Sr. No.	Title of the book/chapters/Paper published	Year of publication	Page Number
1	Book Title: ICT as Driver of Women's Social and Economic Empowerment (Chapter Name: Women Empowerment Through Technology in India)	2023	4
2	Triangular TLP: An Optimized Offshore Structure	2023	7
3	Mobile Ad hoc Network – A Reliable Power Routing Scheme for Mobile Ad hoc Network	2023	11
4	Analysis of Vortex Tube	2023	12
5	Modern VLSI Fundamentals & Design	2023	13
6	Engineering Chemistry	2023	15
7	Importance of Phasor Measurement Unit in Mordern Power System	2023	19
8	Enhancing Capabilities of Wireless Transmission for Electric Vehicles	2022	23
9	Wireless Charging in a Dynamic Environment for Electric Vehicles	2022	27
10	Fruit Defect Inspection System Using Image Processing and IoT Framework	2023	30
11	Real-Time Electricity Bill Management System Using IoT	2023	33
12	Smart IOT Based Pothole Detection and Filling System	2023	36
13	Book Title: Waste Recovery and Management An Approach Toward Sustainable Development Goals (Chapter Title: E-waste Management Strategies and its Opportunities: Toxic but Beneficial)	2023	39
14	DAKSHA: A Smart Learning Platform for DBATU	2023	40
15	AI -Based mock interview evaluator: An emotion and confidence classifier model	2023	41
16	Easy Job Eligibility Checking System Using Machine Learning	2023	44
17	Diabetes Disease Prediction Using KNN	2023	47
18	E-Safe: An E-waste Management and Awareness Application using YOLO Object Detection	2023	50
19	Digital Circuits and Design	2022	51
20	Microprocessor and Microcontroller	2022	53
21	Deep Insights into the Self-compacting Concrete with Hybrid Fibres	2021	55
22	Book Title: Recent Advances in Mechanical Infrastructure (Chapter Title: Performance Analysis of Desiccant Material Prepared by Simple Mixing of Silica Gel and Calcium Chloride)	2022	59
23	Book Title: Recent Advances in Materials and Manufacturing Technology (Chapter Title: Monolithic Integration of Cu(In,Ga)Se2 Thin Film Solar Modules by all Nanosecond Laser Scribing)	2022	63
24	Book Title: Pandemic Detection and Analysis Through Smart Computing Technologies (Chapter Title: Wi-Fi Based Proximity Social Distancing Alert to Fight Against COVID-19)	2022	67
25	Book Title: Healthcare Monitoring and Data Analysis using IoT: Technologies and application (Chapter Title: M-health: a revolution due to technology in healthcare sector)	2022	68
26	The Current State of the Art for PV Grid Connected System Issues with Power Quality	2022	69

