed MR image. The experimentalresults like accuracy, precision, and recall illuminates the efficiency of suggestedmethod.

Keywords: Brain tumor, Integrated clustering, K-Means clustering, Fuzzy C-Means clustering
DOI Number: 10.14704/nq.2022.20.5.NQ22762 **NeuroQuantology 2022; 20(5):4849-4864**

1. Introduction

The **Brain Tumor (BrTr)** is identified by several methods such as **Computerized Tomography** (CT) scan, **electroencephalogram** (EEG), but **Magnetic Resource Image(MRI)** is the most successful and commonly applied technique[1]. MRI uses commanding with usefulmagnetic fields as well as radio waves for internal imaging of body organs. MRI presents more detailed information about the organs and makes it more capable than CT or EEG scanning[2].

The preprocessing process with the up-to-date methods of MRI is reviewed. The MRI preprocessing actions are initiated as it is straightforwardly relayed to the superiority of the segmentation outcomes[3]. Different **Skull Stripping (SS)** algorithms are proposed namely manual, semi-automatic, and automated algorithms. Automatic SS greatly improves the accuracy with the effectiveness of neuroimaging algorithms. The results of novel **Deep Learning (DL)** based skull stripping algorithms are more accurate and precise than usual presented methods[4].

4

Source details

SSRG International Journal of Electronics and Communication Engineering

SJR

SNIP

Scopus coverage years: 2023

Publisher: Seventh Sense Research Group

E-ISSN: 2348-8549

Subject area: Computer Science: Computer Networks and Communications | Engineering: Control and Systems Engineering | Engineering: Electrical and Electronic Engineering

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ISSN: 2348-8387

Original Article

Current Signature Analysis of Open Circuit Fault Diagnosis in 3Φ-Voltage Source Inverter under Variable Load Conditions

Vaishali Sonawane[1], S. B. Patil[2]

[1]*ENTC Department, Sinhgad College of Engineering, Pune*
[2]*SCSCOE, Dhangawadi, Pune*

[1]*Corresponding Author : Vaishali.baste@gmail.com*

Received: 23 March 2023 Revised: 17 May 2023 Accepted: 09 June 2023 Published: 30 June 2023

Abstract *- Accurately identifying Insulated Gate Bipolar Transistor switch failures is crucial for ensuring the dependability and durability of the 3Φ-Voltage Source Inverters. For the purpose of monitoring and diagnosing faults in three-phase inverters, signal processing is frequently utilized. The current study then uses an ANN approach to focus on the issue in variable load settings. The suitable Mother Wavelet is a Mother Wavelet with the greatest Energy to Shannon Entropy (ESE) ratio. An innovative technique with normalized characteristics is used to reduce the algorithm's complexity. The ReliefF algorithm is used to choose the best features. The most useful traits are used to instruct an ANN to detect errors. The suitable ANN structure is selected from a pool of training structures depending on accuracy. The recommended technique is novel in that it achieves OCFs in 3-VS Conditions of varying load by using the fewest features and the least amount of training data. To do this, extracted features are normalized before training an ANN. The data gathered shows that rank-based feature selection had improved the ANN classifier's accuracy.*

Keywords *- 3Φ-Voltage source inverters, Artificial neural networks, Current signature analysis, Energy to shannon entropy, Open circuit faults, Relief.*

1. Introduction

The large percentages of industry applications employ 3Φ-Voltage Source Inverters (3Φ-VSIs). In order to keep the production process running smoothly, maintaining them is crucial. Power semiconductor switches Majority inverter problems originate from Insulated Gate Bipolar Transistors (IGBTs)[1]. Open Circuit Faults (OCFs) and Short-Circuit Faults (SCFs) are common problems with power switches. The much more serious defects, SCFs, are often separated by conventional protective components. OCFs are less prone to be extremely damaging than SCFs[2].

Several academics have focused on identifying OCFs, which is crucial in the maintenance area. Yet, if a power switch is subjected to an OCF for an extended period of time, it may result in the failure of further components or even force an unplanned system shutdown. Because of these factors, the research community is becoming more interested in techniques for diagnosing OCFs in 3Φ-VSIs[3]. These Fault Diagnostic Techniques (FDTs) are often either data or circuit-driven.

The primary and extensively used method for identifying IGBT-OCFs is Current Signature Analysis (CSA). It should be observed that the IGBT current signal is often noisy; thus, the fault information may be obscured. Traditional methods like Park's Vector Technique (PVT), Normalized DC Current (NDC) approach, and modified NDC method are difficult to use in these circumstances. The sensitivity of the diagnostic indicators and the quality of the current signal will be improved by the proper processing procedure[1]. In 2-level VSIs, certain research has taken into account all OCFs. In order to detect OCFs and current sensor disconnection problems in 2-level VSIs, the modified Park's vector approach, the application of the average current approach, as well as the Luenberger observer-based approach were each suggested. IGBT and current sensor defects in 3Φ-VSIs were simultaneously diagnosed using the Fast Fourier Transform (FFT) and an independent random functional link network [4, 5]. Line voltage deviations and phase voltage deviations, which are appropriate for current sensor faults having a constant current, were used to diagnose all OCFs as well as current sensor problems for 2-level VSIs. Despite the growing interest in rapidly identifying OCFs, 3-VSIs might

5

Source details

International Journal on Recent and Innovation Trends in Computing and Communication

Scopus coverage years: 2019, from 2021 to Present
(coverage discontinued in Scopus)
Publisher: Auricle Global Society of Education and Research
E-ISSN: 2321-8169
Subject area: Engineering: Electrical and Electronic Engineering | Computer Science: Information Systems | Computer Science: Computer Networks and Communications | Computer Science: Human-Computer Interaction
View all
Source type: Journal

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SJR 2022
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CiteScore rank 2022

Category	Rank	Percentile
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Computer Science — Information Systems	#334/379	12th

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International Journal on Recent and Innovation Trends in Computing and Communication
ISSN: 2321-8169 Volume: 11 Issue: 8
DOI: https://doi.org/10.17762/ijritcc.v11i8.8006
Article Received: 20 May 2023 Revised: 24 July 2023 Accepted: 09 August 2023

Customized CNN Model for Multiple Illness Identification in Rice and Maize

Mr. Vishnu C. Khade[1], Dr. Sanjay B. Patil[2]
Research Scholar, SCOE Pune, Assistant Professor, RIT Islampur, Maharashtra, India[1]
Principal, SCSOCE, Dhangawadi, Pune, Maharashtra, India[2]
vishnukhade9453@gmail.com[1], patilsbp@gmail.com[2]

Abstract: Crop diseases imperil global food security and economies, demanding early detection and effective management. Convolutional Neural Networks (CNNs), particularly in rice and maize leaf disease classification, have gained traction due to their automatic feature extraction capabilities. CNN models eliminate manual feature extraction, enabling precise disease diagnosis based on learned features. Researchers have rapidly advanced these models, achieving promising results. Leaf disease characteristics like color changes, texture variations, and lesion appearance have been identified as useful for automated diagnosis using machine learning. Developing CNN models involves crucial stages: dataset preparation, architecture selection, hyperparameter tuning, and model training and evaluation. Diverse and accurately annotated datasets are pivotal, and appropriate CNN architecture selection, such as ResNet101 and XceptionNet, ensures optimal performance. These architectures' pre-training on vast image datasets enhances feature extraction. Hyperparameter tuning fine-tunes the model, and training and evaluation gauge its precision. CNN models hold potential to enhance rice and maize productivity and global food security by effectively detecting and managing diseases.

Keywords: Maize Leaf Disease, Rice Leaf Disease, Nutrient Deficiency, CNN, Fusion.

I. Introduction:

Crop diseases pose a major threat to the global food supply chain, resulting in significant economic losses and jeopardizing food security. Early detection and timely management of crop diseases are crucial to prevent their spread and minimize the damage caused by them. Image-based methods have emerged as a promising tool for detecting and classifying crop diseases accurately and efficiently. Deep learning-based techniques, specifically Convolutional Neural Networks (CNNs), have shown remarkable performance in image classification tasks [1].

In recent years, CNNs have been extensively used for leaf disease classification in various crops, including rice and maize. Leaf diseases in rice and maize are caused by various fungal, bacterial, and viral pathogens, leading to significant crop losses worldwide. Early and accurate detection of leaf diseases in these crops is essential for timely and effective management of these diseases [2].

CNN-based models have demonstrated excellent performance in leaf disease classification tasks in various crops. These models learn discriminative features automatically from the images, eliminating the need for manual feature extraction, which was a significant challenge in traditional image classification methods. The features learned by the CNN models are highly representative of the underlying patterns and characteristics of the disease, enabling accurate classification and diagnosis [3].

The development of CNN models for rice and maize leaf disease classification has gained significant momentum in recent years [4]. Researchers have proposed various CNN architectures and training strategies to improve the accuracy and efficiency of these models. Several studies have reported promising results in rice and maize leaf disease classification using CNN models, indicating the potential of these models for practical applications.

The changes in leaf features that are typically observed in the presence of leaf diseases such as Gray Spot, Blight, and Measles may vary depending on the specific disease and the plant species being affected. However, here are some common changes that may be observed in these diseases compared to a healthy condition:

1. Gray Spot: Gray Spot is a fungal disease that affects many different plant species. In infected leaves, gray or brown spots with yellow halos may appear. The affected areas may also have a fuzzy or powdery appearance due to the growth of fungal spores. Some common changes in leaf features that may be observed in Gray Spot include changes in leaf color and texture, as well as the presence of lesions or spots.

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Source details

International Journal of Renewable Energy Research

Scopus coverage years: from 2011 to Present

Publisher: International Journal of Renewable Energy Research

ISSN: 1309-0127

Subject area: Energy: Energy Engineering and Power Technology | Energy: Renewable Energy, Sustainability and the Environment

Source type: Journal

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INTERNATIONAL JOURNAL of RENEWABLE ENERGY RESEARCH
S. Pawar et al., Vol.12, No.3, September, 2022

A Taguchi Method Optimization for Engine Parameters of VCR Engine Fuelled with Xanthium strumarium L. Oil Biodiesel Blend

Sumod Pawar *‡, Dr. Jitendra Hole *, Mangesh Bankar **

* Department of Mechanical Engineering, Rajarshi Shahu College of Engineering, Pune, 411033, India

** Department of Mechanical Engineering, Shri Chhatrapati Shivajiraje College of Engineering, Pune, 412205, India

(sumodpawar@gmail.com, jahole1974@gmail.com, mbbankar89@gmail.com)

‡Corresponding Author; Sumod Pawar, Department of Mechanical Engineering, Rajarshi Shahu College of Engineering, Pune, 411033, India, Tel: +91 937 368 1218, sumodpawar@gmail.com

Received: 12.05.2022 Accepted: 22.07.2022

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Keywords- Xanthium strumarium L. seed oil biodiesel; Taguchi method; Exhaust gas recirculation, NOx reduction.

Abbreviations-

BTE	Brake Thermal Efficiency	CR	Compression Ratio
BSFC	Brake Specific Fuel Consumption	IT	Injection Timing
IP	Fuel Injection Pressure	HC	Hydro Carbon
EGR	Exhaust Gas Recirculation	CO	Carbon Monoxide
EGT	Exhaust Gas Temperature	NOx	Oxides of Nitrogen
COF	Combine Objective Function	PPM	Parts Per Million
bTDC	Before Top Dead Center	CO_2	Carbon Dioxide
RSM	Response Surface Method	CI	Compression Ignition
B20	Biodiesel 20%+Diesel 80%	VCR	Variable Compression Ratio
BMEP	Brake Mean Effective Pressure	RPM	Revolutions Per Minute
Adj SS	Adjusted sums of squares	PM	Particulate Matter
S/N ratio	Signal to Noise Ratio	v/v	Volume to Volume Ratio

1. Introduction

The reserves of fossil fuels are depleting due to rapid growth in industry, agriculture and transportation. The harmful emissions produced by burning of these fuels are not only affecting nature but also human health. Biodiesel has emerged as the best option. The World era is moving from the first generation to the fourth generation of biodiesel. The biodiesel can be obtained from vegetable oils, animal fats and algae. Nowadays, Biodiesel can be produced by using

Materials Today: Proceedings xxx (xxxx) xxx

Contents lists available at ScienceDirect

Materials Today: Proceedings

journal homepage: www.elsevier.com/locate/matpr

Use of Fatty Acid Chemical Composition for Predicting Higher Calorific Value of Biodiesel

Sumod Pawar [a,b,*], Jitendra Hole [a], Mangesh Bankar [b], Subim Khan [a], Sagar Wankhade [c]

[a] Department of Mechanical Engineering, Rajarshi Shahu College of Engineering, Pune 411033, India
[b] Department of Mechanical Engineering, Shri Chhatrapati Shivajiraje College of Engineering, Pune 412205, India
[c] School of Mechatronics Engineering, Symbiosis Skills and Professional University, Pune 412101, India

ARTICLE INFO

Article history:
Available online xxxx

Keywords:
Higher Calorific Value
Fatty Acid
Chemical Composition
Biodiesel

ABSTRACT

Biodiesel can be used as an alternative fuel in diesel engine without substantial hardware modification. The physicochemical properties such as calorific value, viscosity, density, flash point, cetane number etc. play a vital role while designing a fuel system for compression ignition engine. The calorific value is a significant land; by virtue of that energy content of a fuel could be determined. Biodiesel contains 10 to 12% oxygen by weight, which leads to proportionally lower energy density and heating value compared to diesel. The calorific value of nine different vegetable seeds oil biodiesels were measured and correlated using fatty acid chemical composition analysis. An attempt is made to develop mathematical equation relating Gross calorific value and chemical composition. It establishes the normal dependence of calorific value on fatty acid chemical composition. The estimated higher calorific value is compared with the measured higher calorific values with an accuracy of 87%.

Selection and peer-review under responsibility of the scientific committee of the Fourth International Conference on Recent Advances in Materials and Manufacturing 2022.

1. Introduction

Now a days the earth is experiencing the biggest and most devastating phenomenon like global warming. The main sources of greenhouse gases are transport vehicles and power plants, both of which are now the integral part of our needs. Fuels derived from biomass should be used to replace fossil fuels partly or fully. Biodiesel as an alternate fuel to diesel is referred to as fatty acid ethyl or methyl esters derived from animal fats or vegetable oils. Energy content is the most essential property to describe a fuel. Heating value is the normal measure of energy content of a fuel, occasionally referred to as calorific value or heat of combustion. The heating value is accessed by the complete combustion of a unit amount of liquid or solid fuel in an oxygen-bomb calorimeter under closely specified conditions. The Gross Heat of Combustion or Greater Heating Value is acquired by the oxygen-bomb calorimeter process since the latent heat of moisture from the combustion products is regained. The heat value is among the most crucial properties of a fuel. Vegetable oils and biodiesels are mainly a mixture of fatty acids. Fatty acids are oxygenated hydrocarbon components [7,10]. Fatty acids present in vegetable oils and animal fats can be categorized into saturated, mono-unsaturated and poly-unsaturated fatty acids as shown by Table 1. Chemical and physical properties of biodiesel are affected by the structural characteristics of fatty acids. Better comprehension of the construction - physical land connection in fatty acid esters is of special importance when picking vegetable oils which will give desirable high quality with true understanding of the effect of molecular arrangement to the properties ascertained [2].

Some investigators have tried to gauge the HHV of these vegetable oils by making use of their physiological properties like: saponification and potassium data. Some researchers have tried to estimate the HHV of those vegetable oils by using their Fatty Acids article. Some researchers tried to gauge the worthiness on the grounds of fuel properties of vegetable oils including its density, viscosity, cloud and pour points, cetane number, flash point, distillation range, sulfur content, ash content, acid value and carbon content etc [28,31]. The method of measuring Calorific value is quite difficult, therefore it is necessary to develop mathematical models [1]. The purpose of this analysis is to gauge mathematical

Abbreviations: HHV, Higher Heating Value; FFA, Free Fatty Acids; HCV, Higher Calorific Value.

* Corresponding author.

https://doi.org/10.1016/j.matpr.2023.01.375
2214-7853/
Selection and peer-review under responsibility of the scientific committee of the Fourth International Conference on Recent Advances in Materials and Manufacturing 2022.

Source details

International Journal of Ambient Energy

Scopus coverage years: from 1980 to Present

Publisher: Taylor & Francis

ISSN: 0143-0750 E-ISSN: 2162-8246

Subject area: Engineering: Building and Construction | Energy: Renewable Energy, Sustainability and the Environment

Source type: Journal

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Last updated on 05 December, 2023 • Updated monthly

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International Journal of Ambient Energy

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/taen20

RSM approach for optimising engine operating parameters of VCR engine fuelled with *Xanthium strumarium* L. seed oil biodiesel blends

Sumod Pawar, Jitendra Hole & Mangesh Bankar

To cite this article: Sumod Pawar, Jitendra Hole & Mangesh Bankar (2023): RSM approach for optimising engine operating parameters of VCR engine fuelled with *Xanthium strumarium* L. seed oil biodiesel blends, international journal of Ambient Energy, DOI:

To link to this article: https://doi.org/10.1080/01430750.2023.2172454

Published online: 05 Feb 2023.

Scopus Preview

Source details

International Journal of Renewable Energy Research

Scopus coverage years: from 2011 to Present

Publisher: International Journal of Renewable Energy Research

ISSN: 1309-0127

Subject area: Energy: Energy Engineering and Power Technology | Energy: Renewable Energy, Sustainability and the Environment

Source type: Journal

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Last updated on 05 December, 2023 • Updated monthly

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Energy — Energy Engineering and Power Technology	#126/252	50th
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Sumod Pawar *‡, Dr. Jitendra Hole *, Mangesh Bankar **

* Department of Mechanical Engineering, Rajarshi Shahu College of Engineering, Pune, 411033, India

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RSM	Response Surface Method	CI	Compression Ignition
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S/N ratio	Signal to Noise Ratio	v/v	Volume to Volume Ratio

1. Introduction

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Contents lists available at

Materials Today: Proceedings

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Studies on Xanthium strumarium L. seed oil: Biodiesel Synthesis and Process Optimization

Sumod Pawar [a], Jitendra Hole, Mangesh Bankar, Shylesha Channapattana, Campli Srinidhi

[a] Department of Mechanical Engineering, RSCOE, Pune 411033, India
[b] Department of Mechanical Engineering, SCSCOE, Pune 412205, India
Department of Mechanical Engineering, [illegible]

ARTICLE INFO

Article history:
Available online xxxx

Keywords:
Xanthium strumarium L. seed oil
Biodiesel
Yield
Kinematic viscosity
Taguchi method

ABSTRACT

The existing conventional energy sources are depleting day by day, their prices are increasing, so there is necessity to make use of sources of alternative energy. Biodiesel stands as an important alternative to diesel. It is obtained from human consumable and non-consumable oil. In this paper study of biodiesel synthesis and process optimization for kinematic viscosity and biodiesel yield obtained from Xanthium strumarium L. seed oil is carried out through Taguchi L9 (3^4) orthogonal array by considering methanol: oil mass molar ratio, heating temperature, heating time and concentration of catalyst as variable parameters. Stirring speed is taken as constant parameter. For optimization concentration of catalyst 0.8% to 1.2% by weight, methanol: oil molar proportion from 5:1 to 7:1, reaction temperature from 55°C to 65 °C and heating duration of 40 to 50 min is used. By using ANOVA contribution of each factor on biodiesel yield and kinematic viscosity is determined. The result shows that, biodiesel produced from Xanthium strumarium L. seed oil has properties similar to other biodiesel fuel and are as per ASTM standards.

Selection and peer-review under responsibility of the scientific committee of 2022 International Conference on Recent Advances in Engineering Materials.

1. Introduction

Due to rapid increase in fuel price and environmental pollution, there is a necessity to make use of clean energy. Biodiesel stands as important alternative fuel to petro-diesel. Biodiesel is nothing but alkyl ester. It was first used by Sir Rudolf Diesel in 1900 with a conventional unmodified diesel engine. Vegetable oils cannot be directly used due to higher viscosity and less volatility; also it causes injector choking and carbon deposits. It is necessary to reduce oil viscosity, which is done by any one of the following methods (a) direct mixing with diesel; (b) pyrolysis; (c) micro-emulsification; (d) transesterification. Though there are more than 350 oil crops for producing biodiesel in the world, biodiesel is mainly produced from edible oil crops such as palm oil, rapeseed, soybean, coconut, sunflower etc [2,4,14,21]. This results into shortage of oils for food supply resulting into increase in price. To overcome this, non-edible oil should be used for biodiesel production [27]. Most commonly used non-edible oils for biodiesel production are Jatropha curcas, Pongamia pinnata, Madhuca indica, Ricinus communis, and Azardica indica, etc[18,30]. One of the novel non-edible energy crops for biodiesel production is cocklebur [12,20]. The botanical name of the plant is Xanthium strumarium L. It belongs to the family Asteraceae, which is a genus of flowering plants in the sunflower tribe, which probably originates from North America. The plant grows in barren lands and arid areas almost everywhere in all parts of the world. The plant has high production potential. The oil extracted from cocklebur seeds is non-edible and can yield up to 42.34% oil [8,20,26]. The fruits are available in the month of December-January for harvesting in India. The photos of Xanthium strumarium matured fruits, seeds and extracted oil are as shown in Fig. 1.

Various researchers have conducted research for optimization of different process parameters to get maximum biodiesel yield from different oils. P. K. Sahoo et al. (2009) have investigated the process for optimization of biodiesel obtained from Karanja, Jatropha and Polanga oils. They studied the influence of methanol amount, catalyst amount and duration of heating on methyl ester yield. Different methanol: oil molar ratio from 6% to 40% on volume

* Corresponding author at: Research scholar, Department of Mechanical Engineering, RSCOE, Pune-411033, India.
E-mail address: sumodpawar@gmail.com (S. Pawar).

https://doi.org/10.1016/j.matpr.2022.06.024
2214-7853/
Selection and peer-review under responsibility of the scientific committee of 2022 International Conference on Recent Advances in Engineering Materials.

Please cite this article as: S. Pawar, J. Hole, M. Bankar et al., Studies on Xanthium strumarium L. seed oil: Biodiesel Synthesis and Process Optimization,

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Contents lists available at ScienceDirect

Materials Today: Proceedings

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Sumod Pawar [a,*], Jitendra Hole [a], Mangesh Bankar [b], Shylesha Channapattana [c], Campli Srinidhi [a]

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[b] Department of Mechanical Engineering, SCSCOE, Pune 412205, India
[c] Department of Mechanical Engineering, VDIT, Haliyal 581329, India

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Due to rapid increase in fuel price and environmental pollution, there is a necessity to make use of clean energy. Biodiesel stands as important alternative fuel to petro-diesel. Biodiesel is nothing but alkyl ester. It was first used by Sir Rudolf Diesel in 1900 with a conventional unmodified diesel engine. Vegetable oils cannot be directly used due to higher viscosity and less volatility; also it causes injector choking and carbon deposits. It is necessary to reduce oil viscosity, which is done by any one of the following methods (a) direct mixing with diesel; (b) pyrolysis; (c) micro-emulsification; (d) transesterification. Though there are more than 350 oil crops for producing biodiesel in the world, biodiesel is mainly produced from edible oil crops such as palm oil, rapeseed, soybean, coconut, sunflower etc [2,4,14,21]. This results into shortage of oils for food supply resulting into increase in price. To overcome this, non-edible oil should be used for biodiesel production [27]. Most commonly used non-edible oils for biodiesel production are Jatropha curcas, Pongamia pinnata, Madhuca indica, Ricinus communis, and Azardica indica, etc[18,30]. One of the novel non-edible energy crops for biodiesel production is cocklebur [12,20]. The botanical name of the plant is Xanthium strumarium L. It belongs to the family Asteraceae, which is a genus of flowering plants in the sunflower tribe, which probably originates from North America. The plant grows in barren lands and arid areas almost everywhere in all parts of the world. The plant has high production potential. The oil extracted from cocklebur seeds is non-edible and can yield up to 42.34% oil [8,20,26]. The fruits are available in the month of December-January for harvesting in India. The photos of Xanthium strumarium matured fruits, seeds and extracted oil are as shown in Fig. 1.

Various researchers have conducted research for optimization of different process parameters to get maximum biodiesel yield from different oils. P. K. Sahoo et al. (2009) have investigated the process for optimization of biodiesel obtained from Karanja, Jatropha and Polanga oils. They studied the influence of methanol amount, catalyst amount and duration of heating on methyl ester yield. Different methanol: oil molar ratio from 6% to 40% on volume

* Corresponding author at: Research scholar, Department of Mechanical Engineering, RSCOE, Pune-411033, India.
E-mail address: sumodpawar@gmail.com (S. Pawar).

https://doi.org/10.1016/j.matpr.2022.06.024

Please cite this article as: S. Pawar, J. Hole, M. Bankar et al., Studies on Xanthium strumarium L. seed oil: Biodiesel Synthesis and Process Optimization

Source details

International Journal of Ambient Energy

Scopus coverage years: from 1980 to Present

Publisher: Taylor & Francis

ISSN: 0143-0750 E-ISSN: 2162-8246

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RSM approach for optimising engine operating parameters of VCR engine fuelled with *Xanthium strumarium* L. seed oil biodiesel blends

Sumod Pawar, Jitendra Hole & Mangesh Bankar

To cite this article: Sumod Pawar, Jitendra Hole & Mangesh Bankar (2023): RSM approach for optimising engine operating parameters of VCR engine fuelled with *Xanthium strumarium* L. seed oil biodiesel blends, International Journal of Ambient Energy, DOI:

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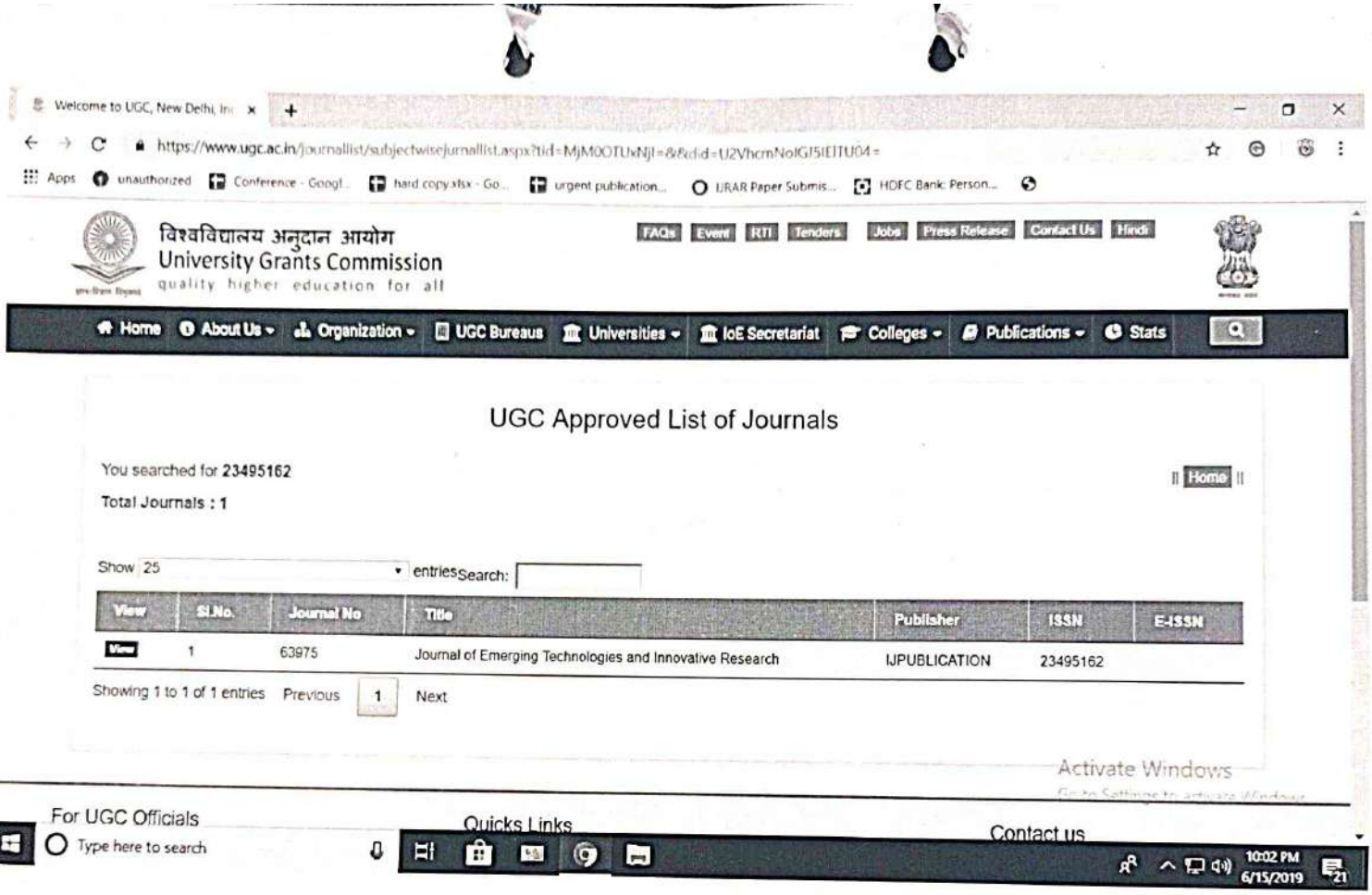
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Ask Me Display Board using Raspberry pi

Rutuja Babar, Archana Patil, Tejas Dudhane
Prof. Sandeep Nalage,
RD's SCSCOE, Dhangawadi, Tal - Bhor, Dist - Pune 412205

Abstract: The "Ask Me" display board is a project that involves using a Raspberry Pi to display messages, audio, and LED lights to provide information to people in public places such as libraries, museums, and hospitals. The display board has a touch screen interface that allows users to select the information they need. The audio output provides additional information to people with visual impairments. The LED display output have the ability to provide additional visual cues. The project involves programming the Raspberry Pi to display information in real-time, in addition interfacing with LED displays and audio components. The "Ask Me" display board can be customized for specific locations and can provide a valuable service to people in public places.

I. Introduction

The Ask Me Display Board is an interactive and innovative display board designed to provide real-time information, answer queries, and provide feedback to the attendees of various events, conferences, and exhibitions. The display board is built using the Raspberry Pi, a single-board computer that provides a flexible and customizable platform for creating interactive displays.

The Raspberry Pi offers a range of tools and coding languages that support the easy integration of different components and the creation of dynamic displays. With the Ask Me Display Board, attendees can get relevant and up-to-date information about the event, ask questions, and receive feedback, making it a valuable tool for organizers and attendees alike.

Throughout this project, we will explore the various components, tools, and programming languages required to build the Ask Me Display Board. We will provide a step-by-step guide on how to assemble and program the display board, along with some examples of how it can be applied to different settings.

So, if you are looking to design an interactive and innovative display board for your event, conference, or exhibition, then the Ask Me Display Board using Raspberry Pi is the perfect solution for you!

II. Market Survey

The market for interactive display boards is growing rapidly, with a high demand in events, conferences, and exhibitions. Making advantages of technology to provide real-time information and engage attendees is becoming increasingly important for event organizers to design a memorable experience.

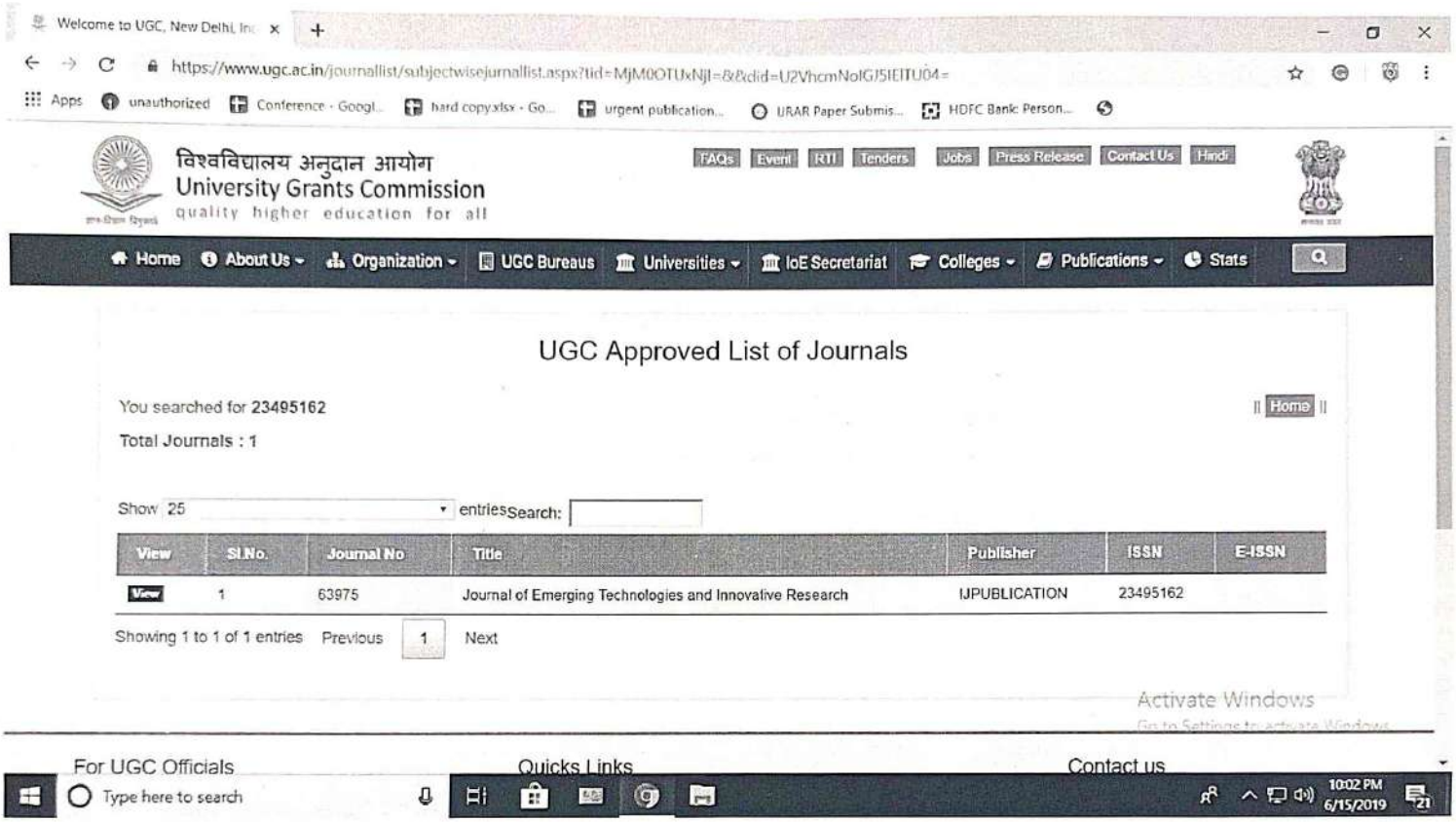
Raspberry Pi is a preferred option for creating interactive display boards given its affordability, flexibility, and ease of use. It allows for the combining of various components such as touchscreens, cameras, and sensors, making it a versatile platform for creating interactive displays.

The potential customer base for the Ask Me Display Board using Raspberry Pi includes event organizers, conference managers, exhibition coordinators, and any other individual or organization that requires an interactive display board for their events. The target market could also include schools and universities, museums, and public spaces.

In conclusion, the market for interactive display boards is growing rapidly, and the Raspberry Pi provides an affordable and flexible platform for building such displays. The potential customer base for the Ask Me Display Board using Raspberry Pi is vast, including event organizers, conference managers, exhibition coordinators, and more.

III. Literature Survey

The market for interactive display boards is growing rapidly, with a high demand in events, conferences, and exhibitions. The use of technology to provide real-time information and engage attendees is becoming increasingly important for event organizers to create a memorable experience.



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"VOICE ACTIVATED HOME AUTOMATION SYSTEM USING NODEMCU 8266"

Shahrukh Shaikh, Mahesh More and Dhiraj Kadam

Guide Name: Prof.R.S.Nipanikar

Department of Electronic & Telecommunication Engineering

Shri Chhatrapati Shivajiraje College of Engineering, Pune, India (MH), Savitribai Phule Pune University, Pune

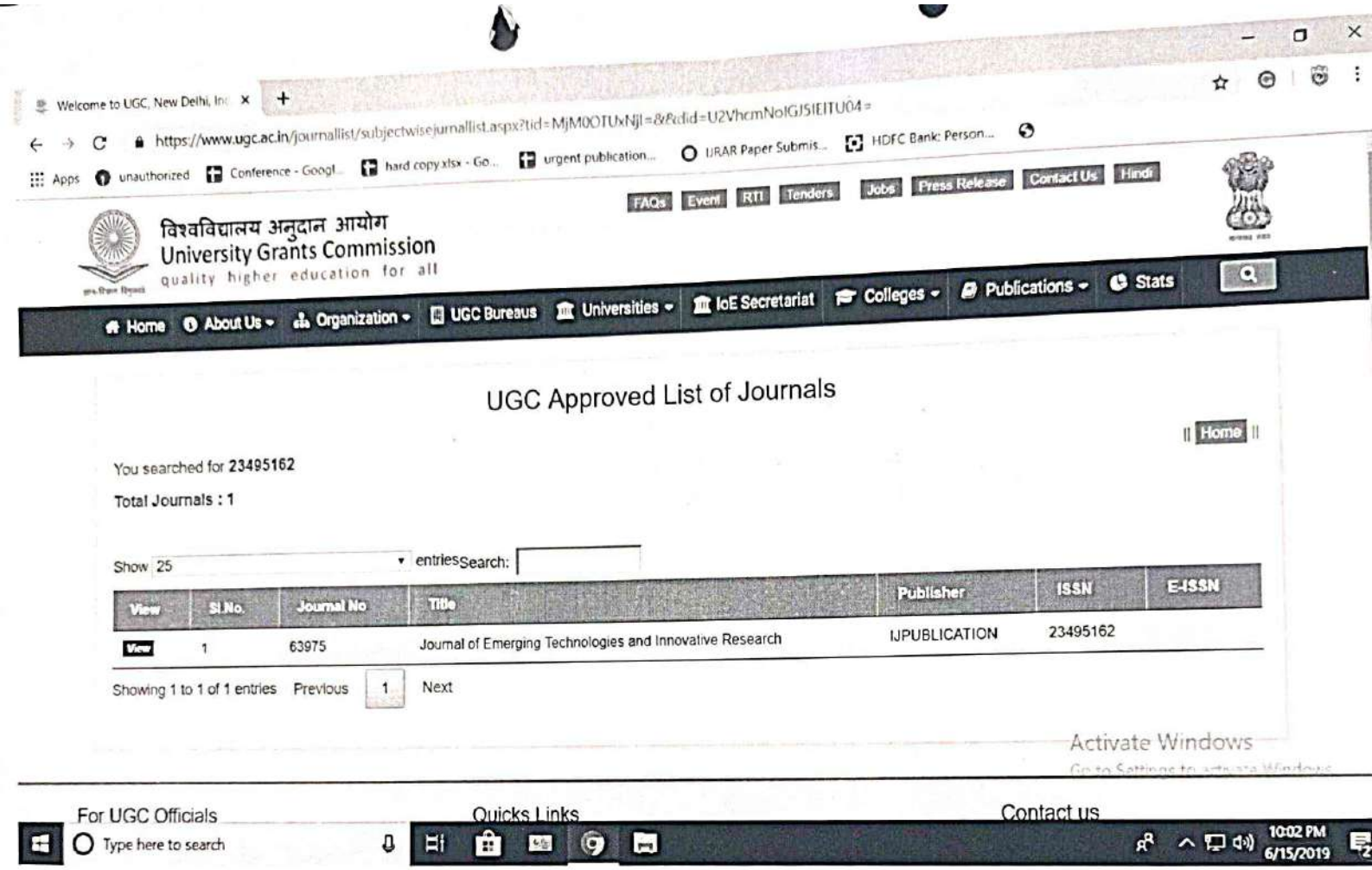
ABSTRACT

The rise of automation technologies has made life easier in every way. In the modern world, automatic systems are favoured over manual once. IOT is the newest and most cutting-edge internet technology. The exponential growth in internet users over the past ten years has made the internet a necessary component of daily life. The internet of things is an expanding network of commonplace items, including consumer goods and industrial machinery, that can exchange information and carry out tasks while you are occupied with over thinks. An automated home is frequently to as referred a smart home. A wireless (HIS) employing the (IOT) enables computers or mobile devices to control basic home features and operations automatically from anywhere in the globe. It is intended to conserve both human and electric energy. The feature that sets the home automation system apart from other systems is that it controlled online from any location in the world. This article describes a home automation system (HAS) that use the MIT app Community and integrates cloud networking, wireless communication, and data storage to give users remote control of different light, fan, and appliance in their homes. Based on the information provided by the sensors, the system will adjust itself. This system's inexpensive cost and expendability make it possible to control a range of devices.

Keywords: Home Automation, Node MCU, Esp8266 Wi-Fi Module, Relay, IFTTT Smart Phone, Google Assistant.

PROBLEM STATEMENT

People today are looking for ways to improve their lifestyle by utilizing the most recent technologies. Customers will purchase any new home appliance feature that promises to improve their quality of life. It becomes inevitable to have simple and practical technique and means to control and operate these appliances when more of these facilities and appliances are added. Traditional wall switches must be manually turned on or off in order to operate multiple appliances due to the fact that they are spread out across the house. Monitoring the performance of running appliances and keeping track of them becomes nearly difficult. Another goal is create a system that makes it easier to operate home appliances, such as using speech recognition or mobile devices.



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IOT Based Attendance Monitoring System using RFID

Poonam Devkar, Komal Walhekar, Payal Kanse, Sandeep Nalage

Student, Student, Student, Professor
Electronics & Telecommunication Engineering,
RD's SCSCOE Dhangwadi, Pune, India

Abstract: The IOT based Attendance monitoring system using RFID with the help of Google Sheet is a project that aims to automate the attendance process in Schools, Colleges and Organizations. The system uses an RFID reader to read the RFID tags of the students or employees and sends the data to the ESP8266 module. The ESP8266 module is programmed to communicate with the Google sheet to store and retrieve attendance data. The system is accessed from anywhere with an internet connection, making it easy for teachers or managers to view attendance records. The project involves programming the RFID Reader and ESP8266 module, to set up the Google Sheet to store and retrieve data. The system can provide accurate and efficient attendance management, reducing the workload of teachers or managers and ensuring records are up-to-date.

Index Terms **– Attendance monitoring system, IOT, RFID, Google sheet.**

I. INTRODUCTION

One of the effective factor that support the system of presence of student. Because in many cases student often absent, so in traditional manual paper based attendance take too much time which is very time consuming, insecure and usually leads to human error. Although work get wasted in organizing and structuring the attendance data in register in traditional method. Besides in many cases there are introduce proxy unauthorized person which leads to insecurities and misleading of organizing structure. As a result we present this system to overcome this different type of disadvantages. RFID (Radio Frequency Identification) technology has been revolutionized the way we track and manage data. Once area where it has proven particularly useful in attendance monitoring system. In this system, RFID tags are used to identify and track individual as the person enter in bus and allowing only an authorized persons. In addition to allowing for accurate and efficient attendance recording with the help of Google Sheet. They mainly record related to authorized persons namely Date, Time and their name. The particular system using RFID tags to track attendance and record it in Google Sheet. By accordingly the process, we can save the time and resources while ensuring accurate attendance records.

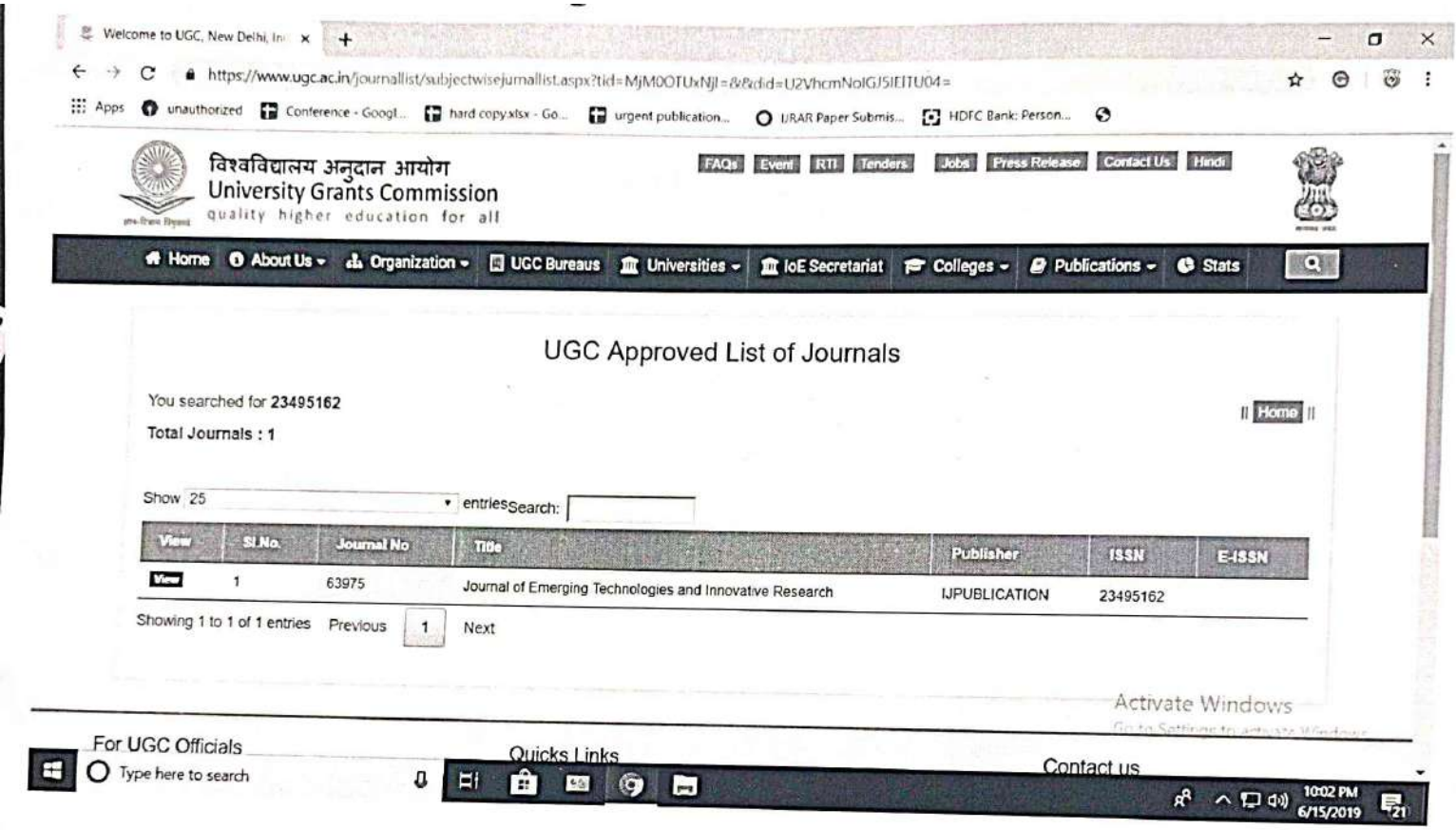
II. LITERATURE SURVEY

[1] The RFID automated Tracking attendance is presented Shashank Shukla, Pooja sore.The system then records the time and date of the attendance and sends the information to the instructor's computer for easy tracking and record-keeping.

[2] RFID based system for school children Transportation safety is presented by Dr. Stya Shrikant, Shilpa Shree K. The objective of this paper is the technology being used to should be crucial enough to keep our society safe. To improve Transportation Safety.

[3] RFID & It's used in Libraries is presented by Neeraj Kumar Singh. The aim of these are tagging books with RFID tags to quickly. Locate misplaced book on the shelves & checkout.

[4] RFID based vehicle authentication using Smart card is presented by Litty Rajan, Alpana Gopi. The aim of this survey is to find RFID application in authentication of all vehicle during inspection.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Smart Agriculture Irrigation System

[1] Pawar Rushikesh Dnyaneshwar, [2] Tavare Shubham Laxman,[3] Khomane Sagar Bhanudas
Guide Name: Prof.S.D.Pasalkar
Department of E&TC Engineering
Shri Chatrapati Shivajiraje College of Engineering, Pune, India

ABSTRACT:

Innovative technical solutions known as "smart agriculture irrigation systems" make use of a variety of sensors, data analytics, and automation to optimise water use and boost crop output in agricultural fields. These systems are designed to deal with issues including water scarcity, unpredictability of the weather, and the requirement for effective irrigation management. Innovative technical solutions known as "smart agriculture irrigation systems" make use of a variety of sensors, data analytics, and automation to optimise water use and boost crop output in agricultural fields. These systems are designed to deal with issues including water scarcity, unpredictability of the weather, and the requirement for effective irrigation management.

Soil moisture sensors provide real-time data on soil moisture levels, enabling farmers to choose the best irrigation timing and volume. Weather stations collect data on temperature, humidity, wind speed, and rainfall, which helps in predicting evapotranspiration rates and adjusting irrigation schedules.

These sensors provide data, which is then transmitted to a central control system or a cloud-based platform for analysis. The collected data is processed by cutting-edge data analytics algorithms, which produce practical insights including irrigation advice, crop water needs, and water distribution trends. Through mobile applications or web interfaces, farmers can have access to these information and use them to inform their management of irrigation systems.

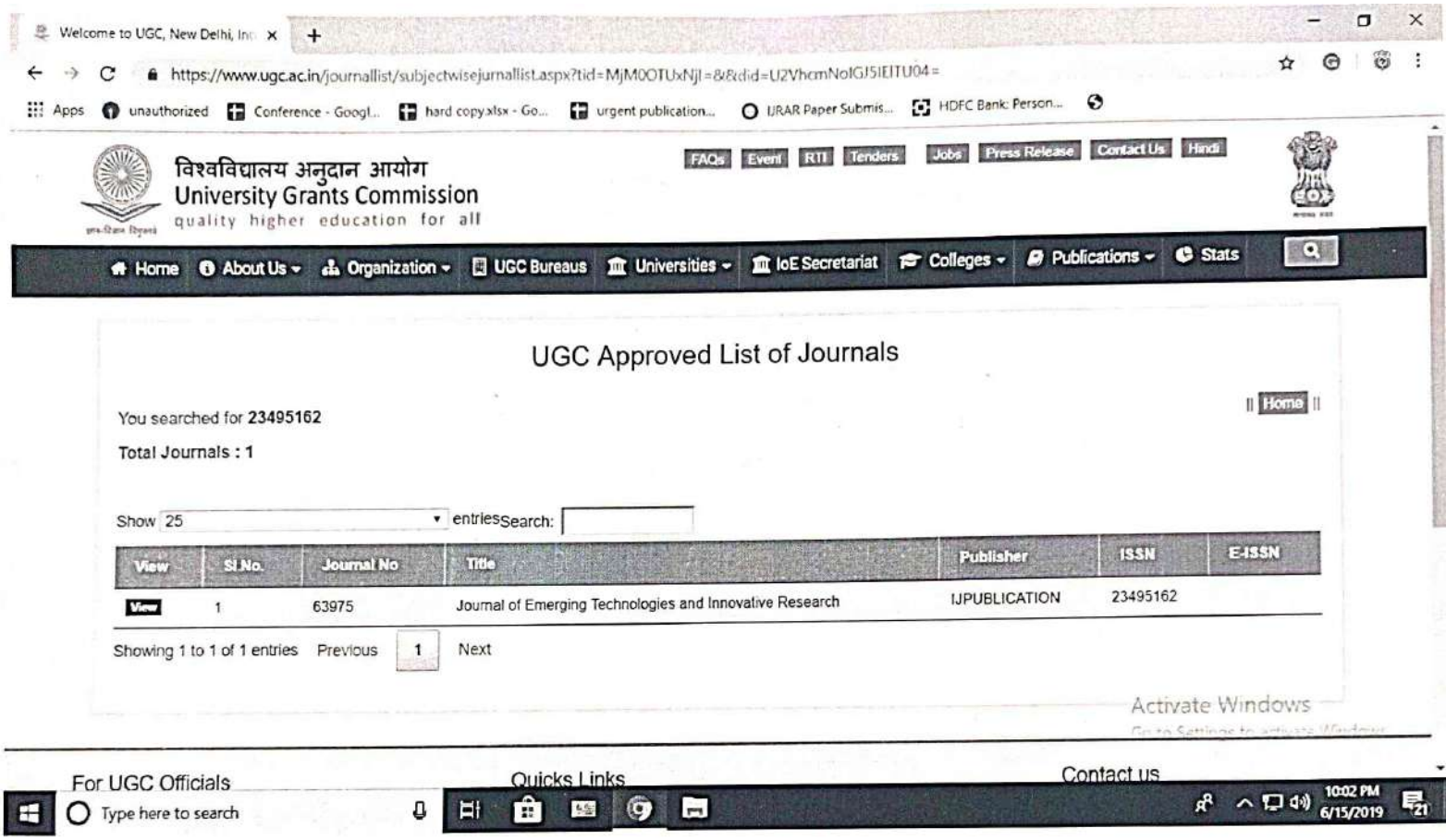
Smart irrigation systems for agriculture rely heavily on automation. Automated actuators manage irrigation valves, pumps, and sprinklers based on the analysis and recommendations produced to ensure exact water delivery to crops. Through automation, manual intervention is no longer necessary, and the distribution of water is optimised, resulting in significant water savings and increased crop health.

INTRODUCTION:

A revolutionary development in agriculture, smart agricultural irrigation systems provide a solution to the pressing issues of water shortage, climate change, and the need for effective resource management. These systems make use of cutting-edge technologies like sensors, data analytics, and automation to improve crop output while optimising irrigation practises.

In many parts of the world, there is a serious problem with water scarcity, and traditional irrigation techniques frequently result in excessive water use and ineffective distribution. By providing real-time information on weather conditions, crop water needs, and soil moisture levels, smart agriculture irrigation systems seek to address these problems. Farmers can plan irrigation effectively with this data-driven strategy, ensuring that crops get the proper amount of water at the right time.

Soil moisture sensors, weather stations, data analytics algorithms, and automated actuators are the main elements of a smart agriculture irrigation system. Soil moisture sensors give farmers precise and timely information on the amount of moisture in the soil, allowing them to choose the best time to irrigate and prevent over- or under-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IOT BASED SMART GLASSES THAT CAN READ BOOK

Miss Shabdashree Sutar

Mr. Sameer Deshamukh

Department of Electronics and Tele - Communication Engineering

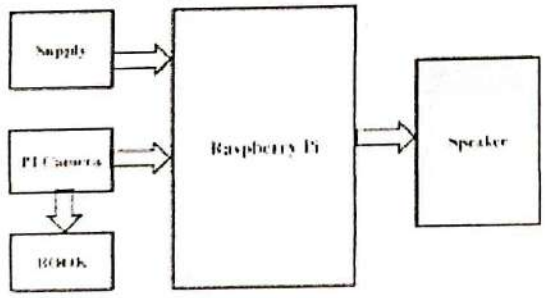
Shri Chattrapati Shivajiraje College of Engineering, Pune, India

Project Guide – Mr.Swanand Pasalkar

Abstract— **since there are many blind and visually impaired people in the world, reading presents certain difficulties for them. Until recently, Braille was the sole way for people who are blind or have low vision to read and study. However, there aren't enough Braille training courses available, and there aren't enough Braille machines or related resources. A smart reader for the blind population is suggested as a solution to these problems, incorporating the Raspberry Pi technology. This research proposes a smart reader for the blind that incorporates a full text study out system with page turning functionality and dictionary query features. The text is then read aloud through speaker or headphones.**

Keywords*— *OCR, Raspberry PI Buster, Speaker, camera, Pyttsx3, Open CV

I. INTRODUCTION



Numerous statistics are available in materials and on the internet. This does have some restrictions, according to Louis Braille, the inventor of the renowned Braille script. One of them uses expensive, specialist printers to print in that particular script. These expensive printers will undoubtedly result in the production of expensive books. Additionally, there are very few of these books in the library. The person will have to rely on other individuals who can easily examine if they need to read a book that isn't available in the library for the blind. Additionally, this can't be always the case.

This system is designed such that after reading the text on the current web page, all the user has to do is place a book down, and the system takes care of the remaining chores like analyzing the text and changing the page. It also aids in helping the user understand the meaning of any term that he or she may not have fully comprehended without the use of a dictionary, where the user interrupts the machine and requests the definition of the word. Additionally, the user has the option to halt the reading whenever they like. The pressing of the special buttons carries out this.

A. Objective

Reading is essential to daily life for most people, and text can be found in newspapers, consumer goods, signboards, digital screens, and other places. As a result, those who are 2 blind or visually impaired encounter several challenges. The goal is to help with many daily tasks by utilising the benefits of wearable design.

(1)

1.Input unit: The device's input unit is made up of a PI camera and interrupt buttons. The primary input source for the processing unit's high-quality image is the PI camera. It is a plug and play USB device that can be programmed using the Open CV library in Python. With a tiny USB port, it supports the USB 2.0 protocol. It typically comes with a 5MP resolution camera. The quality of an image, the correctness of the transformed text, and subsequently the voice, all improve with increasing MP. With the aid of a foot stand that has a clip to hold the camera, the camera is raised to a specific height above the page.

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Wireless Air & Sound Monitoring system using NodeMcu826

Ayush A. Parwadi, Vishal Malvi, Pratik Sutar, Prof. Dr.S.I.Nipanikar

Department of Electronic & Telecommunication Engineering, Shri Chhatrapati Shivajiraje College of Engineering,

Savitribai Phule Pune University, Pune, India

ABSTRACT: The Wireless Air & Sound Monitoring system using NodeMcu8266, one of the new aspects is the utilization of ThingSpeak. ThingSpeak is an IoT platform that allows for the collection, storage, and visualization of sensor data in real-time. A low-cost and scalable method for measuring and monitoring air quality and sound levels in real time is the wireless air and sound monitoring system utilising NodeMcu8266. To identify and measure environmental factors, the system makes use of different sensors, including gas, sound, temperature, and humidity sensors. The NodeMcu8266 Wi-Fi module receives the sensor data and transmits it to a cloud-based platform for processing and analysis. Users have access to the data via a web-based user interface or a mobile application, and they can sign up to get warnings when environmental factors go over certain limits. The system is appropriate for a variety of applications, including environmental monitoring, public health, and building automation. Additionally, if the air quality or sound level exceeds a certain threshold, the system may be configured to send alarm messages to a phone. This gives consumers timely alerts so they may take the required precautions to reduce any risks or problems.

The wireless air and sound monitoring system utilizing NodeMcu8266 include a number of sensors (gas, sound, temperature, and humidity), a NodeMcu8266 Wi-Fi module, and a cloud-based platform for data processing and analysis. These components are briefly described in the abstract.

KEYWORDS: [Wireless Monitoring System, Air Quality Monitoring, Sound Level Monitoring, NodeMCU8266, IOT Application, Gas Sensor, Sound Sensor, Smart City, Wireless Sensors Network, Real Time Data]

I. INTRODUCTION

Both air pollution and noise pollution are now major environmental issues that have an impact on people's health and way of life. Numerous studies have demonstrated that exposure to high concentrations of air pollution and noise can result in a number of health issues, such as hearing loss, cardiovascular disorders, and respiratory illnesses. There is an increasing concern for public health and environmental sustainability as a result of the dangerous air quality and noise levels that have been achieved in many metropolitan areas.

The use of conventional air and sound monitoring systems is restricted in many circumstances, especially in distant or inaccessible locations, due to their high cost, complexity, and significant wiring requirements. It has become more crucial than ever to have real-time monitoring solutions that are wireless and IoT-based. Air quality and sound levels may be monitored in real time with the help of wireless monitoring devices, which can also wirelessly send data to a platform in the cloud.

In this research, we suggest a NodeMcu8266-based wireless air and sound monitoring system. NodeMcu8266 is a development kit and open-source firmware that facilitates the development of IoT applications. The suggested system comprises of several sensors that detect the amount of contaminants in the air and the amount of noise in the surrounding area, such as gas sensors and sound sensors. Wirelessly relayed to a server or cloud-based platform, the data gathered by the sensors is then processed and analysed. Through a web interface or a mobile application, consumers may access this data.

The suggested method offers a dependable, economical, and effective remedy for air and sound monitoring by addressing the shortcomings of conventional monitoring systems. To enhance public health and environmental sustainability, the system may be used in a variety of contexts, including homes, offices, schools, and outdoor areas. The remainder of the essay is structured as follows: The relevant research in the area of sound and air monitoring is covered in Section 2. The suggested system architecture and design are described in Section 3. The experimental

|e-ISSN: 2319-8753, p-ISSN: 2347-6710| www.ijirset.com | Impact Factor: 8.423| A Monthly Peer Reviewed & Refereed for

|| Volume 12, Issue 5, May 2023 ||

| DOI:10.15680/IJIRSET.2023.1205353|

SMART GREEN HOUSE USING IOT

Bhagyashri Shendage, Mahendra Metil, Umesh Kokate, Prof. Jyoti Bandal

Department of Electronic and Telecommunication Engineering, Rajgad Dnyanpeeth's Shri Chhatrapati Shivajiraje College of Engineering, Dhangwadi Maharashtra, India

ABSTRACT: Sensors are used in IoT-based environmental monitoring to gather data about the environment and wirelessly transfer it to a centralized monitoring system. Sensors can be used to measure variables in solar power systems, including sun irradiance, temperature, humidity, wind speed, and direction. The performance of the solar power system can then be optimized with the help of this data. IoT integration in solar power systems has a number of benefits. First off, it enables real-time system monitoring and control, which can aid in locating and fixing problems before they escalate into bigger concerns. Additionally, it saves time and money by reducing the need for human monitoring. Thirdly, it allows for predictive maintenance and data analysis.The use of IoT in solar power systems for environmental monitoring is a promising field that has the potential to significantly enhance the performance, efficiency, and lifespan of solar power systems.

KEYWORDS: Sensors, Think speak, Arduino IDE microcontroller at mega 328 p,

I. INTRODUCTION

Plants are grown in greenhouses, which are enclosed buildings with regulated environments. The usage of smart greenhouse technology has grown in popularity in recent years. In order to provide plants with the best possible growing conditions, smart greenhouse systems use sensors, actuators, and control systems. This technique can aid in boosting crop yields, lowering water use, and maximizing resource usage.

An intelligent monitoring system for greenhouses can be made using IoT technologies. The Internet of Things, or IoT, is a network of actual physical objects that are connected to the internet and are capable of interacting with one another. Greenhouse owners can track the environmental conditions inside their greenhouse in real-time by using IoT sensors and gadgets. This literature survey focuses on the integration of Internet of Things (IoT) technology into smart greenhouse systems. The goal is to provide an overview of the existing research, technologies, and applications in this field. The survey covers various aspects of smart greenhouses, including environmental monitoring, automated control systems, energy management, and data analytics. By examining the relevant literature, this survey aims to identify the current trends, challenges, and potential future directions for the development of IoT-based smart greenhouses

II. LITERATURE SURVEY

A literature survey on smart greenhouses using IoT (Internet of Things) would involve reviewing existing research, studies, and publications related to the application of IoT technology in the context of greenhouses or indoor farming. While I can't perform a real-time literature search, I can provide you with a general overview of the topic and highlight some key areas of interest.

2. COMPOENTS SELECTION

❖ MICROCONTROLLER (AT MEGA 328p

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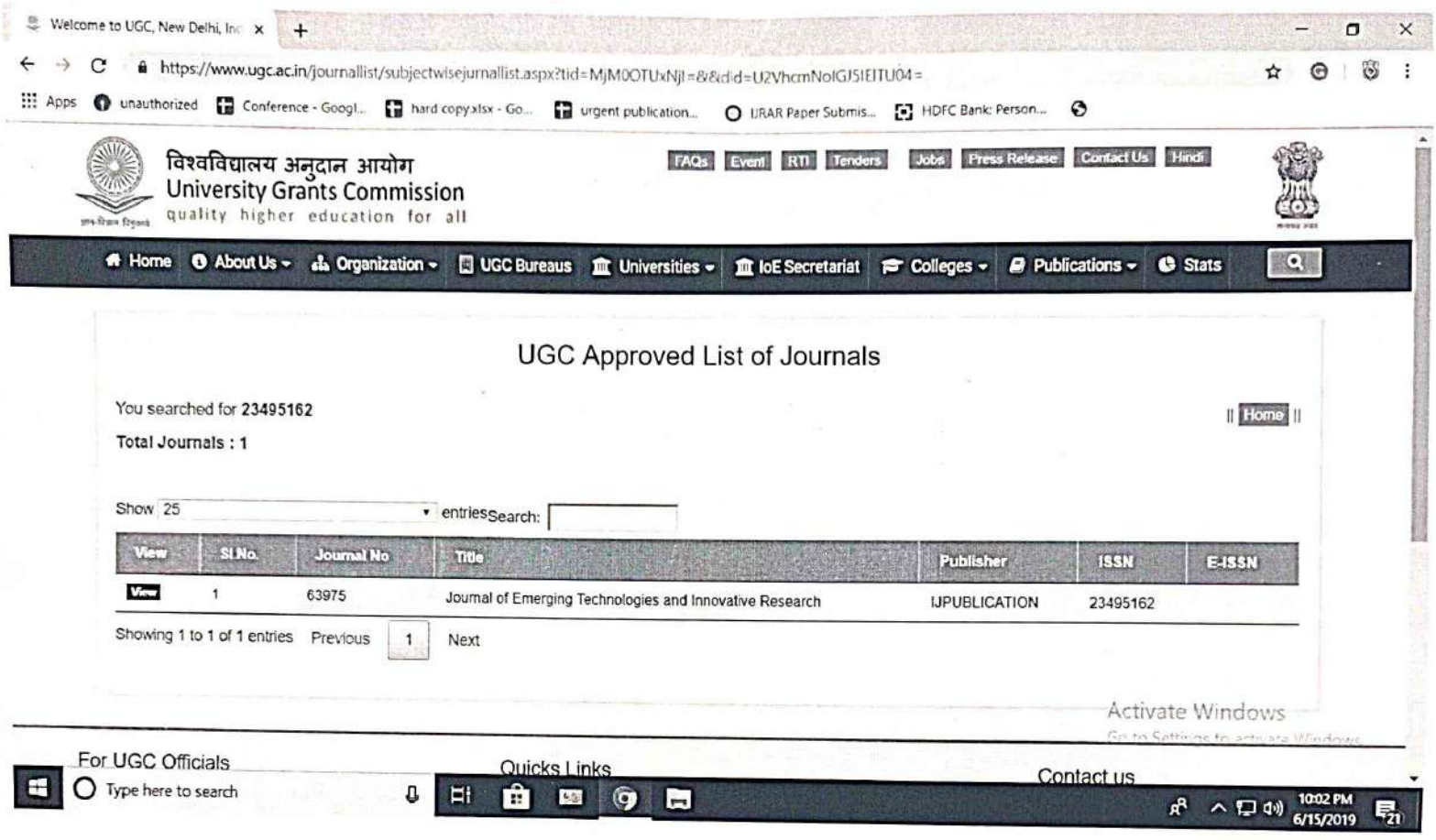

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"IOT BASED IV BAG MONITORING & ALERT SYSTEM"

Ketan More,Pooja Kondhalkar,Aniket Jadhav.

Guide Name : T.M.Dudhane.

Department of Electronic & Telecommunication Engineering Shri Chhatrapati Shivajiraje College of Engineering, Pune, India (MH), Savitribai Phule Pune University, Pune.

ABSTRACT

The Internet of Things (IoT) is a network of actual physical objects made up of all the gadgets, cars, buildings, and other things with electronics, software, and sensors that allow them to collect and share data with one another. Real-time analytics, machine learning, commodity sensors, and embedded systems have all helped to advance the Internet of things. Any time saline is administered to a patient, the patient must be closely watched by a nurse or any other family members. Most frequently because of carelessness, lack of attention, a hectic schedule, and an increased number of patients, the nurse may forget to replace the saline bottle as soon as it has been completely eaten. Blood rushes back to the saline container shortly after the saline has finished because of a difference in **Keywords**: Home Automation, Node MCU, Esp8266 Wi-Fi Module, Google Assistant.

INTRODUCTION

Thanks to a new technology known as IOT, or the internet of things, we can control devices over the internet. When intravenous fluid levels fall below a predetermined threshold, the weight sensor's output voltage level changes. The comparator continuously compares the WEIGHT output with a threshold that has been set. The ESP8266 controller determines that the fluid level is too low when the transceiver output is negative and informs the observer by buzzing. An alarm is created to notify the nurse that the patient has received all of the saline that was being administered. The weight difference is utilised to determine how much saline is in the bottle and, as a result, to trigger an auditory warning on the indication board at

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AUTOMATIC WOMEN SAFETY DEVICE

Ankita Balasau kokate , Priyanka Tanaji Jadhav , Aarti Namdev Khopade

Guide name: Dr. S.I Nipanikar.

Department Of Electronics & Tele-Comummication Engineering
Shri Chhatrapati Shivajiraje College Of Engineering, Dhangawadi

Abstract:

Automatic women safety device combines real-time monitoring, distress signal generation, and location tracking functionalities, empowering women to tackle threatening situations effectively.The device integrates various sensors such as accelerometer, GPS, and panic button to detect and respond to potential dangers. When an emergency situation is detected, the device generates an immediate distress signal, enabling rapid response by authorities or concerned individuals. The ESP8266 module, known for its reliable connectivity and low power consumption, allows seamless communication with the backend system, facilitating real-time data transmission.

To provide comprehensive safety features, the device utilizes GPS technology to track the user's location continuously. This information is relayed to a centralized server or a dedicated mobile application, enabling authorized individuals to monitor the user's whereabouts and respond promptly if needed. Additionally, the device incorporates an accelerometer to detect sudden movements or falls, triggering an alert if the user is in distress.

Keywords: - Women Safety, Emergency, Alerting, Self-defence, ESP8266

1. Introduction:

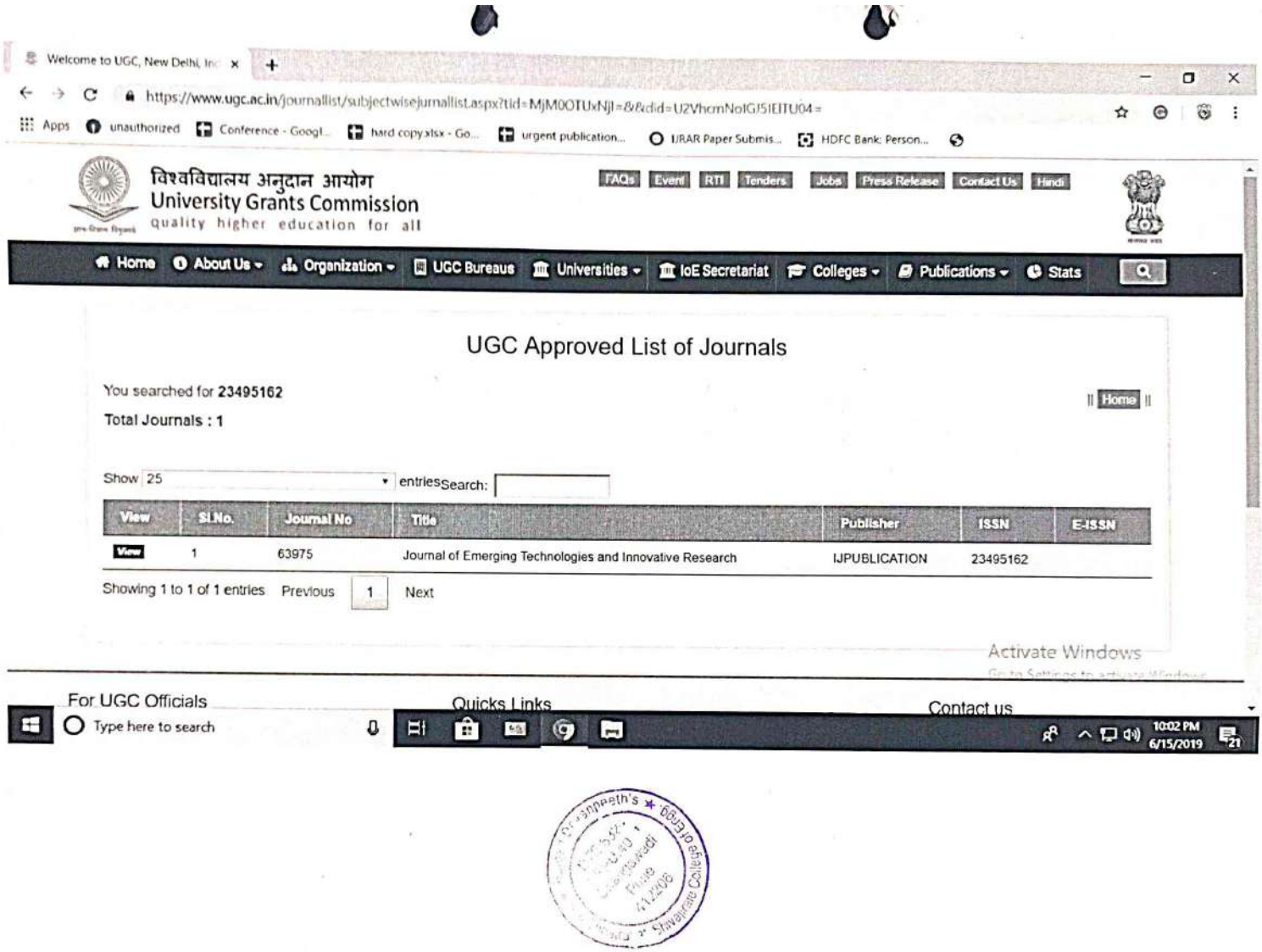
The safety and well-being of women are of paramount importance in society. Unfortunately, women often face unique challenges and vulnerabilities when it comes to personal safety. The need for effective measures to ensure women's safety has become increasingly apparent, prompting the exploration of technological solutions to address these concerns.

Technological advancements have played a pivotal role in enhancing personal security. Automatic safety devices have emerged as a promising solution, offering proactive measures and immediate assistance in times of distress. These devices are designed to empower women by providing a reliable means of communication and triggering emergency alerts when faced with threatening situations.

One such technology that has revolutionized the field of women's safety devices is the ESP8266 microcontroller. The ESP8266 offers remarkable capabilities, particularly in terms of wireless communication and real-time data transmission. Its integration into automatic safety devices enables seamless connectivity and the potential for instant communication during emergencies.

By harnessing the power of the ESP8266 microcontroller, automatic safety devices can establish a reliable network connection and transmit vital information rapidly. This empowers women to reach out for help, share their location coordinates, and trigger timely responses from authorities or designated contacts. The ESP8266's ability to facilitate real-time communication significantly enhances the effectiveness of these devices in ensuring women's safety.

In this research paper, we delve into the development of an automatic women safety device utilizing the ESP8266 microcontroller. We explore its capabilities, design considerations, and the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REMOVE NITRATE CONTENT FROM WATER BY USING NITRONET

Published In JETIR (www.jetir.org) ISSN UGC Approved (Journal No: 63975) & 7.95 Impact Factor
Published in Volume 10 Issue 5 , May-2023 | Date of Publication: 2023-05-29

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JETIR2305C36 Research Paper Weblink http://www.jetir.org/view?paper=JETIR2305C36 Registration ID : 517301

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REMOVE NITRATE CONTENT FROM WATER BY USING NITRONET

[1]Roshan Chavan, [2]Mayuresh Koli, [3]Amit Mane, [4]Rohan Gade, [5]Shubham Jadhav
[1]Prof. P. G. Gaikwad
U.G.Student , Dept.Of Civil Engineering, Shri. Chhatrapati Shivajiraje College Of Engg, Pune. Maharashtra. India.

Abstract : Groundwater is one of the fundamental aid for consuming and agricultural usage. Excessive use of nitrogen fertilizers in agricultural things to do have extended the nitrate degree in groundwater, which severely influences the fitness of human beings and this reason methemoglobinemia (MetHb), generally known as as "blue toddler syndrome". The essential purpose of this scan is to develop a fee nice process, efficient elimination of nitrate and eco-friendly. In this strategy, sodium hydroxide (NaOH) activated coconut shell charcoal used to be used as an adsorbent to evaluate the elimination effectivity of nitrate in groundwater. This test used to be carried out by means of changing the pH value, adsorbent dosage, temperature, preliminary nitrate awareness and contact time. Within the studied commentary from the referred to parameters, it is seen that the optimum elimination of nitrate takes location with the exchange in preliminary nitrate concentration.

Key words – **Nitrate,Nitonet,coconut coir,wooden charcoal .**

I. INTRODUCTION

Groundwater is one of the major resource for drinking and agricultural usage. Excessive use of nitrogen fertilizers in agricultural activities have increased the nitrate level in groundwater, which severely affects the health of human beings and this cause methemoglobinemia (MetHb), commonly called as "blue baby syndrome". Water is the major resource used by humans and every living being in the earth. Due to population increase, deficiency in water occurs. This caused the increase in the usage of ground water. For all the living matter, nitrogen is an essential element. Nitrogen with various oxidation levels are easily soluble in water which is highly toxic to human health. Ground water contamination by nitrate content increased due to the usage of high level nitrate contained fertilizers for agricultural purpose. The other sources of nitrate contaminated water include landfill leakage, leakage of septic tank and municipal storm water runoff. Increased level of nitrate in drinking water affects the haemoglobin which mainly cause blue baby syndrome for infants. It also provokes eutrophication and algal growth in water bodies. To reduce the nitrate level in water miscellaneous methods such as adsorption, ion-exchange, biological denitrification, chemical reduction and reverse osmosis are used. Instead of this methods we adopted nitronet which can be remove nitrate content and other impurities from ground water.

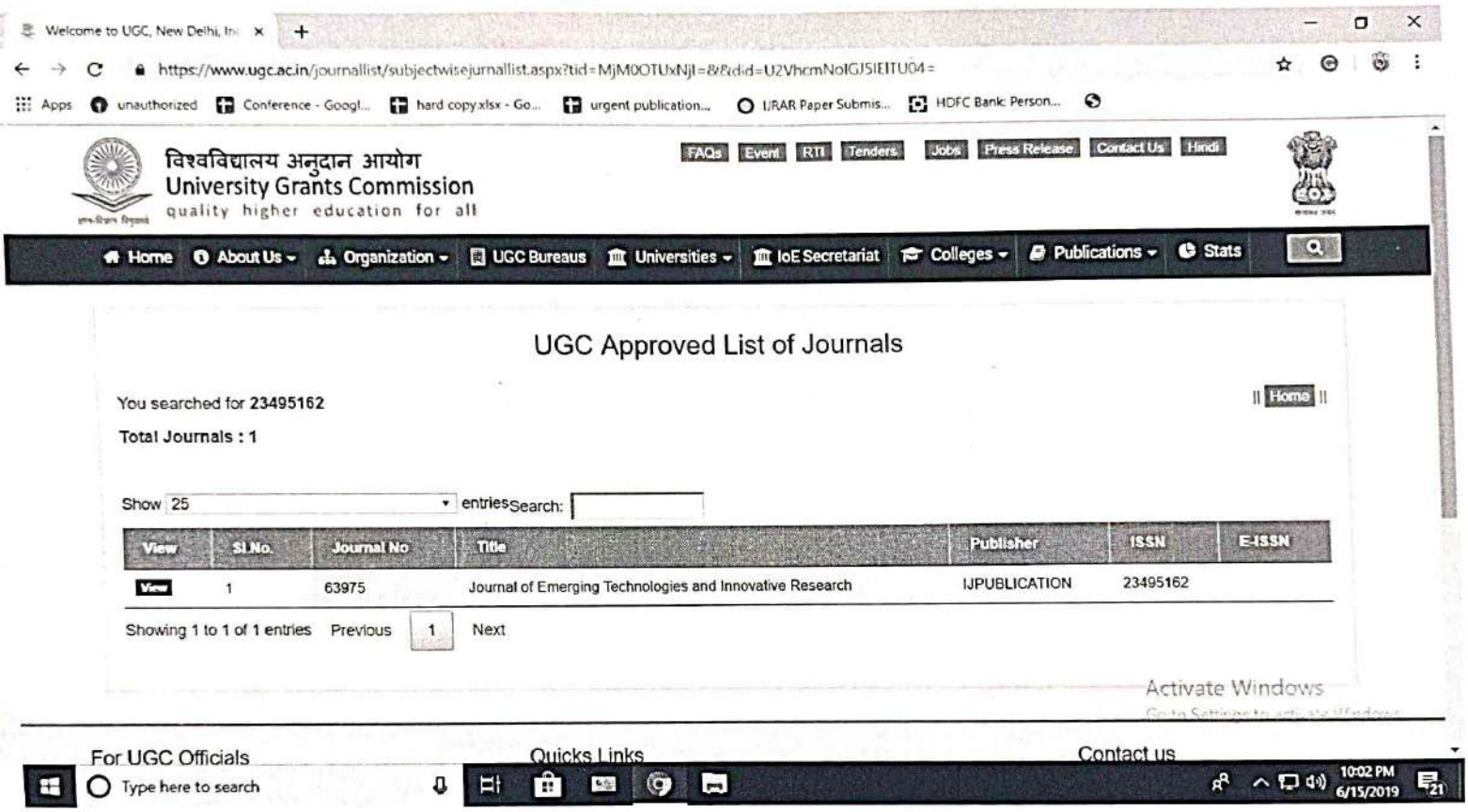
The Nitronet can be prepared from refined cotton, wooden coal, coir, sand etc. to treat the nitrate contaminated water. In this project this material is adopted to make Nitronet. This material is a adsorbent material. The specific properties of this adsorbent used to reduce the nitrate level in water.

II. OBJECTIVES

1. The prime objective of this project adopt uncomplicated safe and lucrative method to treat the nitrate contaminated water..
2. To invent device called nitronet which can remove at least nitrate from water and bring it to permissible limit that is 45lit/mg as per IS10500-2012 and 10 mg/limit as per limit given by WHO.
3. To make water potable for everyone and reduce the Water pollution

SCOPE

The minimum resources such as coconut coil, sodium hydroxide and potassium nitrate are readily available and used in this process. In this technique a highly carbonaceous absorbent is used. The cheap and simple technique for nitrate removal is a successful one.



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Published In JETIR (www.jetir.org) ISSN UGC Approved (Journal No: 63975) & 7.95 Impact Factor

Published in Volume 10 Issue 5 , May-2023 | Date of Publication: 2023-05-31

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JETIR2305D82 Research Paper Weblink http://www.jetir.org/view?paper=JETIR2305D82 Registration ID : 518090

JETIR.ORG | ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue

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"PHYSICAL-CHEMICAL ASSESSMENT OF GROUND WATER QUALITY AT PIRANGUT AND ADJACENT VILLAGES"

AKSHAY D. KOLEKAR,ROHIT I. WADMARE, RAMESH S. KARCHUNDE, SACHIN A. TARU , JYOTI B. GIRIGOSAVI ,G. S. YADAV

CHAPTER 1

INTRODUCTION

Water is vital resource for all kinds of life on this planet. However, it adversely affected both quantitatively and qualitatively by all kinds of human activities on land, in air or in water.

The main source of water on the earth is rainfall, a little portion of it penetrates beneath the surface, a small portion is evaporated into the atmosphere and some of it runoff. A portion which penetrates into the earth is called the ground water and that can be collected by digging wells, tunnels or drainage galleries or flows naturally on earth's surface.

The total water amount on the earth is about 1.35 billion cubic kilometers and only 0.6% is in undergreund form. But unfortunately, it has been getting polluted day by day due to different activities. So, it is need to conserve water and prevent from every type of pollution and this could be possible by continuous water quality assessment.

Day by day the pollution is rapidly increasing, so for drinking and other regular activities the peoples are depending on ground water. In order to know the groundwater quality of the village, we have identified 29 sampling stations from dug wells and bore wells covering PIRANGUT and adjacent villages of study area.

1.1 Importance of ground water

1.1.1. Quality of water –

The quality of groundwater is of the great importance in determining the suitability of groundwater for a certain use. The quality of ground water is resultant of all the processes and reaction that have acted on the water from the moment is condensed in the atmosphere to the time is discharged by a well. Therefore, quality of ground water varies from place to place with depth of water table and from [illegible]

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Rehabilitation of Reinforced Concrete Beams By Using Ferro Cement Jacketing

in IJIRSET, Volume 12, Issue 5, May 2023

e-ISSN : 2319-8753
p-ISSN : 2347-6710

ISSN INTERNATIONAL STANDARD SERIAL NUMBER INDIA

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|| Volume 12, Issue 5, May 2023 ||

| DOI:10.15680/IJIRSET.2023.1205181 |

Rehabilitation of Reinforced Concrete Beams by Using Ferro Cement Jacketing

Rutuja Kale[1], Monika Shilimkar [2], Vaibhav Lokhande [3], Aditya Shinde [4], Atish Pharande [5], Prof.P.G. Gaikwad [6]

Student, Department of Civil Engineering, Shri. Chhatrapati Shivajiraje College of Engineering, Savitribai Phule Pune University, Pune, India[1,2,3,4,5]

Project Guide, Department of Civil Engineering, Shri. Chhatrapati Shivajiraje College of Engineering, Savitribai Phule Pune University, Pune, India[6]

ABSTRACT: Process of modification of existing structural members to increase their resistance of load is called retrofitting. Two techniques of retrofitting 1. Local (concrete jacketing, steel jacketing, fiber reinforced polymer sheet wrapping) 2. Global(addition of infill walls, addition of shear walls, addition of frames). Various retrofitting techniques are used in field and out of all, jacketing technique is consider as best. In this technique ferrocement are bounded to the surface of structural members to increase its strength. Ferrocement sheet are most commonly used as retrofitting material due to their easy availability, economy.

This paper represents the behaviour and strength of reinforced concrete beams strengthened with ferrocement jackets. A total 15 beams was prepared from that three specimens of beams are control beams remaining 12 beams are destressed at 50% & 60% of ultimate load and retrofitted with single and double layer of Chicken Mesh Jacketing. Study is done on the beam's failure mode.

The result of this test indicates that load carrying capacity of beam is increase after retrofitting.

KEYWORDS – Ferro cement, chicken mesh, Retrofitting, RCC beams, Jacket

I. INTRODUCTION

1.1 General :

Retrofitting is the remodelling of existing buildings to increase their functionality and robustness. For concrete structures that are susceptible to deterioration from several earthquakes, fire, bomb blasting, and chemical attacks, daily retrofitting measures are needed. The world has seen moderate to severe earthquakes on a yearly basis for the past thirty years; these occurrences cause failures and damage to concrete structures. Thus, our goal is to concentrate on a few particular techniques that could increase the vulnerability of existing reinforced concrete structures. For historical sites, earthquake-prone regions, and expensive or tall structures, it is crucial. Modern structural engineering research is focused on reinforcing and repairing ageing structures using new materials.

1.2 Chicken wire mesh: Uses to prevent cracks. Twisting two neighbouring wires at least four times creates a strong honeycomb mesh structure, which is used to create chicken mesh. As a result, it is strong and long-lasting.

1.3 Advantages =

- For plastering, chicken wire is preferable to welded wire mesh.
- The suppleness of chicken wire makes it easy to put it on curved and angled surface.
- Easy cut to your required size.

1.4 Aim: To investigate retrofitting of reinforced beams by using Ferro cement Chicken mesh Jacketing.

Objectives:

- To investigate RC beam repair utilizing Ferro cement jacketing enclosed with chicken mesh.
- To research the strength of reinforced beam.
- Comparison of test result to determine the strength of beam after Ferro cement jacketing.

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International Journal of Scientific Research in Science and Technology

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[UGC Journal No : 64011]

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Scientific Journal Impact Factor : 8.014

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Ref : IJSRST/Certificate/Volume 10/Issue 3/11074 29-May-2023

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Print ISSN: 2395-6011 | Online ISSN: 2395-602X (www.ijsrst.com)
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Utilization of Root Zone Technology (RZT) for Wastewater Treatment

Prof. K. R. Juare, Athrava Vijay Nigade, Sopan Navghane, Sandesh Suresh Nigade, Abhijit Sunil Barge, Jay Dattatray Chikane

Shri Chhatrapati Shivajiraje College of Engineering, Dhangawadi, Maharashtra, India

ARTICLEINFO

Article History:
Accepted: 05 May 2023
Published: 29 May 2023

Publication Issue
Volume 10, Issue 3
May-June-2023

Page Number
485-489

ABSTRACT

The quality and quantity of water resources are being compromised by the growing urbanization and human activities. This has led to the contamination of freshwater bodies as a consequence of higher production of domestic waste, sewage, industrial waste, and similar pollutants. This article examines the Root Zone Treatment System (RZTS), which comprises soil-filled fiber beds and serves as an environmentally friendly method for efficiently treating domestic and industrial waste.

Keywords : Root Zone Treatment System, Fiber, Root Zone Technology

I. INTRODUCTION

Root zone technology is effective technology called Decentralized Wastewater Systems (DEWATS)

- It was developed in 1970s in Germany and has been successfully implemented in different countries mainly in Europe and America.
- The root zone wastewater treatment system makes use of biological and physical-treatment processes to remove pollutants from wastewater.
- Due to its natural process, there is no need to add any input such as chemicals, mechanical pumps or external energy. This reduces both the maintenance and energy costs.
- Approximately 70% of domestic water is released as wastewater, most of which can be recovered if it is properly treated.
- Domestic wastewater can be mainly classified into two categories
- Grey water - wastewater generated from kitchens, laundry, bathrooms, etc.
- Black water - wastewater from toilets containing faecal matter and urine, which is also called as "sewage"

AIM:

To assess the viability of implementing root zone technology for wastewater treatment in the absence of any preliminary treatment.

OBJECTIVE:

1. The primary goal is to examine the utilization of Root Zone Technology (RZT) for wastewater treatment, explore different methodologies within

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Print ISSN: 2395-6011 | Online ISSN: 2395-602X (www.ijsrst.com)
doi : https://doi.org/10.32628/IJSRST

Analysis and design of Elevated Storage Reservoir by using STAAD PRO

Prof. K. R. Juare, Agjal Eknath Pataji, Bhave Pandurang Kishan, Chougule Omkar Balasaheb, Kshirsagar Gajendra Sambhaji
Department of Technology, Kolka, Bhilai, Madhya Pradesh, Maharashtra, India

ARTICLEINFO

Article History:
Accepted: 05 May 2023
Published: 30 May 2023

Publication Issue
Volume 10, Issue 3
May-June-2023

Page Number
541-546

ABSTRACT

Water is as important commodity as food and air for the existence of life. The Elevated Storage Reservoir (overhead tanks) which have been the inevitable part of water supply system are important public utility structures and industrial structure by the help of which the required water head can easily be achieved and water can be made available to all by the mere action of gravity.

In this project, we have analysed and designed an ESR (overhead circular reinforced cement concrete tank) to carter the requirements of Girls hostel which is in girls boarding school. The population of the school is estimated as 572 including all the students, teacher staff and their families. The ESR has been designed by increasing the capacity for future plans in campus. For this requirement a ESR is analysed by using premiere analysis software STAAD PRO. Based on the analysis using STAAD PRO the silent feature of the ESR is manually designed.

Keywords : ESR, STAAD PRO, Water Supply System

I. INTRODUCTION

A ESR or an overhead water tank is used to store water to overcome the daily demand of water. Elevated storage reservoir are able to supply water even during power cuts, because ESR depends on hydrostatic pressure produce by elevation of water (due to gravity) to push the water into domestic and industrial water distribution system.

The site allotted to us was in Pune. In this site a girls hostel for 500 students has been under construction along with staff quarters.

The site was started on February of 2022. The land sanction for this school is 15 acres and the budget of this project is 27 crore.

The project include construction of :

500 seated (G+1) school building

351 seated (G+3) hostel building (3 seated rooms)

140 seated (G+3) hostel building (2 seated rooms)

And F,G,H,I named staff quarters.

HBRP Publication

CERTIFICATE OF PUBLICATION

We Acknowledge the Manuscript entitled

Analysis of Multi-Storied Buildings for Plan Irregularities by Using ETAB

Submitted by

Shital Salunkhe

has been published in

Journal of Earthquake Science and Soil Dynamics Engineering

Volume 05 Issue 03 Year 2022

With regards,
Aditya Kumar Anand
Managing Director,
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HBRP PUBLICATION

Journal of Earthquake Science and Soil Dynamics Engineering
Volume 5 Issue 3
DOI: https://doi.org/10.5281/zenodo.7550534

Analysis of Multi-Storied Buildings for Plan Irregularities by Using ETAB

Shital Salunkhe*

Department of Civil Engineering, RD'S Shri Chhatrapati Shivajiraje College of Engineering, Dhangawadi, Bhor, Maharashtra, India.

Corresponding Author
***E-mail Id:-** shitalpsalunkhe@gmail.com*

ABSTRACT

ETABS stands for three-dimensional analysis of building systems. ETABS is commonly used to analyze skyscrapers, concrete structure low- and high-rise buildings, this project mainly highlights for structural behavior of multi-story buildings with 2 different plan configurations like H shape and S shape modeling of 10-stories RCC framed buildings done on the ETABS software for analysis. Post-analysis of the structure included base shear, storey forces, story displacement, storey drift and then compared. The presence of irregularity in buildings is a matter of concern when it is subjected to devastating earthquakes. A rapid change in vertical or plan configuration in buildings inclines to fail the structure. To prevent failure and diminish the risk potential of irregular buildings, the responses of such buildings to horizontal loads have to be studied in detail. The responses of unstable structures are analyzed using Static linear analysis, the models are analyzed to study their effect as per IS 1893 (Part 1): 2016 codal provisions. The parameters considered in this study are story displacement, storey drift, and lateral displacement. The results of the irregular construction have conversed.

***Keywords** – Linear Static Analysis, Storey Drift, Shear Force, Lateral Displacement, ETAB.*

I. INTRODUCTION

1.1 Introduction

Structural analysis means the purpose of the general shape and all the precise dimensions of a particular structure so that it makes the function for which it is created and will safely withstand the effects which will act on it throughout its useful life. ETABS's methods for input, output, and mathematical solution are made to take advantage of the unique physical and numerical characteristics of building-type structures.

For a wide range of gravity, thermal, and lateral loads, ETABS offers dynamic and static analysis. ETABS analysis of an H and S-shaped plan is the primary focus of the analysis. ETABS is used to model a structure with G+10 stories. The construction's total height is 36 meters, with each storey having a height of 3 meters. Loads are taken into account in accordance with the IS-875(Part1, Part2) code, and combinations are taken into account. to IS-875, Part 5Post-analysis of the structure for maximum storey drift, maximum storey displacement, and lateral displacements are calculated and then compared for all the analyzed cases.

With the need for multi-storied building requirements all over the world and the buildings touching the sky, safety is the biggest condition, so people can live happily. Buildings are the structures with different structural members that should withstand different types of [illegible] on them, so the engineer [illegible] problems in producing the [illegible]

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PROF. S.P. SALUNKHE

Dept. of Civil Engineering, Shri. Chhatrapati Shivajiraje College of Engineering, Pune, Maharashtra, India

Published a paper entitled

A Case Study on Partial Replacement of Fine Aggregate by Waste Tyre Crumb Rubber in Concrete

in IJIRSET, Volume 12, Issue 5, May 2023

e-ISSN : 2319-8753

ISSN INTERNATIONAL STANDARD SERIAL

INNO SPACE

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International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)

IJIRSET

| e-ISSN: 2319-8753, p-ISSN: 2347-6710| www.ijirset.com | Impact Factor: 8.423| A Monthly Peer Reviewed & Referred Journal |

|| Volume 12, Issue 5, May 2023 ||

| DOI:10.15680/IJIRSET.2023.1205368 |

A Case Study on Partial Replacement of Fine Aggregate by Waste Tyre Crumb Rubber in Concrete

Taru Ganesh, Sanket Jamdhade, Kukade Manoj, Tank Kartik, Gouri More, Prof. S.P. Salunkhe

U.G. Student, Dept. of Civil Engineering, Shri.Chhatrapati Shivajiraje College of Engineering, Pune, Maharashtra, India

Dept. of Civil Engineering, Shri.Chhatrapati Shivajiraje College of Engineering, Pune, Maharashtra, India

ABSTRACT : This paper indicates the experimental look at at the consumption of refuse tyre crumb rubber in concrete in replacement for quality mixture in distinct probabilities at the side of using silica fumes as mineral admixture to regulate the bonding homes of the Rubberized concrete in a fine way. on this examine the waste tyre crumb rubber became used as a substitute for herbal first-rate aggregates and changed into examined for the mechanical homes of M30 grade concrete as according to IS 10262-2009. 3 one-of-a-kind homes of rubberized concrete had been examined specifically compressive strength, flexural energy and split tensile power. In keeping with the take a look at consequences it changed into noticed that there's lower in the compressive electricity, cut up tensile energy and flexural energy whilst the proportion of rubber content is elevated as compared to the nominal mix. the proportion replacement of herbal exceptional mixture With crumb rubber was five%, 10% and 15%

I. INTRODUCTION

The dumping of waste fabric is one of the key issues in the entire world. The dumping of the waste tyres is a chief count due to the fact this fabric could be very hard to degrade even after an extended time. Waste rubber is also used as raw material for rubber items. Concrete is made through manner of the composition of cement, coarse mixture and first-class mixture. Among all sorts of construction substances concrete is the maximum often used material. Due to which there is lower within the natural aggregates. There are numerous strategies which had been proposed for the consumption of waste tyre, one among them is the use of crumb rubber within the concrete as full or partial replacement of coarse aggregates or quality aggregates .but handiest restrained researches have been performed till now on the use of waste tyre crumb rubber in concrete.

Alteration of building materials has an critical position within the constructing sector. Numerous numbers of tries had been as a result made in the construction fabric field to get into use refused waste merchandise like broken used tyres, into precious and gainful items. success on this case can have an extremely good contribution closer to the decline of waste material dumping issues through usage of the waste materials as a uncooked depend for other production requirements. As dumping and burning of waste and discarded rubber tyres is a totally hard and pollution producing procedure.

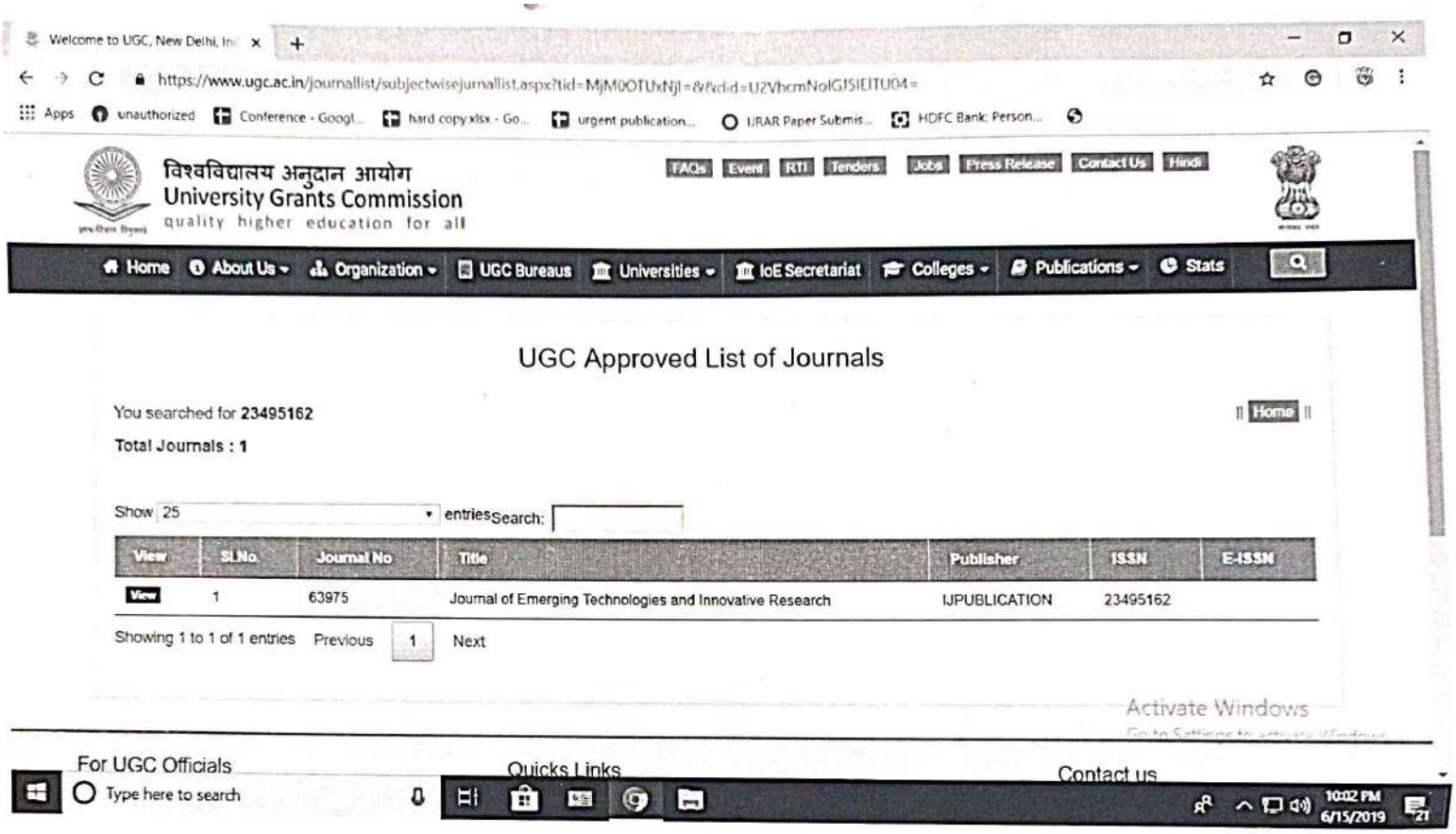
Cement combination consisted of rubber may be proved realistic to use for fundamental and nonstructural motive, for example, lightweight concrete dividers, constructing exteriors and compositional components. The intake of crumb rubber in flimsy concrete is considered as conceivably vital street. the usage of crumb rubber with concrete can be development in the structuring of the wall because it will paintings as shock as well as sound absorber.

II. OBJECTIVE

The technique requires a extensive laboratory for analyzing the proportion of crumb rubber inside the practice of rubberized concrete. The cause of the examine was to understand the power conduct this is trade in compressive, flexural power and break up tensile energy of rubberized concrete with exceptional [illegible] of crumb rubber.

Parameters varied in Investigation as shown below.

- Firstly the replacement of fine aggregate using crumb rubber is done by [illegible]
- Then replacement of fine aggregate is increased to 10% in the concrete [illegible]
- [illegible] fine aggregate is [illegible] with crumb rubber in the [illegible]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A Case Study of Dam Instrumentation for Gunjwani and Nira Deoghar Dam

Published In JETIR (www.jetir.org) ISSN UGC Approved (Journal No: 63975) & 7.95 Impact Factor
Published in Volume 10 Issue 5 , May-2023 | Date of Publication: 2023-05-20

EDITOR IN CHIEF

JETIR2305808 Research Paper Weblink http://www.jetir.org/view?paper=JETIR2305808 Registration ID : 516091

JETIR.ORG | ISSN: 2349-6162 | ESTD Year: 2014 | Monthly Issue

JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)

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A Case Study of Dam Instrumentation for Gunjwani and Nira Deoghar Dam

[1]Sayali Pawar, [2]Puja Bhandalkar, [3]Snehal Pisal, [4]Ganesh Budhe, Namdev Powar

[1]Prof. S. P. Salunkhe

U. G. Student, Dept. Of Civil Engineering, Shri. Chhatrapati Shivajiraje College of Engg, Bhor, Pune. Maharashtra, India.

Abstract: Instrumentation is very important pre & post-construction of dam is safety. The instruments examine the behavior and stability of the dam. The instrument should be installed under expert guidance in the proper place in the body of the dam. The proper purpose of instrumentation is very portentous use to different parameters with the help of instrument action. We obtain accurate results that we can maintain the health of the dam. Changes in this performance are necessary because dam presentation is directly responsible for the effects of dam failure. The conclusion has arrived to study of all instrumentation is the very necessary successful execution of dam instrumentation for safety purposes. The study parameters of the earthen dam for safety purposes has studied in this paper.

Key words **– Dam instrumentation, Dam Safety**

I. INTRODUCTION

The safety of dam plays an important role protect national investment. Dam failures can result in significant loss of life destruction of property and server, environmental consequences. To ensure the safe operation and longevity of dam continuous monitoring and instrument play a crucial role. Different types of instrumentation are required for various type of dam and rivers. As per IS specification we needs parameters like piezometer, water level sensors, automatic rain gauge, seismometer, plumb bob. All the instrument should study up to different boundaries. There are near about 11% of dam which are properly instrument. The approximate cost of work out to nearly 2% of total cost of construction.

In the case fully automatic data system is use that the measurement abuse any problem. They valuation should be part of the structure process that identified failure modes unique to a dam and develops appropriate response of instrument.

II. OBJECTIVES

1. To study safety measured body of dam.
2. To simulative records for structural behavior of dam.
3. To identify parameters of primary significance to integrity of dams.
4. To outline the instrumentation and technique employed in surveillance.
5. Instruments provides the information to the engineer about the health of dam.
6. The present age instrumentation has become necessity of functioning, safety measures.

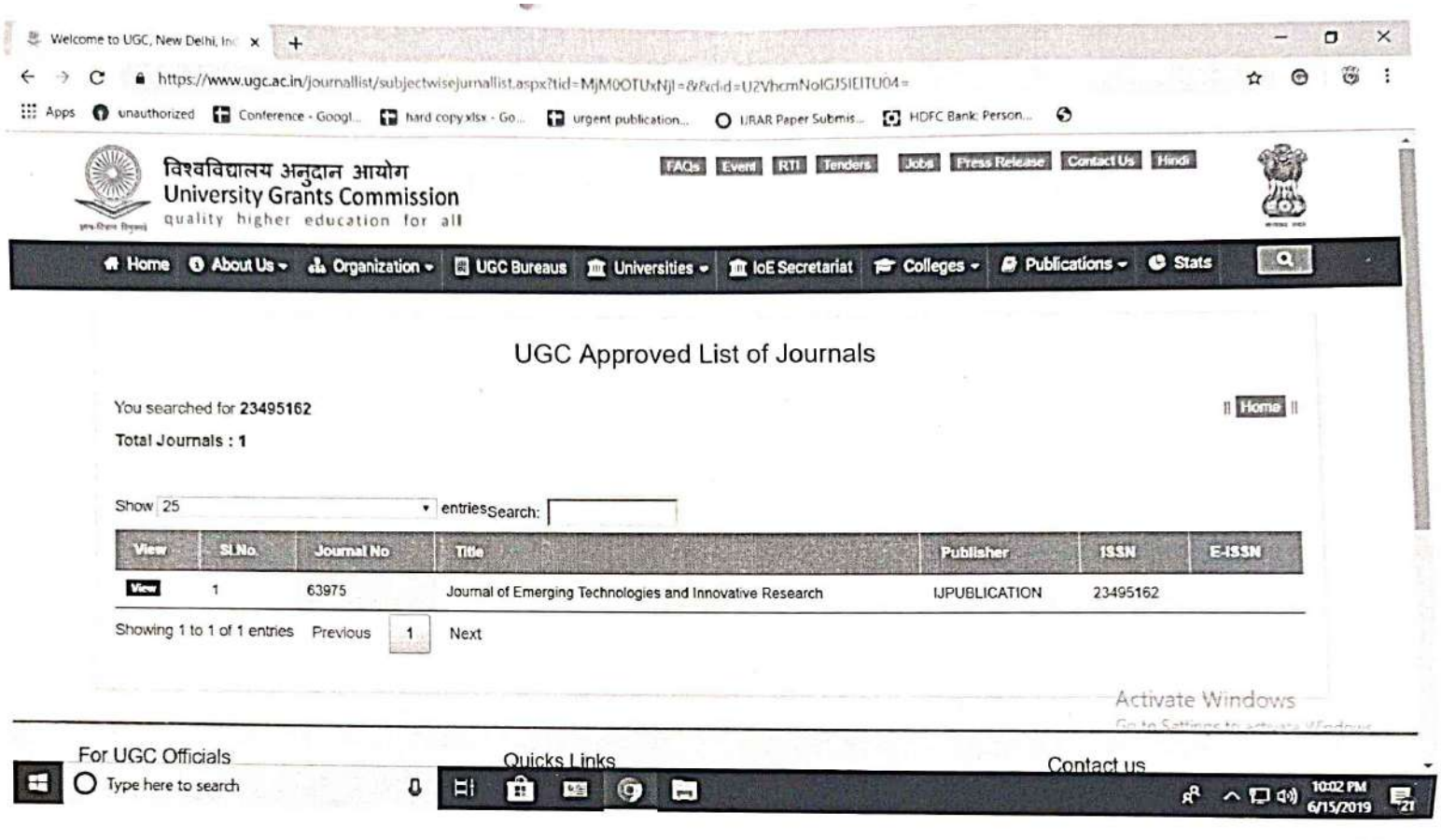
III. PROBLEM STATEMENT

As we known dam is a National property. Effects of dam failure of an environment life it required preventive measures. So it is main part to instrument proper monitoring for appropriate safety, function of dam avoid the failure of dam.

After doing survey we understand that majority of dams are instrumented but the instrument are not in use because unskilled labour and not having proper information of the instruments.

IV. METHODOLOGY

Data is collected about dam safety and [illegible] different [illegible] study of dam are prepared. It required to [illegible] instrument and its [illegible]



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In recognition of the publication of the paper entitled

Earthquake resistance construction's techniques: Base isolation, Viscous damper

Published In JETIR (www.jetir.org) ISSN UGC Approved (Journal No: 63975) & 7.95 Impact Factor

Published in Volume 10 Issue 5 , May-2023 | Date of Publication: 2023-05-31

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JETIR.ORG | ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
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Earthquake resistance construction's techniques: Base isolation, Viscous damper

[1]Pranit Rangole, [2]Shubham Raut, [3]Vishal Pawar, [4]Shubham Bandal
[5]Prof S K Bhosale
U.G. Students, Department of Civil Engineering, Savitribai Phule Pune University, Rajgad Dnyanpeeth Technical Campus, Pune, Maharashtra, India.

Abstract: The earthquake is the very serious problems which affect human being life in different ways. Also, in earthquake prone areas infrastructure and buildings has many kinds of damages. And its major reason is lateral movement of tectonic plates. The Earthquakes movements such as lateral movement of the earth beneath the base of buildings are prevented by two methods, these are Base Isolation Methods and Seismic/Viscous Damper. The present project deals with

1. Base Isolation Techniques
2. Energy Dissipation Devices: Fluid Viscous Damper

The primary goal of the aforementioned techniques and their earthquake-prevention strategies are explained in this project. The current project focuses on earthquake-resistant constructions. Because of this, RC frames aid in earthquake resistance. The current study is concerned with ways to withstand earthquakes, how reinforced concrete structures may withstand them, and the major methods used to do so.

Keywords: Base Isolation system, Energy Dissipation / Fluid Viscous damper

I. INTRODUCTION

1.1 General:

Earthquake gives many damages to infrastructures. Infrastructure is severely damaged by earthquakes. Structures are made to withstand kinetic forces. These forces may absorb energy while also being deformable. In the event of an earthquake, these buildings would flex beyond their elastic limit. It demonstrates that buildings built using these techniques can occasionally be vulnerable to powerful earthquake shocks. The goal of structural designers is to attempting to determine which structural system types can endure powerful vibrations. Alternatives include the implementation of specific structural protection measures to lessen the negative impact of these dynamic forces. By absorbing or isolating a portion of the input energy that would otherwise be passed to the structure itself, these systems function.

1.2 Earthquake resistance by base isolation & viscous dampers:

Viscous Dampers are the energy isolation devices which are used to resist lateral forces acting on the structure. Dampers are used to mitigate the buckling of columns and deflection of beams and to increase the stiffness of the structure. Viscous Damper is provided to mitigate the deformation and vibration of RCC structure during earthquake.

This study deals with the performance evaluation of various type of passive control devices such as dampers technique

1.3 Aim:

This study aims to focused on base isolation & viscous dampers technique which is most frequently and most preferred for the earthquake resistance

1.4 Objective:

1. The main objective behind this study is to understand the basic concept of earthquake
2. To understand the earthquake resistant Design criteria

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Project Guide, Department Of Civil Engineering, Rajgad Dnyanpeeth Technical Campus, Savitribai Phule Pune University, Pune, Maharashtra, India

Published a paper entitled

Design of Intersection using Traffic Control System: Navale Bridge

in IJMRSET, Volume 6, Issue 5, May 2023

e-ISSN: 2582-7219

ISSN

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| ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 7.54 |

| Volume 6, Issue 5, May 2023 |

Design of Intersection using Traffic Control System: Navale Bridge

Chavan Kiran Yuvraj*1, Chaudhari Vivek Rajendra*2, Jadhav Ajit Sanjay*3, Katta Sachin Sanju*4, Paygude Shubham Sanjay*5, Prof. Prajwal Jaywant Gaikwad*6

Student, Department of Civil Engineering, Savitribai Phule Pune University, Rajgad Dnyanpeeth Technical Campus, Pune, Maharashtra, India*1,2,3,4,5

Project Guide, Department of Civil Engineering, Savitribai Phule Pune University Rajgad Dnyanpeeth Technical Campus, Pune, Maharashtra, India*6

ABSTRACT: Safety management of traffic to reduce or eliminate accidents, is the other critical reason for traffic control. An airline pilot needs to be warned of high winds at the destination airport just as an automobile driver needs to be warned of a dangerous curve or intersection ahead. Traffic control has as its principal objective to manage the movement of people and goods as efficiently and safely as possible. In road traffic, intersections with traffic lights (i.e., green, amber, and red indications) will often add a separate lane with a lighted green arrow to allow left turns with no opposing traffic. This frequently results in longer non green periods at the intersection, causing an increased delay and a reduction in efficiency and mobility. Traffic control system will always have to satisfy the conflicting goals of safety and mobility. For these elaborate operational procedures, rules and laws, and physical devices (e.g., signs, markings, and lights) are few of the components of any traffic control system.

KEYWORDS: Safety management, Traffic control, traffic light.

I. INTRODUCTION

Traffic is the movement of people and goods from one location to another. The movement typically occurs along a specific facility or pathway that can be called as guide. It may be a physical guide way, as in the case of a railroad, or it may be a designated route, marked either electronically as in air travel or geographically as in the marine industry. Modes of transportation, can be broadly characterized as road, rail, air, and maritime.

Traffic evolves because of a need to move people and goods from one location to another. One of the principal challenges in traffic control is to accommodate the traffic in a safe and efficient way. Efficiency can be thought of as a measure of movement levels relative to the objectives for a particular transportation system and the finances required for its operation. For example, a railroad can be thought of as efficient if it can accommodate the travel requirements of its customers at the least cost. It will be thought of as inefficient if an alternative (e.g., a trucking service) can also meet customer needs but at a lower cost.

1. 1 Transportation Engineering

In the society of today the road network is of great importance. As cities grows so does the needs of transportation and thi puts an increased pressure on the infrastructure. Thus it is of great importance to have a reliable and redundant infrastructure for the traffic, to make sure that it works even bad conditions. There are several different hazards which may have an impact on the road infrastructure such for example natural catastrophes, accidents or failure of parts of road network. Since the different infrastructure get more and interwined in the society of today and the society becomes more vulnerable for catastrophes, these hazards might have effects on other infrastructure system as well. Thus more and more researches start to look at the risk of possible cascades consequences in interconnected networks.

Transport planning has been historically concered with travel behaviour and the transportation system has been nominally 'typical' conditions under which the networks were designed for certain demand and certain capacity. In the past insufficient consideration has been given to the robustness and associated reliability of road networks.

1. 2 Traffic Engineering

Traffic engineering is the branch of transportation engineering that uses engineering techniques to achieve the safe and efficient movement of people and goods. It focuses mainly on research and construction of roadside infrastructure necessary for this movement, such as roads, railway tracks, bridges, traffic signs and traffic

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Published a paper entitled

ANALYSIS OF SOIL STRUCTURE INTERACTION IN SEISMIC ZONE FOR COMPOSITE STRUCTURE

in IJIRSET, Volume 12, Issue 5, May 2023

e-ISSN : 2319-8753
p-ISSN : 2347-6710

ISSN INTERNATIONAL STANDARD SERIAL NUMBER INDIA

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International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)

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|| Volume 12, Issue 5, May 2023 ||

|DOI:10.15680/IJIRSET.2023.1205193|

Analysis of Soil Structure Interaction in Seismic Zone for Composite Structure

Anbhore Tushar Ashish [*1], Bhilare Saurabh Maruti [*2], Dhaygude Jayesh Sambhaji [*3], Jain Ketan Narendrakumar [*4], Kadam Pratik Satish [*5], Prof. Prajwal Jaywant Gaikwad [*6]

[*1,2,3,4,5] Student, Department of Civil Engineering, Rajgad Dnyanpeeth Technical Campus, Savitribai Phule Pune University, Pune, Maharashtra, India

[6]Project Guide, Department of Civil Engineering, Rajgad Dnyanpeeth Technical Campus, Savitribai Phule Pune University, Pune, Maharashtra, India

ABSTRACT: The influence of the soil structure interaction in the dynamic behaviour of the structure is reflected in an increase in the vibration period as well as increase in the system damping in comparison with the fixed-base model, which does not consider the supporting soil. Conventional fixed-base analysis ignoring the effect of soil-flexibility carried out for the seismic design of buildings may result in unsafe design. In seismic analysis provision of bracing system is one of the important option for the structure to have sufficient strength with adequate stiffness to resist lateral forces.. In present study, two RC building frames, G+10 and G+10 with six different combinations of steel bracing system at alternate locations incorporating the effect of soil flexibility is considered in order to investigate the effectiveness of bracing system to control SSI. The seismic analysis is carried out using equivalent static method as per IS1893-2002 The study is carried out using Elastic continuum approach(ECM) The influence of SSI on various seismic parameters and the flexural parameters are presented.

KEYWORDS: Soil Structure Interaction, Composite Structures, Bracing

I. INTRODUCTION

The popularity of steel-concrete composite construction in cities can be owed to its advantage over the conventional reinforced concrete construction. Reinforced concretes frames are used in low rise buildings because loading is nominal. But in medium and high rise buildings, the conventional reinforced concrete construction cannot be adopted as there is increased dead load along with span restrictions, less stiffness and framework which is quite vulnerable to hazards. In construction industry in India use of steel is very less as compared to other developing nations like China, Brazil etc. Seeing the development in India, there is a dire need to explore more in the field of construction and devise new improved techniques to use Steel as a construction material wherever it is economical to use it. Steel concrete composite frames use more steel and prove to be an economic approach to solving the problems faced in medium to high rise building structures.

1.1. Soil Structure Interaction

Soil-structure interaction is the powerful tool to design analyses and monitor frame structures. Analysis is to be performed to find out behaviour of structures in the design stage and it provides instrumentation data from completed structures. Behaviour of the soil-structure interaction has a significant influence on the magnitudes of the loads acting against structure.

1.2. Effect of The Earthquake On The Soil Structure

In all the case of earthquake excitation, it has been assumed that the earthquake motions are introduced as specified quantities at the structural support points. In effect, these important displacements are assumed to depend only on the earthquake generation and wave mechanism and are not influenced by the response of the structure. In actual fact, the structure and the soil on which it is founded from the combined dynamic response mechanism and there may be significant feedback from the structure into the soil layer. Hence, the extent to which the structural response may have the characteristics of the earthquake motions observed at the foundation level depend upon the relative mass and the stiffness properties of the soil as well as the structure. Thus the physical properties [illegible]

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Published a paper entitled

Utilization of Waste Material for Manufacturing of Bricks

in IJIRSET, Volume 12, Issue 5, May 2023

e-ISSN : 2319-8753
p-ISS. 2347-6710

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International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)

|e-ISSN: 2319-8753| p-ISSN: 2347-6710| www.ijirset.com |Impact Factor: 8.423| A Monthly Peer Reviewed & Referred Journal |

|| Volume 12, Issue 5, May 2023 ||

|DOI:10.15680/IJIRSET.2023.1205416|

Utilization of Waste Material for Manufacturing of Bricks

Mujeeb Kazi, Shreeraj Adsul, Shubham Pansare, Aniket Chavan, Prof. R.C. Divekar

Under-graduate students of Department of Civil Engineering, Shri. Chhatrapati Shivajiraje College of Engineering, Pune, Maharashtra, India

Department of Civil Engineering, Shri. Chhatrapati Shivajiraje College of Engineering, Pune, Maharashtra, India

ABSTRACT: A lot of clay is used in the production of bricks. Clay brick use damages the ecosystem, decreases the water table, and causes erosion. In order to avoid utilising clay in the production of bricks, this research tested a variety of waste materials in variable quantities, including fly ash, washed sand, marble dust, and GGBS. The results of tests for compressive strength, water absorption, and size were compared to the requirements for conventional clay bricks. The compressive strength and water absorption values were found to be in compliance with the pertinent requirements for typical construction bricks. In the end, it was determined that bricks constructed from substances such as fly ash, GGBS, washed sand, and cement had demonstrated good results in compression testing, indicating their appropriateness for structural purposes.

I.INTRODUCTION

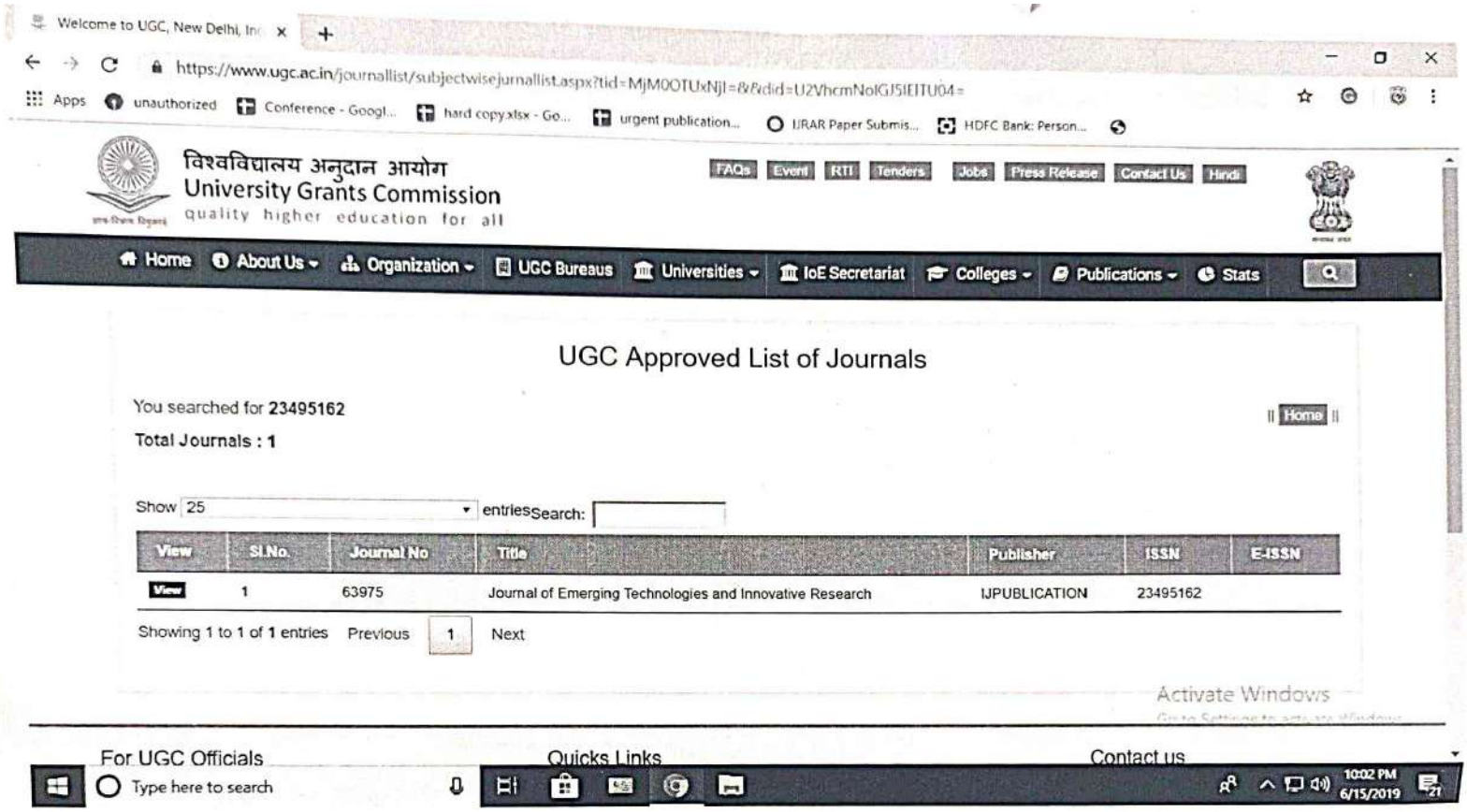
Bricks have long been a popular building and construction material. Dried clay bricks were initially used approximately 8000 BC, whereas burnt clay bricks were first used around 4500 BC. Global brick manufacturing is currently about 1391 billion pieces per year, with demand likely to climb further. Traditional bricks are made from ordinary Portland cement (OPC) concrete or clay. Clay quarrying consumes a lot of energy, has a detrimental influence on the environment, and generates a lot of waste. High-temperature kiln burning consumes a lot of energy and releases a lot of greenhouse emissions.

The extensive use of natural clay to create brick has resulted in a loss in natural resources represented by clay to preserve it and the environment. As a result, certain nations, such as China, have begun to limit the use of clay-made bricks in order to meet sustainability criteria. The Chinese government has banned the production and use of ordinary clay solid bricks in many cities in order to protect clay resources and develop environmentally friendly building materials, and has actively promoted the use of solid wastes for building materials in order to achieve the phase-out of ordinary clay solid bricks made of solid material.

A brick is a unit of construction used to construct walls, footings, pavements, and other elements in masonry structures. The term brick originally referred to a clay unit, but it is today used to refer to any rectangular unit put with mortar to produce a homogeneous building. A brick can be made from clay-bearing soil, sand, lime, or brick components. Bricks are manufactured in a variety of classes, types, materials, and sizes that change depending on the climatic conditions of the site, the time duration, and the quantity produced. Brick was heated in the olden days. Bricks are set in courses in different patterns known as bonds, and may be laid in various types of mortar to hold the bricks together.

Since bricks are one of the most crucial building materials, this review focuses more on them. They are mostly used to make pillars and partitions inside residential buildings like apartments, bungalows, and public spaces like shopping centres, malls, airports, etc. There have been numerous attempts to incorporate various waste materials into the brick-making process, including natural fibres, cotton waste, sewage sludge, plastic waste, fly ash, sugarcane bagasse ash, bottom ash, rice and wheat husk ash, silica fume, marble and granite waste, ceramic waste, sawdust, wood waste, brick debris, crumbled rubber, etc. The implication of these materials on brick's physical, mechanical, and thermal insulating qualities are highlighted in this article.

II. OBJECTIVE



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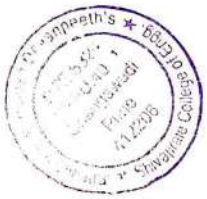

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Strength of RCC beam using GFRP sheet

Published In JETIR (www.jetir.org) ISSN UGC Approved (Journal No: 63975) & 7.95 Impact Factor
Published in Volume 10 Issue 5 , May-2023 | Date of Publication: 2023-05-29

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JETIR2305B79 Research Paper Weblink http://www.jetir.org/view?paper=JETIR2305B79 Registration ID : 517625

JETIR.ORG | ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue

JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)

An International Scholarly Open Access, Peer-reviewed, Refereed Journal

STRENGHTENING OF RCC BEAM USING GFRP SHEET

[1]Sonam Shinde, [2]Sanket Madgude, [3]Shital Mohite, [4]Yogesh Bhagwat, [5]Shital Jadhav, [6]Ms. Prof. Jadhav S.S

1, 2, 3, 4, 5 U.G.Student , Dept.Of Civil Engineering, Shri. Chhatrapati Shivajiraje College Of Engg. Pune. Maharashtra, India.

6 Assistant Professor, Dept.Of Civil Engineering, Shri. Chhatrapati Shivajiraje College Of Engg, Pune. Maharashtra, India.

Abstract : An ecofriendly fiber reinforced polymer (FRP) had been used in the last decade to enhance the short concrete beam's strength and deformation capacity. This study involves the wrapping of GFRP sheets on a short beam, and then the compressive strength is determined. The rectangular beams of size 150 mm x 150 mm x 700 mm are used for this study, and cast under the grades of M25 are wrapped with GFRP sheets at the thickness 5 mm. These results are clarified at a specific thickness of the FRP-wrapped beams. It provides a maximum axial compressive strength, and Young's modulus gets enhanced rigorously when it is to be compared to the normal concrete. This thesis deals with experimental studies of different parameters associated with wrapped glass fiber reinforced polymer (GFRP). In M25 grade, when the 5 mm wrapped specimen and 0m wrapped specimen are compared, the specimen wrapped with 5 mm increases 35% more than the specimen wrapped with 0 mm. The 5 mm wrapping attains the maximum strength.

Keywords- GFRP sheet, Retrofitting, Strengthening

I. INTRODUCTION

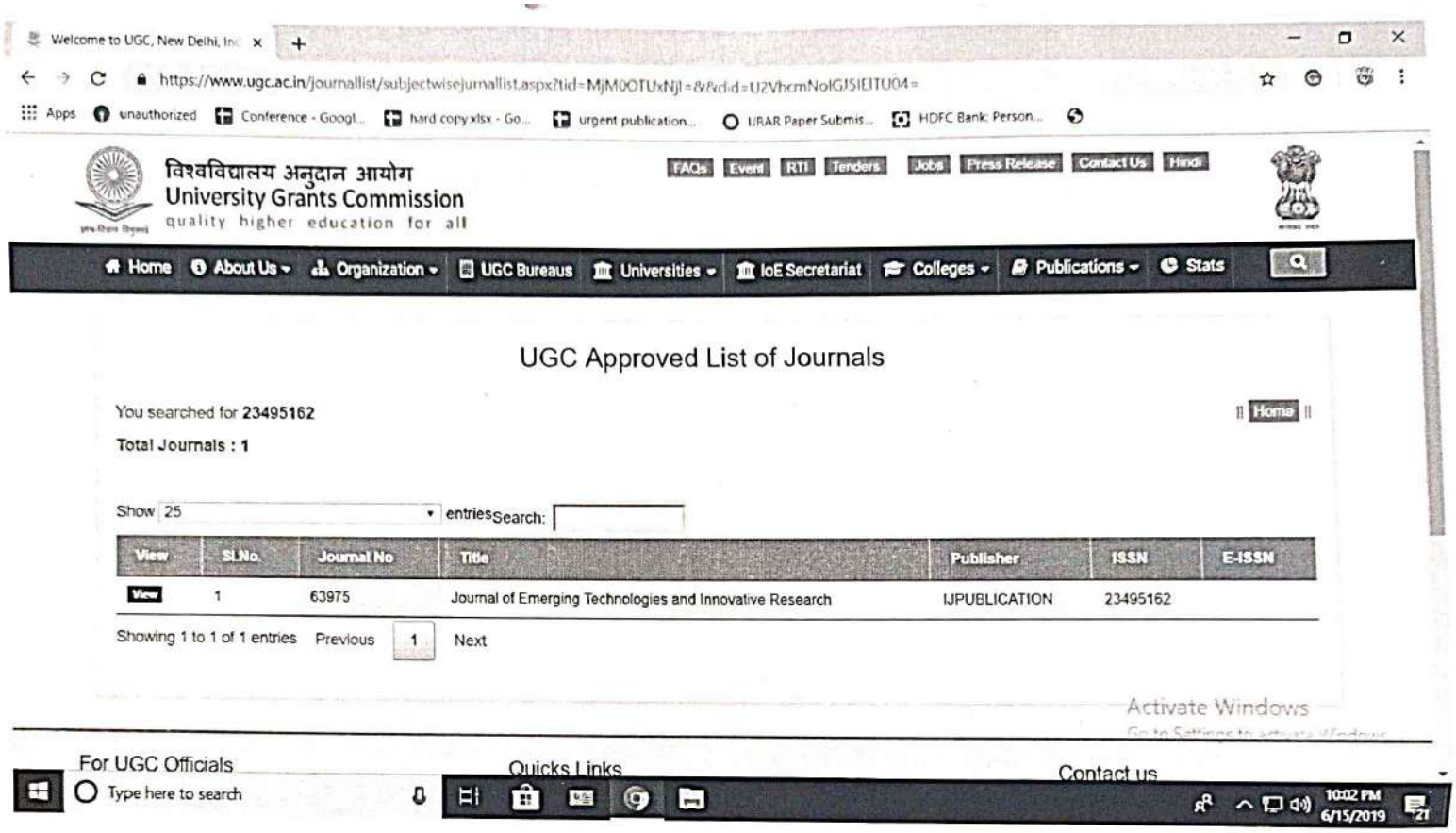
In recent years repair and retrofit of existing structures such as buildings, bridges, etc., have been amongst the most important challenges in civil engineering. The primary reason for strengthening of structures includes upgrading of its resistance to withstand under estimated loads, increase in the load carrying capacity for higher permit loads, eliminating premature failure due to inadequate detailing, restoration of lost in load carrying capacity due to corrosion and increase in degradation of structure with age.

Retrofitting is the technique adopted to increase the utility or life of a structure in its working or deteriorated condition. It is both environmentally and economically preferable to repair or strengthen the structures rather than to replace them totally. It involves repair, renovation and part reconstruction. The efficiency of retrofitting depends upon the actual cause of deterioration and measures adopted to prevent the same

- Glass Fiber Reinforced Polymer (GFRP):-

Glass fibres are basically made by mixing silica sand, limestone, folic acid and other minor ingredients. The mix is heated until it melts at about 1260°C. The molten glass is then allowed to flow through fine holes in a platinum plate. The glass strands are cooled, gathered and wound. The fibres are drawn to increase the directional strength. The fibres are then woven into various forms for use in composites.

It is composed of fibre and matrix, which are bonded at interface. Each of these different phases has to perform its required function. They are widely used for strengthening of civil structures. There are many advantages of using FRP is lightweight, good mechanical properties, corrosion-resistant, excellent insulating properties, etc. Glass Fiber Reinforced Polymers were among the oldest and least expensive of all composite materials.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In recognition of the publication of the paper entitled

To Enhance The Productivity And Speed of Construction using automation industry

Published In JETIR (www.jetir.org) ISSN UGC Approved (Journal No: 63975) & 7.95 Impact Factor
Published in Volume 10 Issue 5 , May-2023 | Date of Publication: 2023-05-29

EDITOR IN CHIEF

Research Paper Weblink http://www.jetir.org/view?paper=JETIR2305C28 Registration ID : 517367

JETIR.ORG | ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue

JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)

An International Scholarly Open Access, Peer-reviewed, Refereed Journal

To Enhance The Productivity And Speed of Construction Using Application of Automation Industry

[1]Mr.Saurabh Kshirsagar,[2]Mr.Mahangare Pratik,[3]Mr.Mohite Omkar, [4]Mr.Dhadve Nikhil ,
[2]Ms. Prof. Jadhav S.S

[1]U.G.Student , Dept.Of Civil Engineering, Shri. Chhatrapati Shivajiraje College Of Engg, Pune. Maharashtra, India.

stract : Tools have given way to machines and automation in building. Automation improves construction productivity, cision, and safety. Structured prefabrication is gaining popularity as a technique to boost production and reduce environmental impact. Automation and prefabrication may improve the building business. Current accomplishments, difficulties, and future prospects in structural prefabrication and construction; design, construction management, robotic production, autonomous transportation, and automatic structural assembly; the article suggests that construction automation is preferable to structural prefabrication, and that connection advancements can simplify difficult activities and improve robotic assembly.
Many machines can reduce human effort, lower labor costs, and boost building output. India should expand construction automation for infrastructure development.

Keywords-Automation, construction industry, Infrastructure projects, Cobot Technology, Building Construction

I. INTRODUCTION

Any building's construction involves earthworks, structure construction (concreting, frame assembly, walling, etc.), and finishing works. These phases' construction technologies are traditionally labor-intensive and dangerous. Construction industry concerns include volatile labor supply and escalating wages. Specialized automation reduces labor needs and boosts construction site productivity. Many researchers are striving to introduce automation and robotics into construction sites.
nstruction uses automation and robotics. Automation and robots offer benefits in construction job execution that may boost their use. Among the most important advantages are:
s reliance on direct labor - Quality and repetitiveness of work, as well as expenses, may be decreased by lowering labor, ereas the automated system requires fewer operators;
Automated systems can execute a wide range of jobs, which increases workplace safety.
v. better control over the production process - faults can be recognized more easily because each stage is controlled to ensure the correct end.

Figure1.1: Human interaction between co-bots

Space construction is a fast-growing sector of construction technology. In hazardous construction work, there are various well-defined systems. You can also employ them in specific building applica[illegible] the right materials based on safety, affordability, and procurement possibilities. ISRU can be used in civilian and military in[illegible], for example. Visualize ISRU with lunar concrete. NASA and other space exploration roadmaps plan a [illegible] Voyage and Moon infrastructure. This requires steps.

Means of automation in Construction

International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)

IJIRSET | e-ISSN: 2319-8753, p-ISSN: 2347-6710| www.ijirset.com | Impact Factor: 8.423| A Monthly Peer Reviewed & Referred Journal |

|| Volume 12, Issue 5, May 2023 ||

| DOI:10.15680/IJIRSET.2023.1205335 |

Image Classification of Rice Leaf Diseases Convolutional Neural Network Algorithm

Gaurav Koli, Makarand Kirve, Dhiraj Jadhav, Avinash Jadhav, Prof P.M. Marne

Department of Computer Science, Shri Chhatrapati Shivajiraje College of Engineering, Pune, India

ABSTRACT: The category of rice may be categorized into numerous systems. In this study, image class is second hand to categorise the information set of rice leaf spray bugs, such as, Tan Advert Rice ailment (BSR), Bacterial Leaf Blight ailment (BLB), that is the rice leaf spray bugs with excessive outbursts about Thailand. Besides, image dispensation era with inside the cataloguing kinds of rice leaf illness, such as Random woodland type procedure, Conclusion tree typeprocedure. Incline Boosting organization algorithm and Naive-Baye classification procedure, which is restrained by the accurateness, precision in additionre collection of each algorithms. The complete result of presentation in the image cataloguing of rice leaf diseases is CNN equivalent to 69 percent.

I. INTRODUCTION

Itgoal is to discovery the characteristicland scapes of each copy into class. By using exactideologies and figures to generate a perfect to controldifference in landscapes of the copyidea, this is thecomparison of copyidea to the equal class. The intosortingtechnique is separated into two methods, Supervised Learning Classification and Unsupervised Learning Classification. This investigate aims to excerpt the features from copyinformation. The info is cast-off to detectlesson of pictures by supervised learning algorithm. Education of picturebuilt on into and label, using the data removalprogression. We canacquire from the features of copy arrangement. Evenwe can spread onaarrangementtypical for new images to predictthe class of data.

1. Problem Statement

The problematic of rice bug round the sector make to harm and fall right mad about a big quantity of rice,triggered by many of categories, such as Fungi, Bacteria and Diseases. Which are the keyroots of rice illness affected to farmers rice plants

2. Scope

Presently,our project is build for following points.

1. This project is based for identify disease on leaf, from this we can predict actual disease.
2. We can Identify the actual type of disease.
3. High percentage profit can be earned.
4. Before getting the crop damaged , we can stop the spread of disease.
5. This project can be implement in governments big projects for farmers.

II. RELATED WORK

CNN (Convolutional Neural Networks)

The CNN model utilized used in this study consists of 5 convolutional layers(conv1, 2 Max-Pooling layers and 2 fully connected layers. For the classification ,input image of size 32*32 were chosen. The architecture of the trained CNN model is depicted in fig . The initial two convolutional layers (conv&conv2) are comprised of 32 kernels measuring 3*3 ,followed by the RELU activation function. The neurons are encouraged to produce positive value & Max-pooling is applied using a filter size 2*2 and stride 3.The third convolutional layer(conv3) consists of 64 kernels measuring 4*4 also followed by Relu activation function & he max pooling layer uses a filter size of

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This is hereby Awarding this Certificate to

PROF. K.S.KHAMKAR

Department of Computer Engineering, Shri Chhatrapati Shivajiraje College of Engineering, Dhangwadi, Pune, India

Published a paper entitled

THE JARVIS VOICE ASSISTANT USING PYTHON

in IJIRSET, Volume 12, Issue 4, April 2023

e-ISSN : 2319-8753
p-ISSN : 2347-6710

ISSN INTERNATIONAL STANDARD SERIAL NUMBER INDIA

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International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)

|e-ISSN: 2319-8753, p-ISSN: 2347-6710| www.ijirset.com | Impact Factor: 8.423| A Monthly Peer Reviewed & Referred Journal |

|| Volume 12, Issue 4, April 2023 ||

| DOI:10.15680/IJIRSET.2023.1204347 |

The Jarvis Voice Assistant Using Python

Abhijeet Bhagwat Munde, Kunal Dilip Mandave, Sahil Sanjay Kaluse, .Kunal Sunil Umbarkar,

Prof. K.S.Khamkar

Department of Computer Engineering, Shri Chhatrapati Shivajiraje College of Engineering, Dhangwadi, Pune, India

ABSTRACT: This paper offers JARVIS, a digital incorporated voice assistant comprising ofTTS and Python-based generation in personalised assistant development. JARVIS contains the power of NLP and the industry-leading platform for text-to-speech conversion and the voice of the Male Pitch within the TTS libraries stimulated from the Marvel World. This is the result of the adoption of the dynamic base Pythons pyttsx which considers intentionally in adjacent stages of TTS, facilitating the established order of notably easy dialogues among the assistant and the users. This is a unique result of the exaggerated contribution of numerousplatforms like Python[pyttsx] and TTS[Text to Speech] resulting in a consistent and modular structure of JARVIS exposing the widespread reusability and negligible maintenance.

KEYWORDS: NLP (Natural Language Processing), Speech Recognition, TTS (Text-To-Speech), pyttsx (python text-to-speech)

I.INTRODUCTION

AI when used with machines, it suggests to us the functionality of thinking like humans. In this, a laptop gadget is designed in this sort of manner that usually requires interaction from humans. As we know Python is an emerging language so it becomes easy. The commands for the assistant can be treated according to the requirement of the user it changed into an exciting task to make my very own assistant It has become simpler to ship emails without typing any word. Searching on Google without starting the browser, and performing many different day-by-day duties like playing music with the assist of a single voice command. In the modern scenario,

development in technologies is such that they could carry out any project with identical effectiveness or can say more successfully than us. By making this project. I found out that the idea of AI in each field is reducing human effort and saving time.As the voice assistant is the usage of Artificial Intelligence as a result the result that it is providing are highly accurate and efficient. The assistant can assist to lessen human attempts and consumes time even as performing any task, they eliminated the concept of typing completely and behave as another individual to whom we are talking and asking to perform the task. The assistant is no less than a human assistant but we can say that this is more effective and efficient to perform any task. The libraries and packages used to make this assistant focuses on the time complexities and reduces time.

The functionalities include open command prompt, your favorite IDE, and notepad etc, It can play music, it can do Wikipedia searches for you. It can open websites like Google, YouTube, etc., in an internet browser to supply climate forecasts. It can supply computer reminders of your choice. It can have some basic conversation with us.

II. LITERATURE SURVEY

The literature study for this paper was carried out to present the reader with a better understanding of AIML and NLP. The peer-reviewed papers that had been used for this paper comes from the 2019 second International Conference on Intelligent Computing, Instrumentation and Control RD's SCSCOE, Department of Computer Engineering 2022-23 Technologies (ICICICT). This paper offers JARVIS, a virtual integrated voice assistant comprising of TTS[Text-To-Speech], AIML[Artificial Intelligence Markup Language], and Python-based generation in personalised assistant development.

International Journal of Innovative Research in Computer and Communication Engine

| e-ISSN: 2320-9801, p-ISSN: 2320-9798| www.ijircce.com | |Impact Factor: 8.379 |

|| Volume 11, Issue 4, April 2023 ||

| DOI: 10.15680/IJIRCCE.2023.1104126 |

Real-Time Weather Detection and Sending Notifications

Harshada Jagadale, Shubhangi Gaikwad, Shreya Bhelke, Akash Kshirsagar,

Prof. S. B. Shirke

Department of Computer Engineering, Shri Chhatrapati Shivajiraje College of Engineering, India

ABSTRACT: In weather forecasting is the application of cutting- edge era and technology to are expecting the country of the ecosystem for a future time and at a given place. This is made by way of accumulating facts as a whole lot as possible approximately the present nation of environment, consisting of temperature, humidity, wind, and precipitation. weather forecasts are made utilizing accumulating data about the modern country of the circumventions in a particular place after which the utilization of the weather to presage how to ecosystem will exchange man or woman enterremains required to pick out the excellent predictive version to establish the presage .it's going to make the contrivance clean for the farmer to utilize. Weather is the kingdom of the environment at a specific location and time. Crop's photosynthesis, transpiration, respiratory, photoperiodic andall other sports are influenced by the weather. Farmers can plough their area handiest while it has enough moisture. The cropping pattern, choice of plants, crop variety, sowing date, cultural operations, application of farm inputs, harvesting or even storage/transport are controlled by way of the winning weather situations. Variability in weather whether it is seasonal or nearby will at once affect crop yield ability. We can't control the weather but we control it. To make perfect decisions accurate monitoring of weather is vital whilst a nebulous natural force is the biggest threat to us. So, Crop needs climate and farmers need climate tracking. due to modifications in climate, there are numerous adjustments in agriculture. Accuracy of surroundings isn't always to be had. The hassle of climate prediction has been discovered. the next step is to create a code that calls the API so that the climate information will appear on the internet site.

KEYWORDS: Accurately, Rainfall, Temperature Precisely, Humidity, Time of Day, Wind, Atmospheric Pressure, Lightning, Cyclone.

I. INTRODUCTION

Our weather forecasting android utility which forecasts for 2.7 million places internationally with forecasts the t now updates every 15 minutes Information consists of forecasts for the following 7 days are available. Cutting-edge climate conditions also now updating every 15 minutes with very state-of-the-art records about the weather. Our weather software consists of so many functions in forecasting the weather report inclusive of clouds, wet, temperature, snow and wind. The data analysis performs a crucial position in discovering useful statistics, making predictions and selectionmaking. The facts analysis is used in lots of hastily emerging fields like Healthcare, climate situations, Media, Agriculture, schooling, and Ecommerce etc. for enterprise development and to reach the ever-growing customer pleasure. Analysing the statistics includes cleaning, reworking and constructing records versions for the to-be-had dataset. So, time-collection data i.e., the continuous weather facts of a particular location to are expecting the future climate conditions for the information analysis to are expecting similar weathersituations.

MOTIVATION

Weather forecasting performs a very vital position in the subject of agriculture. It is also helpful at locations like volcanoes and rainforests. It is quite day-to-day for a man or woman's daily lives for a longer time at such places. Every day must get weather statistics in our lifestyles for one's personal or commercial enterprise desires. Forecasting involves making predictions about destiny. Investors and analysts use forecasts in valuation models, everyday time trades, and everyday discovery traits. Forecasts are often predicated on historical

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Department of Computer Engineering, Shri Chhatrapati Shivajiraje College of Engineering, Dhangawadi, Pune, India

Published a paper entitled

Stock Market Price Prediction

in IJIRSET, Volume 12, Issue 5, May 2023

e-ISSN : 2319-8753
p-ISSN : 2347-6710

ISSN INTERNATIONAL STANDARD SERIAL NUMBER INDIA

INNO SPACE SJIF Scientific Journal Impact Factor

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International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)

|e-ISSN: 2319-8753, p-ISSN: 2347-6710| www.ijirset.com | Impact Factor: 8.423| A Monthly Peer Reviewed & Referred Journal |

|| Volume 12, Issue 5, May 2023 ||

| DOI:10.15680/IJIRSET.2023.1205057 |

Stock Market Price Prediction

Mandhare Rupali Laxman, Jadhav Shweta Yashwant, Pophale Kishori Vijay, Wadkar Mohini Sanjay, Prof. S.B.Shirke

Department of Computer Engineering, Shri Chhatrapati Shivajiraje College of Engineering, Dhangawadi, Pune, India

ABSTRACT: We use many strategies in our daily life examples, like that we used old strategies in our project for making new plans for predicting stock price. We used NLP and the Deep learning conceptsto conduct Sentiment and Technical evaluations. To capitalize on the benefits of sentiment analysis on enterprise-related inventory,sentiment analysis is used for making process of proposed machine.The sentiment analysis rating is mapped here using an algorithm. Using the polarity score, we will select the top five groups with the highest sentiment ratings. We will download the data of ancient share charge of the top five organizations that we have chosen. The downloaded CSV data is then used to construct a Convolutional neural network model to forecast additional stock movement for these top ten companies.

KEYWORDS: Stock price predictionNLP,Deep Learning, Price forecasting

I. INTRODUCTION

Analysts of finance frequently invest in stocks, but analysts are clueless of the catalogue market's behaviour. They are experiencing trading difficulties because analysts don't study properly about shares which shares they want to purchase or which shares they want to sell in order to maximize profits. In today's world, all inventory market information is readily available. Analysing all of these records, in my opinion, or manually, is a difficult task. As a result, the method must be automated. This is where data mining techniques come in handy. Recognizing that numerical time series analysis yields close results, astute traders employ system learning techniques to forecast inventory market behaviour. This enables financial analysts to anticipate the behaviour of inventory in which they are interested and, as a result, act accordingly. Proposed Model will receive historical data as input. Proper data is collected to determine stock price trends. As a result, the predicted value will alert traders to the high or low movement of stock prices for the purpose of purchasing and selling stocks, allowing them to get maximize of profit in many time.

II. KEY TAKE AWAYS OF STOCK PRICE PREDICTION

Deep learning is promising field for financial time series forecasting.LSTMs seem to be the best initial approach in solving the stock price prediction problem. Stock market prediction using Deep Learning is done for the purpose of turning a profit by analysing and extracting information from historical stock market data to predict the future value of stocks.

III. LITERATURE SURVEY

Rakhi batra et al. had studied the sentiment of analysis on tweets about apple products taken from a stock tits between 2010 and 2017. In addition to tweets,market index was used data extracted from yahoo finance for the same time period. Sentiment analysis of tweets using SVM was used to calculate that tweet's sentiment score. As a result, each tweet was given a bullish or bearish rating. They have to create an SVM model to predict the stock

movement for the following day using the sentiment score and market data. They put the concept into practise by gathering stock market and sentiment data, creating SVM models for prediction, and gauging forecast accuracy.

Yujun Wang et al.utilised technology for mining social media quantitatively evaluate market segments and predict the trend in stock price the short term in conjunction with other factors. Their experiment results demonstrated that by combining social media mining with other data, the stock price prediction model can forecast more accurately. Based on the efficient market hypothesis, they retrieved stock comment data prepossessed to construct emotion vectors using

International Journal of Innovative Research in Computer and Communication Engineering

| e-ISSN: 2320-9801, p-ISSN: 2320-9798| www.ijircce.com | |Impact Factor: 8.379 |

|| Volume 11, Issue 5, May 2023 ||

| DOI: 10.15680/IJIRCCE.2023.1105021 |

Driver Drowsiness Alert Detection for Vehicle Acceleration Using Machine Learning

Ajinkya Dhadave, Suyash Dabade, Yash Ingle, Prashant Kamble

Prof P.M. Marne

Department of Computer Science, Shri Chhatrapati Shivajiraje College of Engineering, Pune, India

ABSTRACT: Taking frequent rests when driving long distances reduces the risk of becoming drowsy, which experts say is a condition that many drivers fail to notice early enough. Studies show that fatigued drivers who need to rest account for around 25% of serious highway collisions, making them more risky than drunk drivers. Attention Assist can warn drivers about their present degree of weariness and how long they have been driving since their previous rest thanks to its customizable sensitivity. Attention Assist will also highlight nearby service areas in the COMAND navigation system if a warning is issued. In a wide speed range, Attention Assist can alert the driver about inattentiveness and sleepiness.

By putting this strategy into practice, we hope to increase road safety by reducing the quantity of accidents caused by Drowsy driving. The automatic identification of driving weariness is handled by this technology, which is3using Optical data artificial intelligence, too. We recognize, track, and analyze the driver's eyes and face in order to calculate PERCLOS (% using Softmax for neural transfer function during eye closure) with Softmax for neural transfer function. Alcohol pulse detection is another technique used to establish a person's status, normal or Abnormal. Due to lengthy driving hours and boredom in crowded regions, driver weariness is one of the main causes of traffic accidents, especially for operators of large vehicles (such as buses and heavy trucks).

I. INTRODUCTION

The terms "drowsiness" and "sleepiness" are frequently used synonymously to refer to the state that affects driving. It has a complicated personality and includes numerous people components, which specialists have found difficult To characterize throughout time. Despite the ambiguity around fatigue, it is fundamental component for safe driving. Studies show that being tired is one of the major factors in road accidents all around the world. A person's normalcy or abnormality can also be determined using alcohol and pulse detection. Due to the possibility of having to operate their vehicles for prolonged periods of time during the drowsiest hours, professional drivers of buses and large trucks should take extra care to avoid falling asleep behind the wheel.

MOTIVATION:

The driver's willingness to scan for hazards up ahead depends on their awareness of the risks or hazards that may be revealed by doing so, which is associated with their motivation to do so. The rationale behind a driver's decisions will depend on their awareness (knowledge) and capacity to respond to various traffic situations. This calls for internalizing the driving process and accepting accountability for driving choices. This contrasts with the simpler motivational example, in which an automobile slows down if a police officer is nearby. There isn't much internalizing happening at all. A person's normalcy or abnormality can also be determined using alcohol and pulse detection.

When someone has to drive for work, they could be convinced to compromise on safe driving practices to be able to fulfill their commitments, especially if exists a reward. Getting those who attend driver education motivated to change their driving behaviors is the difficulty. Instead of external motivations like enforcement, internal drive is needed.

OBJECTIVE:

The rise in traffic accidents caused on by declining driver vigilance is a serious problem for society. Statistics show that drivers in 2010 are less cautious. Additionally, because fatigued drivers typically neglect [illegible] the necessary

|e-ISSN: 2319-8753, p-ISSN: 2347-6710| www.ijirset.com | Impact Factor: 8.423| A Monthly Peer Reviewed & Referred Journal |

|| Volume 12, Issue 4, April 2023 ||

| DOI:10.15680/IJIRSET.2023.1204312 |

Multi-Image Steganography Using Advanced Encryption Standard

Supriya Dighe, Namrata Shilimkar, Priti More, Chandan Thombare, Prof.Mrs. Sonal Shirke

Dept of Computer Engineering, Rajgad Dnyanpeeth's Shri Chhatrapati Shivajiraje College of Engineering, Bhor, India

ABSTRACT: Data transfer requires consideration of information security. Due to security issues, sending sensitive data or communications over the internet can be difficult. Typically, we use cryptography to communicate text-based secret communications and hide information. There are so many methods used nowadays to conceal information in any media. The use of steganography is one such method. Using Multi-image steganography to build a secure communication system will stop hackers from meddling with the sender and receiver's communications. The primary method of information concealment is picture steganography, in which the cipher text is included into a cover image that is almost invisible to unauthorised individuals who attempt to see it. Any type of text and picture can serve as the concealed information inside a cover image. Multi-image Steganography is defined conceptually as the action of breaking a secret code into many pieces and embedding each piece into a different cover picture. So, we put out two concepts for image steganography to make it exceedingly difficult for hackers to hide the data. The goal is to develop a safe and secure system, this study suggests using the Least Significant Bit (LSB) Steganography technique with the Advanced Encryption Standard (AES) Cryptography approach.

KEYWORDS : Cyber security, Encryption, Decryption, Security, Cryptography.

I. INTRODUCTION

As a part of information security "Steganography" is a wellknown concept, literally which signifies the meaning "covered writing". Steganography imposes the secret information within a cover object termed as stego-medium to escape detection and to retain the original information with minimum distortion. This stego-medium appears like a non-secret file in the network and manages to avoid drawing the attention towards itself as a content of security.

secret-information + cover-medium = stego-medium

Steganography used extensively for secure communication. The schemes used at this age are the physical process of Steganography. In modern digital steganography information is first encrypted. Then using an embedding algorithm in the transport layer encrypted information is embedded with the cover medium and transmitted over the network. Both cryptography and steganography provide data confidentiality and authenticity. In contrast to cryptography which focuses on keeping the message secret while the existence of secret message may tempt the attacker whereas Steganography hides a message aside from very existence of secret information. Cryptography ensures privacy of message and structure of the message alter whereas steganography ensures the secrecy of message and the structure of message does not alter. Steganography may use in conjunction with cryptography by concealing the existence of the ciphered text so that the information is more secure.

II. RELATED WORKS

AES

AES (Advanced Encryption Standard) It was necessary to replace DES as its key size is very small. With the growth of computer power, it is considered a threat to the full attack of search keys. DES triples were designed to solve this issue, however were discovered be slow. This is where AES starts to shine, which is found to be 6x times faster than Triple-DES. The most well-liked and prevalent accepted algorithm for symmetric encryption that can be achieved today is the Advanced Encryption Standard (AES). Unlike DES, in AES the quantity of cycles varies and is subject to the crucial length. AES works on using 128-bit keys, 192-bit keys, and 256-bit keys having 10,12 and 14 rounds respectively. In Modern cryptography, AES is well-liked and backed by hardware and software. To date, no effective crypto-analytic attacks on AES have included detected. Additionally, AES has an inherently flexible key length, allowing a level of 'future assurance' against the advancement of the capacity for perform key searches. There have 20 years since the

CERTIFICATION
OF PUBLICATION

IJIRSET

International Journal of Innovative Research in Science, Engineering and Technology

(A Monthly Peer Reviewed Journal)

Website: www.ijirset.com Email: ijirset@gmail.com

Impact Factor 8.423

This is hereby Awarding this Certificate to

PROF. B. R. BHATTI

Department of Computer science, Shri Chhatrapati Shivajiraje College of Engineering, Dhangawadi, Pune, India

Published a paper entitled

PET FEEDING & FOOD DISSIPATE USING IOT TECHNOLOGY

in IJIRSET, Volume 12, Issue 4, April 2023

e-ISSN : 2319-8753
p-ISSN : 2347-6710

ISSN INTERNATIONAL STANDARD SERIAL NUMBER INDIA

INNO SPACE SJIF Scientific Journal Impact Factor

P. Kumar
Editor-in-Chief

International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)

|e-ISSN: 2319-8753, p-ISSN: 2347-6710| www.ijirset.com | Impact Factor: 8.423| A Monthly Peer Reviewed & Referred Journal |

|| Volume 12, Issue 4, April 2023 ||

| DOI:10.15680/IJIRSET.2023.1204214 |

Pet Feeding & Food Dissipate Using IOT Technology

Patankar Samarjeet Satish, Gaikwad Sushil Pandurang, Sonawane Sonal Eknath, Bait Rukshita Dinesh, Prof. B. R. Bhatti

Department of Computer Science, Shri Chhatrapati Shivajiraje College of Engineering, Dhangawadi, Pune, India

ABSTRACT:-In the article, the utilization of IoT technology for the purpose of overseeing and regulating network-based devices is discussed, along with its practical implementation in the domain of pet care.for automation in pet feeding, and how existing automatic pet feeders often waste food. The proposed solution is to develop an automated pet feeding system that is more efficient and tailored to the specific needs of the pet.This system will use NodeMCU and various sensors to automate the feeding prosses and ensure that the pet is fed in a timely and efficient manner. The main objective of this research work is to improve pet food care through the use of IOT Techology.

KEYWORDS: -ThingSpeak , Arduino UNO , IoT base , RFID sensor and Ultrasonic sensor,IR sensor,RFID Tag.

I. INTRODUCTION

The text describes how pet feeding can be a difficult and time-consuming responsibility for pet owners for pet owners, especially those with busy personal lives. The solution to this problem is an automatic pet monitoring and feeding system that that utilizes Internet of Things (IoT) Technology.The current issue with existing pet feeders is the amount of food that is wasted.The proposed system aim to address this issue and provide an efficient solution for pet food care. With using the IoT technology, the system will be able to monitor and feed the pets without the help of human interference. This will allow pet owners to take good care of their pets even when they are busy, while also avoiding wastage of food. Overall, the main aim of the project is to provide a practical and effective solution for pet feeding and care.

Existing System :-

An IOT Pet feeder is one of the pet feeders that will be controlled by a mobile application through the internet , But In This system we don't require any mobile application. IOT based pet feeder is designed to controlled by the Google Assistant to feed and Says "Okay Google, Feed My pet". But This pet feeding system is hardware design usingmechanical part for opening and closing of the food container and software code which is used to program the arduino.The pet feeder system take up the pre-defined time . Food Fall down from container in bowl at Specific Time. But in the system wastage of food was happen at every time.

The main purpose of proposed system is to avoid the Food wasting using ultrasonic sensor.

Motivation :

The text describes the benefits of using an automatic pet feeder system to take care of a pet's diet when the owner is not at home. The system allows the owner to feed their pet from anywhere andWith just a single click, it can be done anytime., making it a convenient solution for busy pet owners. That system is controlled by a mobile application through the internet, and is classified as an IOT pet feeder. This type of pet feeder utilizes new technologies to provide an easy and efficient way forpet owners to fulfill their pets' dietary needs. Overall, the text highlights the convenience and advantages of using an automatic pet feeder system for pet care.

CERTIFICATION
OF PUBLICATION

IJIRSET

International Journal of Innovative Research in Science, Engineering and Technology

(A Monthly Peer Reviewed Journal)

Website: www.ijirset.com Email: ijirset@gmail.com

Impact Factor 8.423

This is hereby Awarding this Certificate to

B. D. THORAT

Department of Computer Engineering, Shri Chhatrapati Shivajiraje College of Engineering, SPPU, Pune, India

Published a paper entitled

USING MACHINE LEARNING, CROP AND FERTILIZERS PREDICTION FOR DRIP IRRIGATION SYSTEM

in IJIRSET, Volume 12, Issue 5, May 2023

e-ISSN : 2319-8753
p-ISSN : 2347-6710

ISSN INTERNATIONAL STANDARD SERIAL NUMBER INDIA

INNO SPACE SJIF Scientific Journal Impact Factor

P. Kumar
Editor-in-Chief

International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)

|e-ISSN: 2319-8753, p-ISSN: 2347-6710| www.ijirset.com | Impact Factor: 8.423| A Monthly Peer Reviewed & Referred Journal |

|| Volume 12, Issue 5, May 2023 ||

| DOI:10.15680/IJIRSET.2023.1205279 |

Using Machine Learning, Crop and Fertilizers Prediction for Drip Irrigation System

Gujar Sayali Satish[*1], Ithape Shreya Santosh[*2], Yele Pratiksha Jagdish[*3], Suryawanshi Komal Bhanudas[*4], B. D. Thorat[*5]

Department of Computer Engineering, Shri Chhatrapati Shivajiraje College of Engineering, Pune, India (MH), Savitribai Phule Pune University, Pune, India

ABSTRACT: In Today's World of Internet and Smartphones, the Smartwork is an important factor. Agricultural Industry plays a major role in the Process of economics development as well as Gross Domestic Product of India. One of the major issue in industry to lack of knowledge about soil nutrients, best Crop and useful Fertilizers. Machine Learning plays important role in Agricultural Industries. In Agricultural Industries one of the major issue is to Accurately Identify Fertilizers for the Crops which is mainly depends on Drip Irrigation System. Only few Farmers uses scientific approaches remaining uses the past process or believing the myths in society. Precision Agriculture is important in today's life. Precision Agriculture also called as the Smart Farming have an innovative tools to focus on current challenges. The Mechanism that can operate this most recent technology is Machine Learning. Thus the Paper Purpose is a smart Farming technique for Crops depends on the Drip Irrigation Using Soil Nutrients like NPK(Nitrogen, Phosphorous, Potassium). The important part of the Agriculture is the use of the Pesticides and Fertilizers. Fertilizers helps to keep the Crop safe from insects and Improve the Quality of Crop. Use of Fertilizers may be Expensive and Harmful if we cannot used with care and precaution.

KEYWORDS: Machine Learning, Crop, Fertilizers, Irrigation, Smart Agriculture, NPK Sensors

Problem Statement: Crop and Fertilizers Prediction on the basis of Soil Nutrients like N, P, K Values using Machine Learning Techniques and IOT.

I.INTRODUCTION

The Drastic population growth of the world will increase to 9 billion approximately. Food Requirements increases by 70% due to rapid increase in population due to urbanization and the availability of the land for the Agriculture will decrease in coming years. Machine Learning techniques have emerged as powerful tools for Predicting Crop and Fertilizers. The Application of Machine learning techniques for prediction is the main subject of this Research Article. In India, Majority of the Population is dependent on Agriculture for their Livehood. Many new technologies such as Machine Learning and Deep Learning, are being Implemented into Agriculture so that it is easier for farmers to grow and maximize their yields. Machine Learning and Deep learning enhance the knowledge about best Crop and Fertilizers. The Paper contain Crop and Fertilizers Prediction System in which NPK Sensor check the Nutrients level. Based on that nutrients level, Machine predicts the Crop and fertilizers for Drip Irrigation System.Peoples are increasingly used to depends on machines, rather than doing their daily needs manually in order to save their time. Even farmers had to use so much of man- power to fulfil their needs in cultivation inold days, now they can gain the same amount of work with less time and lessmanpower by using a single machine operated by only one person. If there is a way to identify the best crop and Fertilizers according to the environmental conditions in the different areas and the soil type of their ground on their own, it will be a very useful solution for better results and to save time. We know nutrients that is Nitrogen, Phosphorous, Potassium are provided to the plants, nitrogen plays a important role because it is responsible for generation of the chlorophyll in leaves and amino acids and it is necessary for internalreactions in plants. Thus the nitrogen deficiency can have serious impact on plant growth. As nitrogen is the mobile nutrient, the deficiency is usually seen in leaves. So, our aim is to come up with an automatic soil testing system which not only will analyze the soil samples but also provide acceptable crop and Fertilizers information at free of cost and consuming less time. This crop and Fertilizers prediction is finished by not just considering the fertility of the soil but also by the quantity of soil within specific region. There is Different types of soil we see in different areas like Red soil, Back Cotton Soil, Forest Soil, Laterite Soil, Alkaline Soil, Rock soil. We know that different soils needs different crop and Fertilizers according to their conditions.

CERTIFICATION
OF PUBLICATION

IJIRSET

International Journal of Innovative Research in Science, Engineering and Technology

(A Monthly Peer Reviewed Journal)

Website: www.ijirset.com Email: ijirset@gmail.com

Impact Factor 8.423

This is hereby Awarding this Certificate to

PROF. K. S. KHAMKAR

Department of Computer Engineering, Shri Chhatrapati Shivajiraje College of Engineering, Dhangawadi, Pune, India

Published a paper entitled

FACE RECOGNITION SYSTEM USING MACHINE LEARNING WITH OPENCV AND TELEGRAM BOT

in IJIRSET, Volume 12, Issue 5, May 2023

e-ISSN : 2319-8753
p-IS : 2347-6710

ISSN INTERNATIONAL STANDARD SERIAL NUMBER INDIA

INNO SPACE SJIF Scientific Journal Impact Factor

P. Kumar
Editor-in-Chief

International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)

|e-ISSN: 2319-8753, p-ISSN: 2347-6710| www.ijirset.com | Impact Factor: 8.423| A Monthly Peer Reviewed & Referred Journal |

|| Volume 12, Issue 5, May 2023 ||

| DOI:10.15680/IJIRSET.2023.1205013 |

Face Recognition System Using Machine Learning With OpenCV and Telegram BOT

[1]Shedge Pooja Sambhaji,[2]. Kumbhar Rutuja Dattatraya, [3] Khandale Kiran Prakash, [4]. Khopade Ajit Dattatray, [5]Prof. K.S.Khamkar

Department of Computer Engineering, Shri Chhatrapati Shivajiraje College of Engineering, Dhangawadi, Pune, India

ABSTRACT : In today's world of internet, security is an important factor. So instead of using any traditional security method, users face majorly focus on real time detection like immediate alert by face detection and recognition. Therefore, there is a huge use of immediate alerting devices like ESP-CAM, Arduino-Uno etc. In the world of computer IOT refers as a most demanding technology ever. This paper includes face recognition system using of OpenCV & Telegram bot. Where Open-CV is a machine learning methodology used for face detection & recognition. Telegram bot is use as content management system which performs crud operations to manage users. In this system image is captured ESP-CAM 32 and recognize by OpenCV (Open-Source Computer Vision Library) & the response will be fetch by using Arduino Uno & displays the output as valid or invalid person. Telegram can manage the users by insert, update, delete operations.

KEYWORDS:-Telegram, Arduino-Uno, ESP-CAM32, Open-CV, Face-Recognition

I. INTRODUCTION

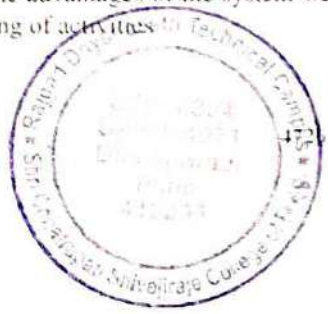
The rapid growth of innovations in science gives us many ways to perform different activities based on the technology which is able to detect and recognize face of human entering in society using ESP-CAM32 and OpenCV algorithm which is a face recognition algorithm in python. The title of paper is "Face recognition algorithm using machine learning with OpenCV and telegram bot". the person entering in society which is captured by ESP-CAM32 these captured image is forward to database through Arduino-Uno. These images are stored in database in tuple form, further OpenCV algorithm recognize that, the given image/photo of person is present in database or not, and based on that output will display as person is known or unknown. Telegram is used as content management system to perform crud operations on database like add, delete, insert etc

II. LITERATURE SURVEY

It is well known security system, which is proposed/developed for society or office security problems. The previously developed systems have some drawbacks & advantages this system as compared to this system.

The paper"Intrusion detection system using Raspberry pi and telegram integration"[3]. In this paper, the technology used were histogram of oriented gradients Open-CV, Raspberry-Pi having advantages like high accuracy in face recognition used in application of intrusion detection system.But in this systemthere are some limitations as compared to this proposed system, as there is no logging of activities, telegram can't perform crud operations (update, delete, insert). Another disadvantage/limitation is the database stored on Raspberry-Pi hardware, so there is high chance of loss of data if the hardware is stolen by someone. This drawback is overcome by newly developed face recognition system using machine learning with Open-CV & Telegram-Bot, where database is stored separately on local host which provide security of data.

Another paper is "Face Recognition and Home Automation using Telegram Bot"[2] used in applications like home automation. The technology used by the system was MQTT Protocol, Node-MCU. The advantages of the system were affordable hardware& telegram integration and the drawback of the system is no logging of activities.



International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)

|e-ISSN: 2319-8753, p-ISSN: 2347-6710| www.ijirset.com | Impact Factor: 8.423| A Monthly Peer Reviewed & Referred Journal |

|| Volume 12, Issue 3, March 2023 ||

| DOI:10.15680/IJIRSET.2023.1203061 |

Blood Management System using Blockchain Technology

Attar Asfiyan Nazim, Dhadave Pragati Uddesh, Sonawane Shivam Laxman, Kanade Chetan Datta, Prof P.M.Marne

Department of Computer Science, Shri Chhatrapati Shivajiraje College of Engineering, Pune, India

ABSTRACT: Every day, there are a growing number of people who require blood transfusions. Our online blood bank may be used successfully to find the information of blood banks with the same blood type and located in the same city, helping those who are in need of blood. Those who are considering blood donation can register in our online blood bank with the help of our online blood bank by providing all of their information. The Our online blood bank website is easily accessible to everyone.Anybody interested in donating blood fills out the registration form with all of their information, and if anything changes after they submit it, they can alter it by creating a username and password. Our website also assists those who require blood by providing information about blood banks through a search function. If no blood banks belonging to the same group are located in the user's city, they are given addresses and phone numbers of contacts in larger cities who are paid representatives of clubs or organisations.Such that the person gets help from us which saves his life. Our contribution work is providing security using block chain Technology and encryption.

KEYWORDS: Block Chain, bit coin, blood bank, online system, Security.

I. INTRODUCTION

A blockchain is a ledger of transactions that is digital. The name is derived from the structure of the data, which consists of a chain of individual records known as blocks. A blockchain's transactions are verified by a number of online computers. Together, they make sure that before a transaction is put to the blockchain, it is genuine. This distributed computer network makes sure that one system cannot add dubious blocks to the chain. Also, as all succeeding blocks must be changed before earlier transactions can be changed in blockchain, this is done on purpose.
Every day, there are a growing number of people who require blood transfusions. Our online blood bank may be used successfully to find the information of blood banks with the same blood type and located in the same city, helping those who are in need of blood. Those who are considering blood donation can register in our online blood bank with the help of our online blood bank by providing all of their information. The Our online blood bank website is easily accessible to everyone.A person who likes to donate blood gives his entire details i.e., fill in the registration form and can create a username with a password by which he can modify his details if at all there are any changes in his information given before.

Our website also assists those who require blood by providing information about blood banks through a search function. If no blood banks belonging to the same group are located in the user's city, they are given addresses and phone numbers of contacts in larger cities who are paid representatives of clubs or organisations. The suggested method, Online Blood Bank site, uses block chain technology to fix the problems with the current system.The Blood Bank assists those in need of blood by providing them with general information on blood banks that have the same blood group and are located in their city. Provide these data security utilising block chain technology. The benefits of the suggested system are enumerated below. By entering their blood type and city, those in need of blood can find blood banks nearby. It is incredibly user-friendly and adaptable. With the current system, a person's time and labour are greatly diminished. Simple and beneficial.

II. RELATED WORK

Seungeun Kim et. al.-In order to shorten blood supply time and ensure information visibility, we created and implemented a blood cold chain system based on private blockchain technology. The first step in effective blood management is the real-time recording and sharing of data as blood is moved, eaten, and disposed on distributed ledgers.

CERTIFICATION
OF PUBLICATION

IJIRSET

International Journal of Innovative Research in Science, Engineering and Technology

(A Monthly Peer Reviewed Journal)

Website: www.ijirset.com Email: ijirset@gmail.com

Impact Factor 8.423

This is hereby Awarding this Certificate to

PROF. BHAGWAN D. THORAT

Department of Computer Engineering, Shri Chhatrapati Shivajiraje College of Engineering, Savitribai Phule Pune University, Pune, India

Published a paper entitled

Field Condition Management

in IJIRSET, Volume 12, Issue 4, April 2023

e-ISSN : 2319-8753
p-I : 2347-6710

ISSN INTERNATIONAL STANDARD SERIAL NUMBER INDIA

INNO SPACE SJIF Scientific Journal Impact Factor

P. Kumar
Editor-in-Chief

International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)

|e-ISSN: 2319-8753, p-ISSN: 2347-6710| www.ijirset.com | Impact Factor: 8.423| A Monthly Peer Reviewed & Referred Journal |

|| Volume 12, Issue 4, April 2023 ||

| DOI:10.15680/IJIRSET.2023.1204366 |

FIELD CONDITION MANAGEMENT

Dipak N. Shinde[1], Vaishnavi D. Patil[2], Shubham T. Borsare[3], Tujay K. Korade[4]

Prof.Bhagwan D. Thorat[5]

Department of Computer Engineering, Shri Chhatrapati Shivajiraje College of Engineering, Pune, India (MH),

Savitribai Phule Pune University, Pune, India

ABSTRACT: In emerging countries such as India and other countries, agriculture is an important factor.Computer engineering can help farmers improve agricultural production and soil quality. Learning techniques classifiers are essential for decision-making on plant diseases and soil issues.In this research, we examine the function of learning techniques in the agriculture sector as moreover several learning technique classifiers and their applications to the study of the soil fertility and water level of field and condition management.

Traditional farming methods tend to manage fields uniformly, ignoring the underlying regional variance present on the vast majority of farms.Precision farming is management method made possible by the advent of appropriate information technologies.It offers a framework that enables agriculture managers better comprehend and manage what occurs on their farms. Precision farming, which represents a better balance between reliance on traditional knowledge, information management, and intensive technologies, is anticipated to become considerably more common in the twenty-first century. Crop farmers can now use technologies such as systems for global positioning, portable field sensors, environmental monitoring, sensing, communication with soil nutrients through sensors, and controllable application methods. The application of these technologies in agricultural research to generate the working knowledge needed to improve crop production methods, however, have an established technique. This paper clarify way new technology are used generate recommendations for field condition management during periods of low soil fertility in various location of India.

KEYWORDS:[Nitrogen(K),Phosphorus(P), Potassium (K), Farming, Precision Agriculture,Soil, Water, Moisture, Crop, Sensors, Machine Learning, Field Condition Management, Temprature.]

PROBLEM STATEMENT: Crop prediction on the basis of soil N, P, K values, water and weather condition using learning techniques and IOT.

I. INTRODUCTION

Agriculture is an essential and sensitive research topic, and very person aids farmers by developing innovative solutions to present system issues, engaging in new agriculture research and innovation, and getting government financial assistance. These initiatives immediately benefit our farmers.

The same is being worked on in computer engineering; significant progress has been made. in this area with the use of newly created approaches, such as software and hardware, which directly supported our farmers in making an easy and rapid decision for greater agriculture production. Furthermore, some agriculture research is being conducted on soil quality, water level, and weather forecasts, as water is crucial for growing food and cultivating crops. Given current rates of population increase, our capacity to manage remaining water resources efficiently will be critical in providing agriculture's critical food requirement Given how frequently the weather changes in many agriculture areas, it is increasingly necessary to monitor the climate. There are several types of climate monitoring systems, from basic automatic weather monitoring systems to more complex ones. Innovation, however, is what propels technical advancements and determines where cutting-edge, ever-evolving technologies like artificial intelligence and the internet of things are used. In order to track, anticipate, and estimate variations in meteorological and climatic conditions, modern Hybrid technologies are likely to use data from dependable and unstructured sources, including field systems satellite observations, and prediction models.

High precision methodologies, procedures, and tools would be quite beneficial in this scenario for a project that comprises monitoring, data extraction, models, algorithms, and computations.It gives [illegible] recommendations for

IRJMETS

International Research Journal Of Modernization in Engineering Technology and Science

(Peer-Reviewed, Open Access, Fully Refereed International Journal)

e-ISSN: 2582-5208

Ref: IRJMETS/Certificate/Volume 05/Issue 03/50300058167 Date: 20/03/2023

Certificate of Publication

This is to certify that author "**Prof. B.D. Thorat**" with paper ID "**IRJMETS50300058167**" has published a paper entitled "**SALES FORECASTING USING MACHINE LEARNING TECHNIQUES**" in International Research Journal Of Modernization In Engineering Technology And Science (IRJMETS), Volume 05, Issue 03, March 2023

Editor in Chief

IRJMETS Impact Factor 7.868

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e-ISSN: 2582-5208
International Research Journal of Modernization in Engineering Technology and Science
(Peer-Reviewed, Open Access, Fully Refereed International Journal)
Volume:05/Issue:03/March-2023 Impact Factor- 7.868 www.irjmets.com

SALES FORECASTING USING MACHINE LEARNING TECHNIQUES

Garud Akshada Anil*1, Chavan Ritambara Shankar*2, Bobade Prachi Santosh*3, Gorad Akshada Rajendra*4, Prof. B.D. Thorat*5

*1,2,3,4Student, Department Of Computer Engineering, Savitribai Phule Pune University Rajgad Dnyanpeeth Technical Campus, Pune, Maharashtra, India.

*5Project Guide, Department Of Computer Engineering, Savitribai Phule Pune University Rajgad Dnyanpeeth Technical Campus, Pune, Maharashtra, India.

DOI : https://www.doi.org/10.56726/IRJMETS34569

ABSTRACT

In the era of the internet, the amount of theoretical data being produced is so great that a single person cannot possibly process it all. There are numerous machine learning available as a result. By experimenting with different machine learning techniques, our goal is to anticipate the sales of various stores. methods and choose the best algorithm for our particular issue statement. We are Using both conventional regression approaches and boosting techniques, we try to determine whether the boosting algorithms outperform the conventional regression algorithms.

It is essential to use intelligent data mining approaches that make use of exact prediction models and yield extremely trustworthy outcomes in order to do efficient sales prediction analysis. In this process, the knowledge and proficiency of numerous market segments are crucial. The projection of demand for business-to-business sales data analysis Big data and the precision of sales forecasting are tough for traditional forecasting systems to handle. In this topic, we'll analyze the predictability of sales using machine learning techniques. The results of this research should produce accurate, precise, and useful forecasting data, a useful source for making predictions about future sales.

Keywords: Predictions, Sales Data, Sales Forecasting, Mining Techniques.

I. INTRODUCTION

Sales forecasting is a critical component of business strategy, allowing companies to predict future 7 sales trends and make data-driven decisions to improve their sales strategies. Businesses are generating an ever-increasing amount of data, which has made it difficult to manually analyze and extract valuable insights in recent years. Machine learning techniques have emerged as powerful tools for predicting sales figures accurately, leveraging the vast amounts of data available to companies.

The application of machine learning techniques for sales is the main subject of this research article. goal is to create precise models that, using data from the past, can anticipate future sales. The study makes use of a variety of machine learning algorithms, including as neural networks, decision trees, and regression this main study goal is to compare the effectiveness of various machine learning techniques. Select the best effective algorithm for this specific situation from those used for predicting sales. The study also looks at how important it is to use sophisticated analytical methods for sales management and forecasting.to predict sales, use models. Data preparation, feature engineering, model selection, and evaluation are all part of the study methodology. Overall, the study underscores the need of utilizing advanced analytical approaches to improve sales forecasting and management and highlights the potential of machine learning techniques for precise sales prediction.

II. PROBLEM STATEMENT

To create a reliable prediction model that can project future sales for a certain time period utilizing past sales data and other pertinent information, while accounting for numerous factors that can Seasonality, marketing initiatives, the state of the economy, and rival actions all have an impact on sales. The model should offer useful insights and be assessed using the right measures.

International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)

|e-ISSN: 2319-8753, p-ISSN: 2347-6710| www.ijirset.com | Impact Factor: 8.423| A Monthly Peer Reviewed & Referred Journal |

|| Volume 12, Issue 3, March 2023 ||

| DOI:10.15680/IJIRSET.2023.1203128 |

A Systematic Review of Encryption and Keylogging for Computer System Security

Gawali Kartik Rakesh, Kshirsagar Prathmesh Dilip, Todkar Omkumar Murlidhar,

Yewale Yash Dattatray, Prof.B.R.Bhatti

Department of Computer Engineering, Shri Chhatrapati Shivajiraje College of Engineering Pune, India

ABSTRACT: Encryption encrypt data so that the one with a password or encryption key may access it. Encryption protect data content rather than preventing unlawful data transmission interception or access. Intelligence and security organizations utilize it, as well as personal security software that protects user data Advanced Encryption Standard (AES) is single of the proportional encryption algorithm that allows both parties sender and receiver, to use the similar key to encode and decodestatistics.

The suggested a keylogger, sometimes known as keystroke logger, is a program that records or logs the keys you press on your console, usually invisibly so you are uninformed that yours activities are being monitored. Most people only perceive the negative aspects of this software, yet it has legitimate uses as well. Separately from presence used for vengeful purposes such as obtaining information and other private information for vindictive purposes, it can also be used in the office to monitor your employes at home to monitor your children`s activities, and bylaw enforcement to investigate and follow occurrences involving the use of CPUs. The project will be entirely written in Python, with the exception of the pynput module, which is not a common Python module and must be installed. The software we are going to make should keep track of keystrokes and save results of file.

KEYWORDS: Python, Keylogger, Encryption, Password, Security.

I. INTRODUCTION

Keylogging and Encryption provides system security by protecting our data from various threats, cyber-attacks and unethical access. Following is the study and description about keylogging and Encryption.

1.1 Keylogging: Software, commonly known as keylogger is a sort of malware that may locate a user`s input from the keyboard in command to retrieve confidential information. As a result, hackers put commercial and personal transactions, online banking, email and chat at danger. The keyboard is the primary target since allows keyloggers to retrieve user input to this system and because it's the almostcurrent way for peoples to interact with machines. There are to sorts of keylogg on the market. Software and hardware are the two types. Software keylogger are the most mutual and easy to install and do significant damage. Keylogger essentially accomplish two task: steering into the client input stream to capture keystroke and transferring the data to a location (For example log file)

1.2 Encryption:it's a fascinating technology that scrambles data so that its unintelligible by unauthorized parties. The advanced encryption structurestands a specification for the encryption of electronic data. It remainstoo known as Rijndael (its original name). Encryption is the practice of encrypting massages or crucial information.

In such mode that it can only be delivered by authorized parties. Encryption does not prevent interception by itself, but it does deny the interceptor admittance to the information. Encryption, in simple terms is the procedure of creating a cryptogram text that can only be read by the person who has the decryption key. Advanced Encryption Standard (AES) is one of the Encryption techniques used to safeguard internet data from harmful threats (AES). In general, Symmetric key encryption techniques or public key encodingprocedures are used in encryption. Encryption is extensively used

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|| Volume 12, Issue 5, May 2023 ||

| DOI:10.15680/IJIRSET.2023.1205335 |

Image Classification of Rice Leaf Diseases Convolutional Neural Network Algorithm

Gaurav Koli, Makarand Kirve, Dhiraj Jadhav, Avinash Jadhav, Prof P.M. Marne

Department of Computer Science, Shri Chhatrapati Shivajiraje College of Engineering, Pune, India

ABSTRACT: The category of rice may be categorized into numerous systems. In this study, image class is second hand to categorise the information set of rice leaf spray bugs, such as; Tan Advert Rice ailment (BSR), Bacterial Leaf Blight ailment (BLB), that is the rice leaf spray bugs with excessive outbursts about Thailand. Besides, image dispensation era with inside the cataloguing kinds of rice leaf illness, such as Random woodland type procedure, Conclusion tree typeprocedure, Incline Boosting organization algorithm and Naive-Baye classification procedure, which is restrained by the accurateness, precision in additionre collection of each algorithms. The complete result of presentation in the image cataloguing of rice leaf diseases is CNN equivalent to 69 percent.

I. INTRODUCTION

Itgoal is to discovery the characteristicland scapes of each copy into class. By using exactideologies and figures to generate a perfect to controldifference in landscapes of the copyidea, this is thecomparison of copyidea to the equal class. The infosortingtechnique is separated into two methods, Supervised Learning Classification and Unsupervised Learning Classification. This investigate aims to excerpt the features from copyinformation. The info is cast-off to detectlesson of pictures by supervised learning algorithm. Education of picturebuilt on info and label, using the data removalprogression. We canacquire from the features of copy arrangement. Evenwe can spread onaarrangementtypical for new images to predictthe class of data.

1. Problem Statement

The problematic of rice bug round the sector make to harm and fall right mad about a big quantity of rice,triggered by many of categories, such as Fungi, Bacteria and Diseases. Which are the keyroots of rice illness affected to farmers rice plants

2. Scope

Presently,our project is build for following points.

1. This project is based for identify disease on leaf, from this we can predict actual disease.
2. We can Identify the actual type of disease.
3. High percentage profit can be earned.
4. Before getting the crop damaged , we can stop the spread of disease.
5. This project can be implement in governments big projects for farmers.

II. RELATED WORK

CNN (Convolutional Neural Networks)

The CNN model utilized used in this study consists of 5 convolutional layersiconv1, 2 Max-Pooling layers and 2 fully connected layers. For the classification ,input image of size 32*32 were chosen. The architecture of the trained CNN model is depicted in fig . The initial two convolutional layers (conv&conv2) are comprised of 32 kernels measuring 3*3 ,followed by the RELU activation function. The neurons are encouraged to produce positive value & Max-pooling is applied using a filter size 2*2 and stride 3.The third convolutional layer(conv3) consists of 64 kernels measuring 4*4 also followed by Relu activation function & he max pooling layer uses a filter size of

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PROF. N. D. BAGUL

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Automatic Tire Inflation System For Defence Vehicle

in IJIRSET, Volume 12, Issue 5, May 2023

e-ISSN : 2319-8753

ISSN INTERNATIONAL STANDARD SERIAL

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|| Volume 12, Issue 5, May 2023 ||

| DOI:10.15680/IJIRSET.2023.1205437 |

Automatic Tire Inflation System for Defence Vehicle

Yash Bhosale[1], Saurabh Devlekar[2], Pooja Shaha[3],Vishal Shedge[4], Prof. N. D. Bagul[5]

U.G. Student, Department of Mechanical Engineering , RDTC, Shri Chhatrapati Shivajiraje College of Engineering, Dhangwadi, Maharashtra , India.

Associate Professor, Department of Mechanical Engineering , RDTC, Shri Chhatrapati Shivajiraje College of Engineering, Dhangwadi, Maharashtra ,India.

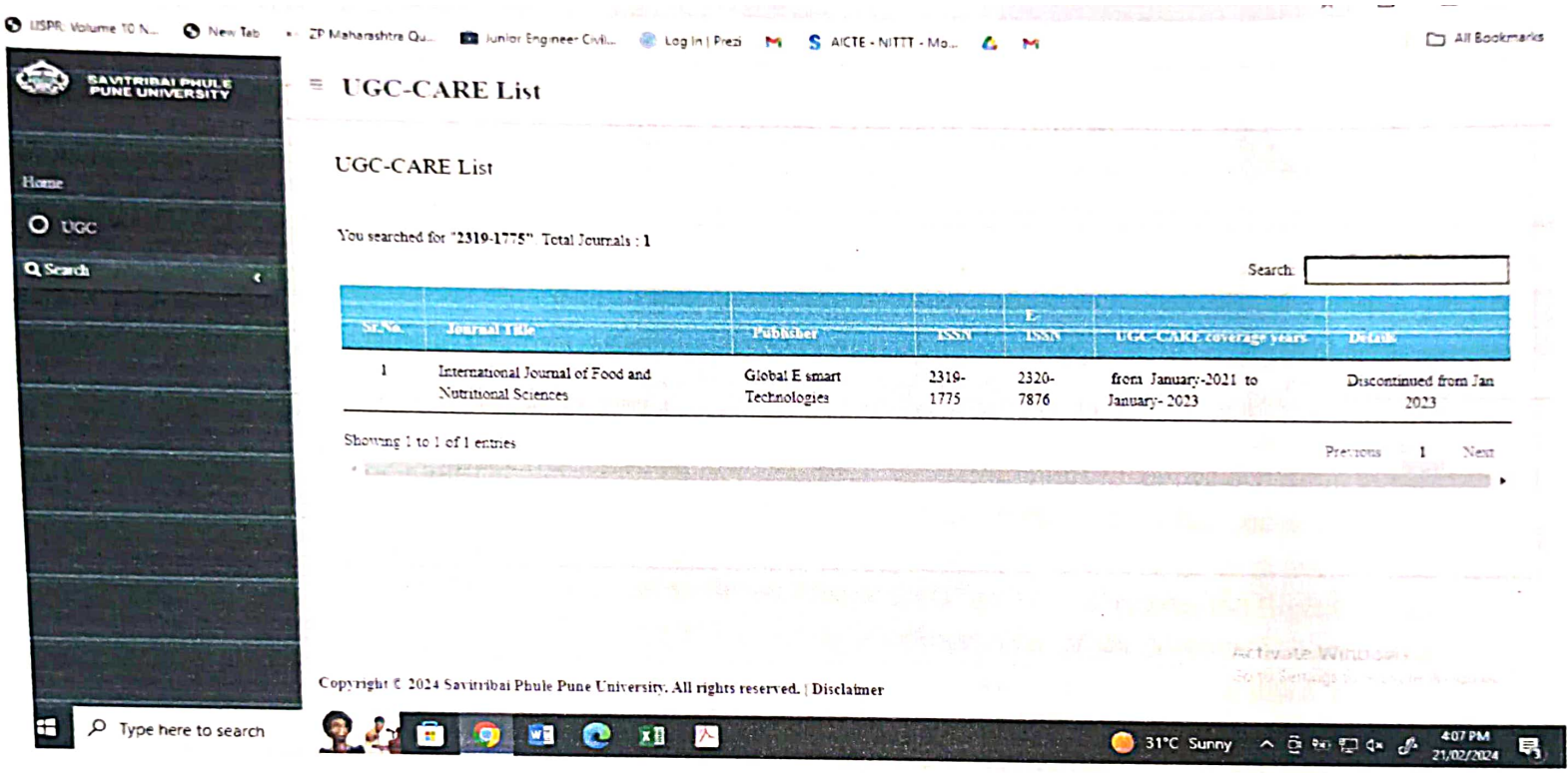
ABSTRACT-Since the disclosure of tires, improvement is beingdrained tires of a vehicle on a normal basis for its improved lifeand its part in expanding vehicular security. As we all know thatvehicle is the foremost imperative portion of our life, because it helpsus in traveling miles in a couple of minutes. The discuss weight of thetires needs to be kept up at perfect level for way better running ofvehicle and for its security purposes. So this framework waspresented keeping in intellect the fuel utilization, vehicularsecurity and consolation. It keeps up the desired tire weight ofvehicle, increments fuel productivity and decreases tire wear in this wayexpanding their life and lessening the tire substitution timeand fetched. Noteworthy point of presenting this framework is tokeep up perfect weight in tires and when the pressure of tiregoes underneath perfect vale weight gauge monitors it and the tire isexpanded once more. This paper gives distant better a much better a higher; a stronger; an improved" a much better understanding foranalysts and modern learners on the working, focal points andtires of a vehicle.

KEYWORDS–Programmed tire inflation, tire weight, tire life, fuel utilization, vehicle security.

I. INTRODUCTION

It was to begin with presented within the American DUKW land and water capable trucks in 1942. Nowadays it could be a standard in Czech's overwhelming military Tata trucks additionally common in Soviet and Russian military trucks. Separated from military trucks it was moreover presented in civilian Hummer H1,[7]. It is most critical in them since the military vehicle ought to go to inaccessible places like mountains, deserts and frigid ranges where no fuel pump or tire weight refilling framework is accessible. Tires are the 2nd most elevated exorbitant portion for trucking businesses. Agreeing to the AAA (American Vehicle Affiliation), 80% of the vehicles have at slightest 1 underinflated tire too their stats appears that when the weight of tire is below 2 psi than the perfect weight the fuel productivity is diminished by 10% [8]. Moreover the investigates done by the NACFE (North American Chamber for Cargo Effectiveness) in 2013 appears that an disgracefully swelled tire leads to vehicle devouring more than vital fuel. The weight too diminishes due to normal entry of discuss through versatile rubbers display in tires. When there's a diminish in 10 degree Fahrenheit of encompassing temperature, 1 psi weight of tire diminishes. When tire comes in contact with ground due to contact warm is produced which dissolves the elastic of tire and underinflated tires gets overheated effortlessly. In an underinflated tire motor has got to work harder hence taking more fuel to run the vehicle. Image Description of Potholes in an Unstructured Environment.

As the naturalconditions are moreover not comparable all over so it gets to bebasic to preserve perfect tire weight in arrange to make strides sources of vitality and numerous nations imports fuel/oil fromDubai and Oman due to wealth. By and large there's adiminish of 0.5 to 1 psi tire weight per month beneathtypical barometrical conditions. The vehicle and itspassenger's security, fuel economy, moving forward tire life,decreasing tire blowouts chances are the foremost basicviewpoints in a vehicle, luckily Programmed tire swellingframework considerably makes a difference in taking care of these as pets Asit routinely compensates the misplaced discuss within the tire in this way diminishinghuman exertion by not routinely checking the tire weightphysically. Another point of presenting this framework is tomake strides dealing with and control over vehicle thus lessening thechances of mishaps. By keep up perfect weight intires braking and taking care of works at its best. Once the frameworkis introduced there no require for driver or any traveler tocheck the weight physically in this way lessening time and drudgery.



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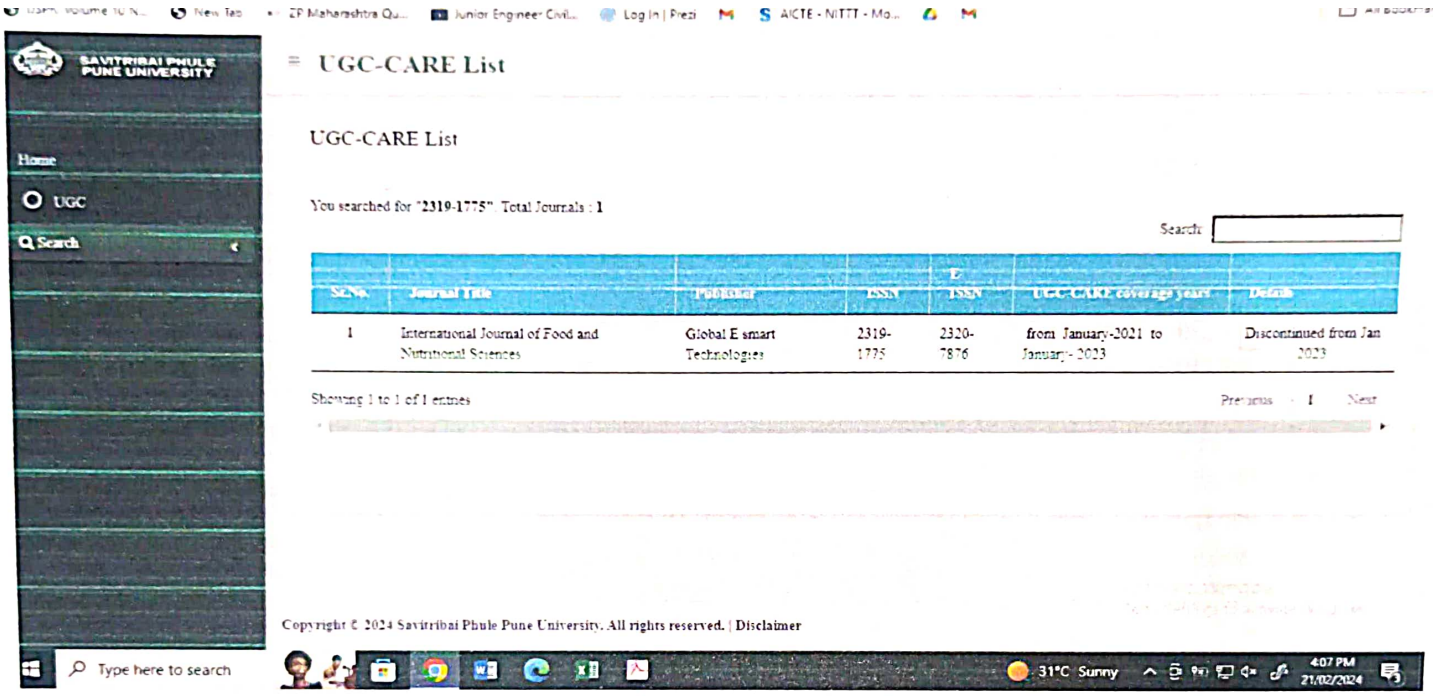
Explore the potential of IOT and Smart Cities for improving urban infrastructure, reducing energy consumption and enhancing quality of life

1. **Dr. T. M. Dudhane**
tmdudhane@gmail.com
SCSCOE, Pune
2. **Sandeep R. Nalage**
sandeepnalage@gmail.com
SCSCOE, Pune
3. **Pradip V. Taware**
taware.pradiprdtccoe@gmail.com
SCSCOE, Pune
4. **Sandhya S. Nalage**
sandhyanalage84@gmail.com
SCSCOE, Pune

Abstract

The integration of Internet of Things (IoT) technologies in urban infrastructure has emerged as a transformative force, paving the way for the development of Smart Cities. This paper explores the immense potential of IoT in enhancing urban living by focusing on key aspects such as improved infrastructure, reduced energy consumption, and an overall enhancement of the quality of life. The advent of IoT has enabled the creation of interconnected networks of devices, sensors, and actuators embedded in the urban fabric. This interconnectedness facilitates real-time data collection and analysis, empowering cities to optimize resource allocation, improve service delivery, and enhance overall efficiency. Smart Cities leverage IoT to create intelligent urban infrastructure that responds dynamically to the needs of citizens.One of the prominent benefits of IoT in urban settings is the reduction of energy consumption. Smart grids, enabled by IoT, provide a platform for efficient energy management, allowing cities to monitor, control, and optimize energy usage in real-time. This not only contributes to environmental sustainability but also leads to significant cost savings and a more reliable energy supply. Furthermore, IoT plays a pivotal role in enhancing the quality of life for urban residents. Environmental monitoring systems enable cities to address pollution concerns promptly, while intelligent transportation systems optimize traffic flow, reducing congestion and improving commuting experiences. Additionally, IoT applications in healthcare, public safety, and waste management contribute to a safer and healthier urban environment.

Keywords: Internet of Things (IoT), Smart Cities, Urban Infrastructure, Energy Efficiency, Quality of Life, Sustainable Development, Smart Grids, Environmental Monitoring, Intelligent Transportation Systems, Urban Planning.



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Developments in Cloud Computing Applications in Health Care Learning System

1. **Dr. Sanjay I. Nipanikar**
sanjaynipanikar99@gmail.com
SCSCOE, Pune

2. **Jyoti J. Bandal**
bandal864@gmail.com
SCSCOE, Pune

3. **Sachin R. Mahajan**
smahajan733@gmail.com
SCSCOE, Pune

4. **Reshma R. Zende**
reshmabhosale26@gmail.com
SCSCOE, Pune

Abstract:
As the healthcare industry continues to evolve, the integration of cloud computing technologies has emerged as a transformative force, particularly in the realm of health care learning systems. This research paper explores the recent developments and applications of cloud computing in healthcare education, focusing on the impact on learning systems, training, and knowledge dissemination. The paper reviews current trends, challenges, and opportunities in leveraging cloud-based solutions for medical education and professional development. By examining case studies and real-world implementations, the paper aims to provide insights into the potential benefits of cloud computing in enhancing the efficiency, accessibility, and effectiveness of healthcare learning systems.

Keywords: Cloud Computing, Healthcare Education, Learning Management Systems, Medical Training, E-Learning, Telemedicine, Virtual Simulation, Data Security.

1.introduction

The healthcare sector operates in a dynamic environment where staying abreast of the latest medical knowledge and advancements is paramount. The rapid evolution of medical science, coupled with the growing complexity of healthcare delivery, presents continuous challenges for professionals striving to maintain their expertise. Traditional methods of medical education and training often struggle to keep pace with the ever-expanding body of knowledge and the demand for more flexible and accessible learning solutions. In response to these challenges, cloud computing has emerged as a transformative technology offering scalable, flexible, and accessible solutions for healthcare learning systems. The potential of cloud-based applications in

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 UGC CARE Listed (Group -I) Journal Volume 11, Iss 12, 2022

Optimization of Heat Transfer in Industrial processes such as heat exchangers and cooling systems improved efficiency and reduced energy consumption

1. **Dr. Sumod Pawar**
sumodpawar@gmail.com
SCSCOE, Pune
2. **Mangesh Bankar**
mbbankar89@gmail.com
SCSCOE, Pune
3. **Shrikant Khemkar**
shrikantkhemkar@gmail.com
SCSCOE, Pune
4. **Vishwajit Jadhav**
jadhavvt0@gmail.com
SCSCOE, Pune
5. **Rahul L. Thombare**
rahulthombare2019@gmail.com
SCSCOE, Pune

Abstract

Optimizing heat transfer in industrial processes, specifically within heat exchangers and cooling systems, is a critical endeavor to enhance efficiency and reduce energy consumption. This paper investigates various strategies and innovations aimed at improving the thermal performance of these systems. Key focus areas include advanced heat exchanger designs, innovative materials, and cutting-edge technologies. The utilization of computational fluid dynamics (CFD) simulations and machine learning algorithms for predictive modeling and control is also explored. Additionally, the integration of renewable energy sources and waste heat recovery mechanisms is discussed to further enhance the sustainability of industrial heat transfer processes. The findings highlight significant advancements in achieving higher heat transfer rates, increased operational efficiency, and substantial energy savings.

Keywords: heat exchangers, cooling systems, efficiency improvement, energy consumption reduction, CFD simulations, machine learning, renewable energy, waste heat recovery.

1. introduction

In the realm of industrial processes, the efficient management of heat is a critical factor influencing the overall performance, cost-effectiveness, and sustainability of operations. Heat transfer, a fundamental aspect of numerous industrial applications, plays a pivotal role in processes such as power generation, chemical manufacturing, and various other thermal systems.

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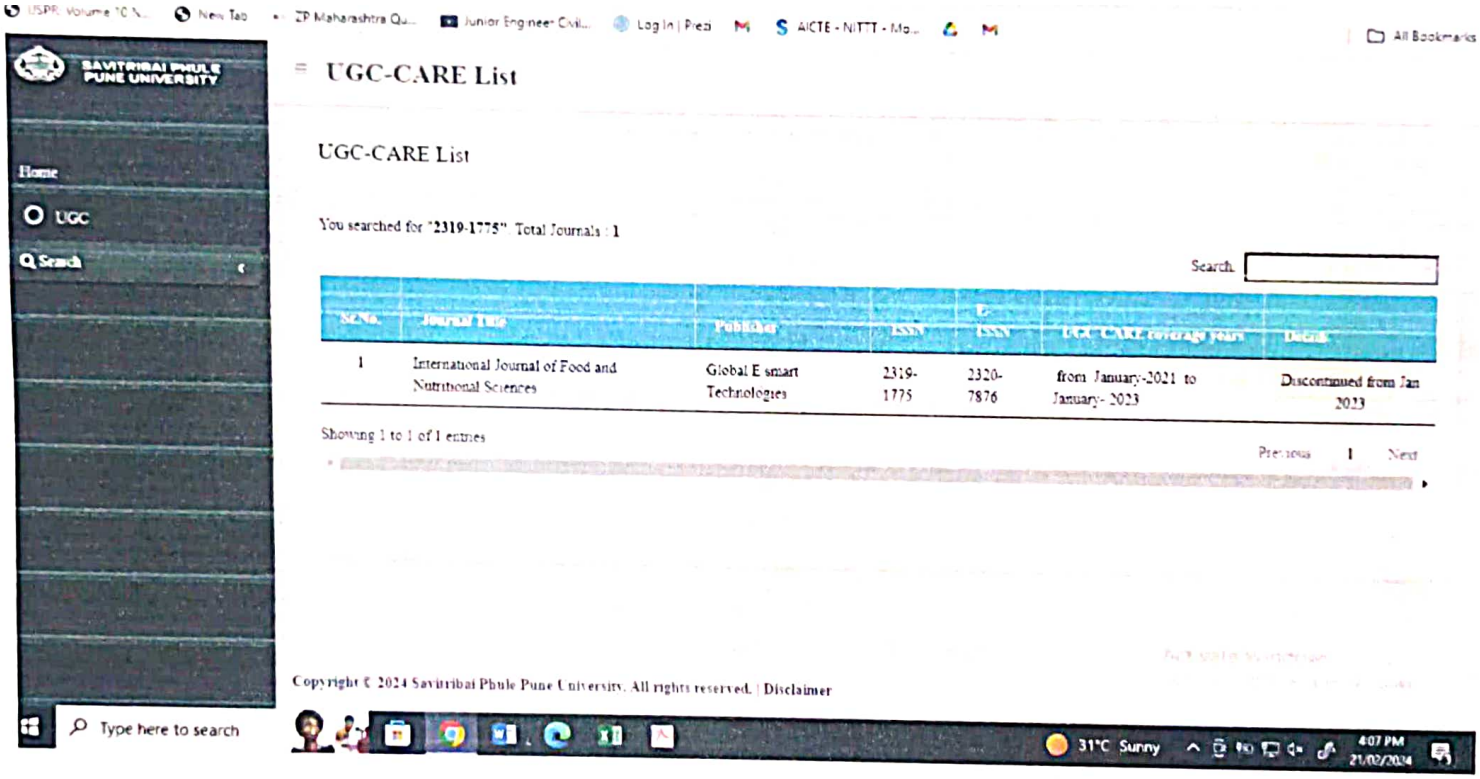

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Development of light weight and high strength materials for use in Automotive and aerospace structures.

1. **Digvijay Shelke**
digshelke@gmail.com
SCSCOE, Pune
2. **Lahu Maskepatil**
lahu.maskepatil@gmail.com
SCSCOE, Pune
3. **Nilesh Bagul**
ndb@rajgad.edu.in
SCSCOE, Pune
4. **Sagar Jagtap**
jagtapsagarv@gmail.com
SCSCOE, Pune
5. **Shilpa Gole**
shilpagole28@gmail.com
SCSCOE, Pune

Abstract:
This research paper explores the ongoing advancements in the development of lightweight and high-strength materials for application in automotive and aerospace structures. The pursuit of enhanced fuel efficiency, reduced emissions, and improved performance has fueled the demand for materials that are not only strong but also lightweight. The paper delves into the materials science and engineering aspects of this field, examining various categories of advanced materials, including composites, alloys, and nanostructured materials. It discusses the key properties that make these materials desirable for automotive and aerospace applications, such as high strength-to-weight ratios, durability, and resistance to fatigue. The paper also investigates the manufacturing processes involved in producing these materials, emphasizing innovative techniques like additive manufacturing and advanced forming methods. Moreover, it assesses the environmental impact and sustainability considerations associated with the production and use of these materials in the automotive and aerospace industries. The research paper concludes by outlining the potential future developments in the field, including emerging materials and manufacturing technologies that could further revolutionize the design and production of lightweight and high-strength structures for automotive and aerospace applications.
Keywords: Lightweight materials, High-strength materials, Automotive structures, Aerospace structures, Advanced materials

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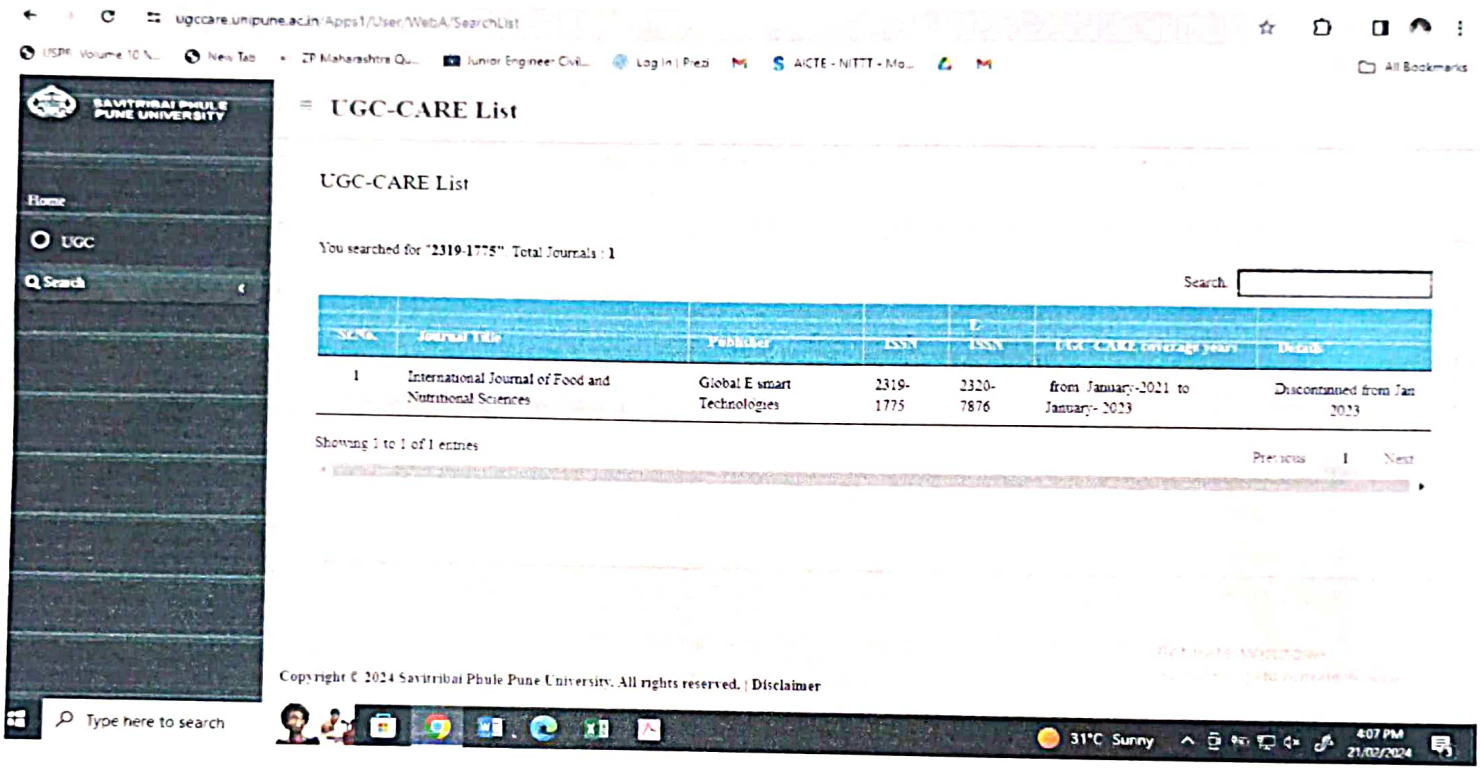
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Development in block chain technology and its applications in Health care learning system

1. **Bhakti Bhatti**
bhakti.bhatti334@gmail.com
SCSCOE, Pune
2. **Priyanka Kedge**
Id-piyakedage@gmail.com
SCSCOE, Pune
3. **Sayli Dighe**
sonawanesayali38@gmail.com
SCSCOE, Pune
4. **Priyanka Varpe**
priyankagire2004@gmail.com
SCSCOE, Pune

Abstract

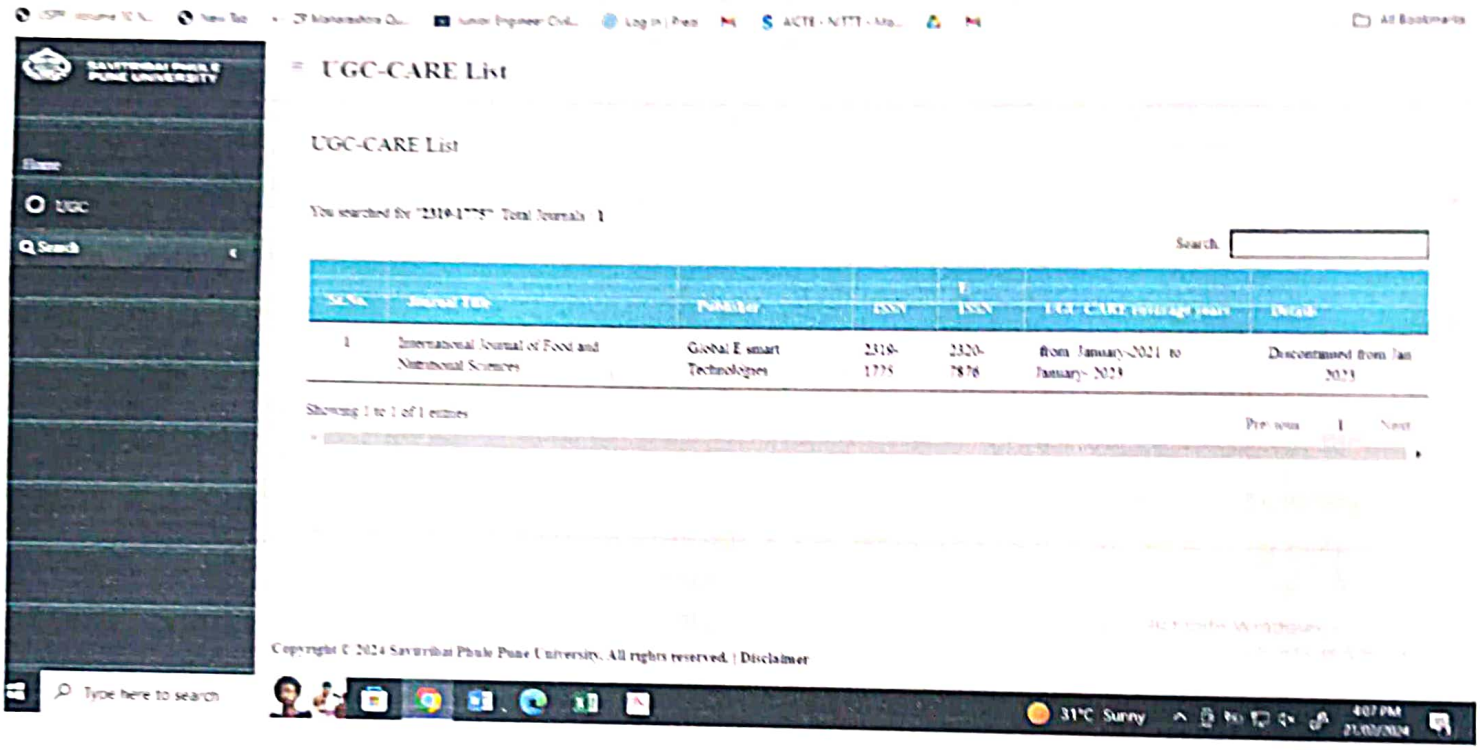
Blockchain technology has emerged as a transformative force, disrupting traditional industries by providing secure, transparent, and decentralized solutions. In recent years, its application in the healthcare sector has gained momentum, offering innovative solutions to address challenges in data security, interoperability, and trust. This paper explores the latest developments in blockchain technology and its promising applications in healthcare learning systems.

The evolution of blockchain technology has seen the introduction of advanced consensus algorithms, smart contracts, and decentralized storage mechanisms. These features contribute to enhanced security, immutability, and transparency of data, making blockchain an ideal candidate for addressing the complex and sensitive nature of healthcare data. In the context of healthcare learning systems, blockchain facilitates the creation of secure and interoperable platforms for storing and exchanging educational content, certifications, and training records.

Keywords: Blockchain, Health Information Management, Electronic Health Records, Credential Verification, Decentralized Learning, Smart Contracts, Healthcare, Education, Data Security, Interoperability.

1.introduction

Blockchain technology has emerged as a transformative force across various industries, revolutionizing the way data is stored, managed, and secured. Originally developed as the underlying technology for cryptocurrencies like Bitcoin, blockchain has evolved beyond its financial origins and found applications in diverse fields. One sector that stands to benefit significantly from the integration of blockchain technology is healthcare, where the need for secure, transparent, and interoperable systems is paramount.



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Development in machine learning and deep learning techniques for natural language processing in Health care learning system

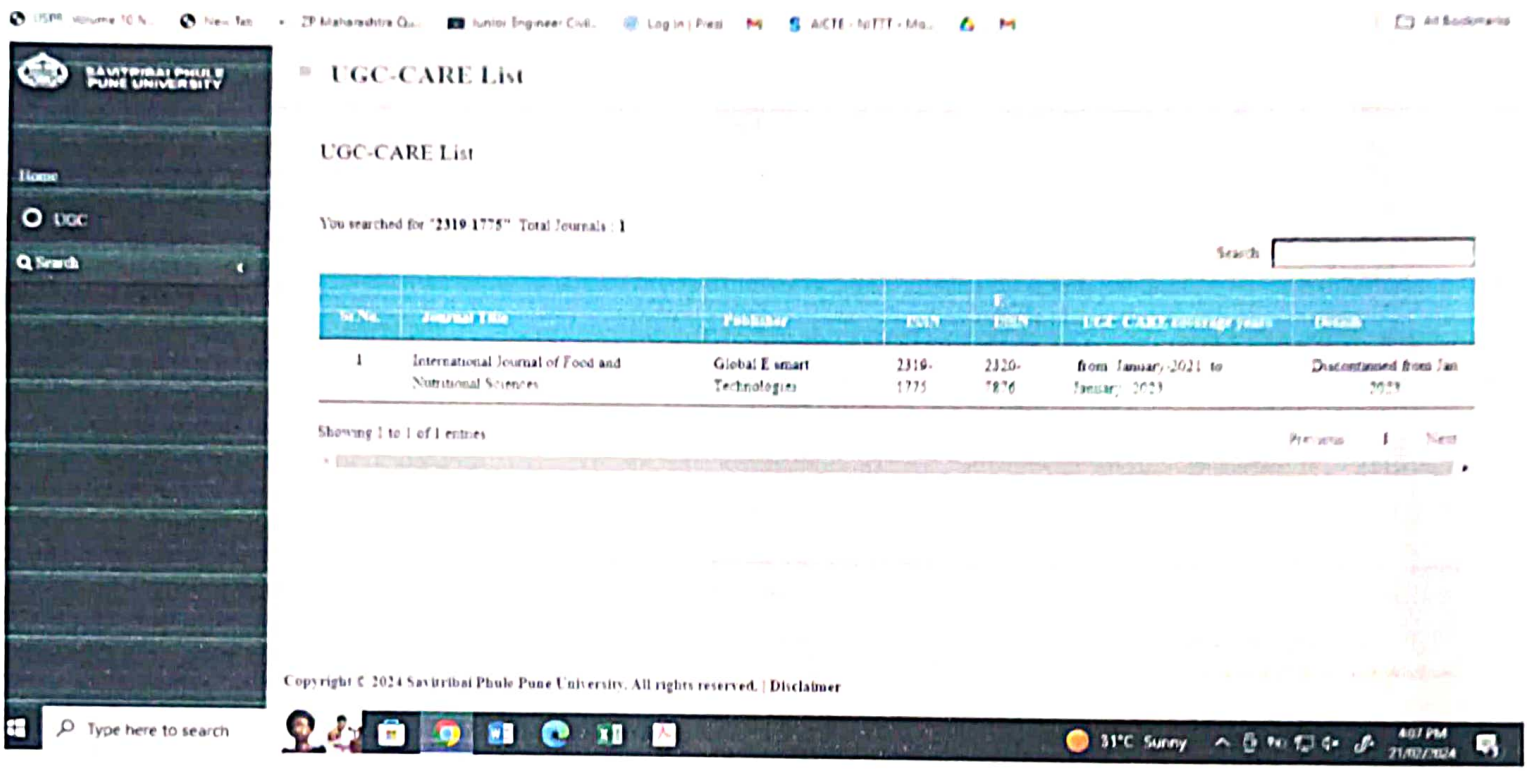
1. **Komal Khamkar**
kkskhamkar@gmail.com
SCSCOE, Pune
2. **Bhagwan Thorat**
bhagwan.thorat@gmail.com
SCSCOE, Pune
3. **Pradnya Shinde**
pradnya2206@gmail.com
SCSCOE, Pune
4. **Nagnath Dolare**
prof.nagnathdolare@gmail.com
SCSCOE, Pune

Abstract:
The integration of machine learning and deep learning techniques has significantly advanced natural language processing (NLP) capabilities in healthcare learning systems. This paper explores recent developments in the application of these technologies to enhance the efficiency and effectiveness of healthcare-related language tasks. The utilization of machine learning algorithms, such as support vector machines, random forests, and neural networks, has proven invaluable in extracting meaningful insights from unstructured healthcare data. Deep learning models, particularly recurrent neural networks (RNNs) and transformers, have demonstrated exceptional performance in handling sequential and contextual information inherent in medical texts.

Keywords: Machine Learning, Deep Learning, Natural Language Processing, Healthcare, Clinical Text Analysis, Sentiment Analysis, Diagnostic Accuracy, Clinical Decision Support, Healthcare Learning Systems.

1.introduction

In recent years, the convergence of machine learning (ML) and deep learning (DL) technologies has ushered in transformative possibilities for natural language processing (NLP) within the realm of healthcare learning systems. The ever-expanding volume of health-related data, including electronic health records (EHRs), clinical notes, and patient narratives, has prompted a paradigm shift in how we harness and analyze this information. This paper delves into the dynamic landscape of ML and DL techniques tailored for NLP applications in healthcare, illuminating the strides made in advancing diagnostic capabilities, patient care, and overall healthcare system efficiency.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 UGC CARE Listed Group-I Journal Volume 11, Iss 12, 2022

Design and operation of efficient, sustainable and intelligent transportation systems including connected and automated vehicles and alternative fuel vehicles

1. Geetanjali Yadav
ygeetanjali21@gmail.com
SCSCOE, Pune
2. Kaustubh Juare
kaustubhjuare1@gmail.com
SCSCOE, Pune
3. Niklesh Kank
nikleshkank@gmail.com
SCSCOE, Pune
4. Shital Salunkhe
shitalpsalunkhe@gmail.com
SCSCOE, Pune

Abstract

the evolving landscape of transportation systems, focusing on the design and operation of efficient, sustainable, and intelligent frameworks. The integration of connected and automated vehicles (CAVs) and alternative fuel vehicles (AFVs) plays a pivotal role in achieving these objectives. The paper reviews current advancements, challenges, and opportunities in the field, emphasizing the synergy between these technologies to enhance overall system performance. Key aspects include the impact of CAVs on traffic management, safety, and energy efficiency, as well as the role of AFVs in reducing environmental footprints. The paper also examines the integration of intelligent transportation systems (ITS) for seamless communication and data exchange. Through a comprehensive review of existing literature, case studies, and emerging technologies, this research paper aims to provide insights into the transformative potential of connected and automated vehicles and alternative fuel technologies in reshaping the future of transportation systems.

Keywords: Connected and Automated Vehicles, Alternative Fuel Vehicles, Intelligent Transportation Systems, Sustainable Transportation, Traffic Management, Energy Efficiency, Environmental Impact, Transportation Technology, Smart Mobility.

1.Introduction

In the face of burgeoning urbanization, rising environmental concerns, and the continual advancement of technology, the design and operation of transportation systems have become critical focal points for ensuring efficient, sustainable, and intelligent mobility. The paradigm shift towards a future of interconnected and automated vehicles, coupled with the integration of alternative fuel sources, marks a transformative era in transportation.

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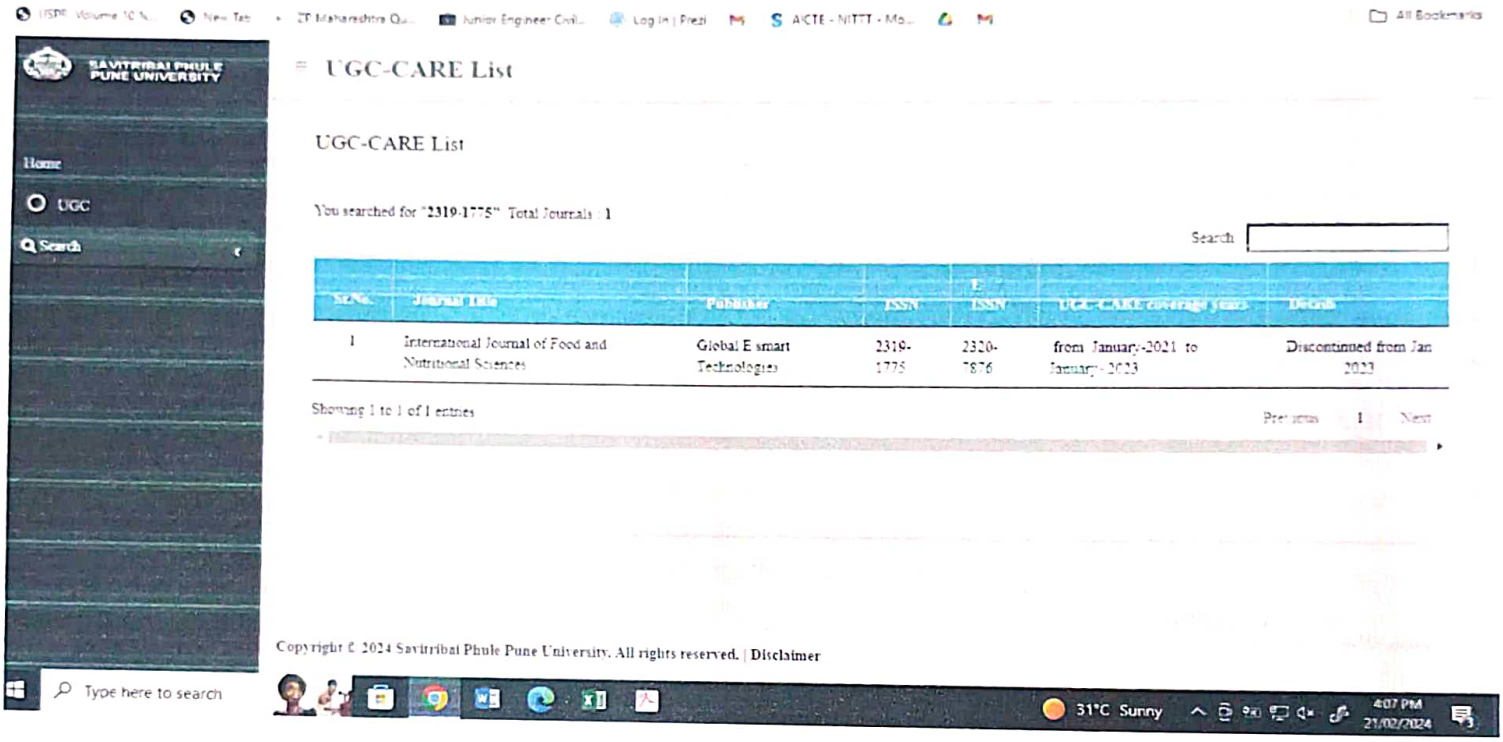
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ISSN PRINT 2319 1775 Online 2320 7876

 UGC CARE Listed (Group -I) Journal Volume 11, Iss 12, 2022

New Materials and technologies for Civil Engineering applications such as nanomaterials, self-heating concrete and high-performance steel

1. **Prof. Prajwal Gaikwad**
prajwalgaikwad707@gmail.com
SCSCOE, Pune
2. **Rucha Divekar**
ruchadivekar@gmail.com
SCSCOE, Pune
3. **Poonam Gaikwad**
poonamgaikwad@gmail.com
SCSCOE, Pune
4. **Sushama Jadhav**
jadhav.sush29@gmail.com
SCSCOE, Pune

Abstract

The latest innovations in materials and technologies reshaping the landscape of civil engineering. Three key advancements are explored: nanomaterials, self-heating concrete, and high-performance steel. Nanomaterials, with their unique properties at the atomic and molecular levels, are revolutionizing construction materials by enhancing strength, durability, and sustainability. Self-heating concrete, incorporating innovative heat-generating elements, addresses challenges related to cold weather construction, providing a cost-effective and efficient solution. High-performance steel, engineered with superior strength and corrosion resistance, contributes to the development of resilient and long-lasting structures.

Keywords: Civil Engineering, Nanomaterials, Self-Heating Concrete, High-Performance Steel, Construction Materials, Sustainability, Durability, Cold Weather Construction, Resilient Structures.

1.Introduction

The field of Civil Engineering is undergoing a transformative evolution, driven by the relentless pursuit of innovative materials and technologies to address the ever-growing demands for sustainable, durable, and efficient infrastructure. This introduction provides a glimpse into three cutting-edge advancements that are poised to redefine the parameters of construction: nanomaterials, self-heating concrete, and high-performance steel.

In recent years, nanomaterials have emerged as a game-changer in the realm of construction materials. At the nanoscale, these materials exhibit extraordinary properties that go beyond the