Sr. No.	Title of the book/chapters/Paper published	Year of publication	Page Number
27	Comparative analysis of power quality issues in grid inte-grated wind energy system	2022	**72**
28	An Overview on High voltage direct current Transmission Projects in India	2021	**75**
29	Biomass Energy For Rural India: A Sustainable Source	2021	**78**
30	Stability Analysis of Wind Integrated 14 Bus System	2021	**81**
31	Effective Integration of Distributed Generation System in Smart Grid	2021	**85**
32	New Approach for Online Examination Conduction System Using Smart Contract	2021	**87**
33	Estimation of failure sustainability factor in today's youth: An experimental analysis	2020	**90**
34	Book Title: Lecture Notes in Electrical Engineering book series of springer nature (Chapter Title: Mathematical modelling of STATCOM for reactive power compensation in power systems & approach to the Renewable energy)	2020	**91**
35	Book Title: Intelligent Communication Technologies and Virtual Mobile Networks (Chapter Title: RTMDC for effective cloud data security)	2020	**92**
36	Smooth Medicare Services Using Machine Learning Techniques	2020	**93**
37	Cloud Computing In Ehealth	2020	**96**
38	Convergence Of Machine Learning And Blockchain For Securing Future Of Internet Of Things	2020	**99**
39	Credit Card Fraud Detection Using Machine Learning Algorithm	2020	**102**
40	Review On: Applications Of Augmented Reality	2020	**105**
41	Role Of Fog Computing In Iot Based Applications	2020	**108**
42	E-Voting System Using Blockchain	2020	**111**
43	Voice And Text Based Natural Language Query Processing	2020	**114**
44	COVIBOT: An efficient AI-based Chatbot with Voice Assistance and Multilingualism for COVID-19.	2020	**117**
45	URJA ANALYSIS: Energy Consumption Prediction using Big Data Analysis and Machine Learning	2020	**120**
46	Zero Hunger	2020	**123**
47	Automatic Car InsuranceUsing ML	2020	**126**
48	Enhanced Machine Learning Approach to Predict Movie Success	2020	**129**
49	RFID and Face Recognition Verified Temperature Monitoring Contactless Attendance System	2020	**132**
50	Analytic and Reporting System for ASHA Workers in India	2020	**135**
51	Book Title: Contemporary Research In Management Volume 2(Chapter Name: Effect of COVID-19 on construction and Engineering Sector)	2020	**138**
52	Book Title : National Education Policy 2020: Vision for India's future Education (Chapter Name: Instructional Methods and Strategies)	2020	**139**
53	Digital and Online Education System in India	2020	**140**
54	“Green Roofs: A Review of Performance and Limitations	2021	**142**
55	Decentralized solid waste management for educational-cum-residential campus: A pilot study	2020	**146**
56	Analysis & control of Wind Power plant	2020	**150**
57	Application of IOT in Power System	2020	**153**
58	Design and construction of Green Highway in India considering the Sustainable Development	2020	**156**
59	Engineering Geology : Theory and Concepts	2020	**157**

Sr. No.	Title of the book/chapters/Paper published	Year of publication	Page Number
60	Book Title: Smart Technologies for Energy, Environment and Sustainable Development, Part of the Lecture Notes on Multidisciplinary Industrial Engineering book series (Chapter Title: Development of Finned Tube Type Adsorber Bed for Adsorption Cooling System)	2019	**158**
61	Promoting Entrepreneurial Traits through the Development of skills	2019	**162**
62	Noise Analysis of RTD to study Degradation for Preventive Maintenance	2019	**164**

Sr. No.	Particulars	Total No. of papers published	Page Number
1	Cover page of the conference proceedings for Civil Engineering Department	208	**169**
2	Cover page of the conference proceedings for Mechanical Engineering Department	224	**170**
3	Cover page of the conference proceedings for Computer Engineering & IT Department	469	**171**
4	Cover page of the conference proceedings for Electrical Engineering Department	126	**172**
	Total Papers Published in inhouse conferences	**1027**	

Papers published outside institute conferences	**62**
Total Papers Published in inhouse conferences	**1027**
Total Papers Published in conferences	**1089**

Premier Reference Source

ICT as a Driver of Women's Social and Economic Empowerment

Pankaj Dhaundiyal and Sana Moid

IGI Global
PUBLISHER of TIMELY KNOWLEDGE

Chapter 14
Women Empowerment Through Technology in India

Darshankumar Patel
Shri Vile Parle Kelvani Mandal's Institute of Technology, India

ABSTRACT

The goal of this chapter is to evaluate the relation between women's empowerment and technological capabilities, since innovation had already transformed the way people think, perceive, interact, as well as work in diverse workplace environments. Innovation has indeed influenced global modifications, and it is especially seen as a major opportunity for women. Technological advances have the potential to expand economic advantages, and computer technologies to facilitate trade and connect directly to national and international markets to growth throughout. Also in terms of gender equity, it has now become legitimate in recent years to continue providing safeguards at working places in addition to those other necessary amenities. Technology, as an important tool, now appears to be playing an important role in women's advancement and provides an opportunity for their own empowerment throughout this post-modern era. This chapter intends to identify the factors that influence women's participation in technology and address issues related to it.

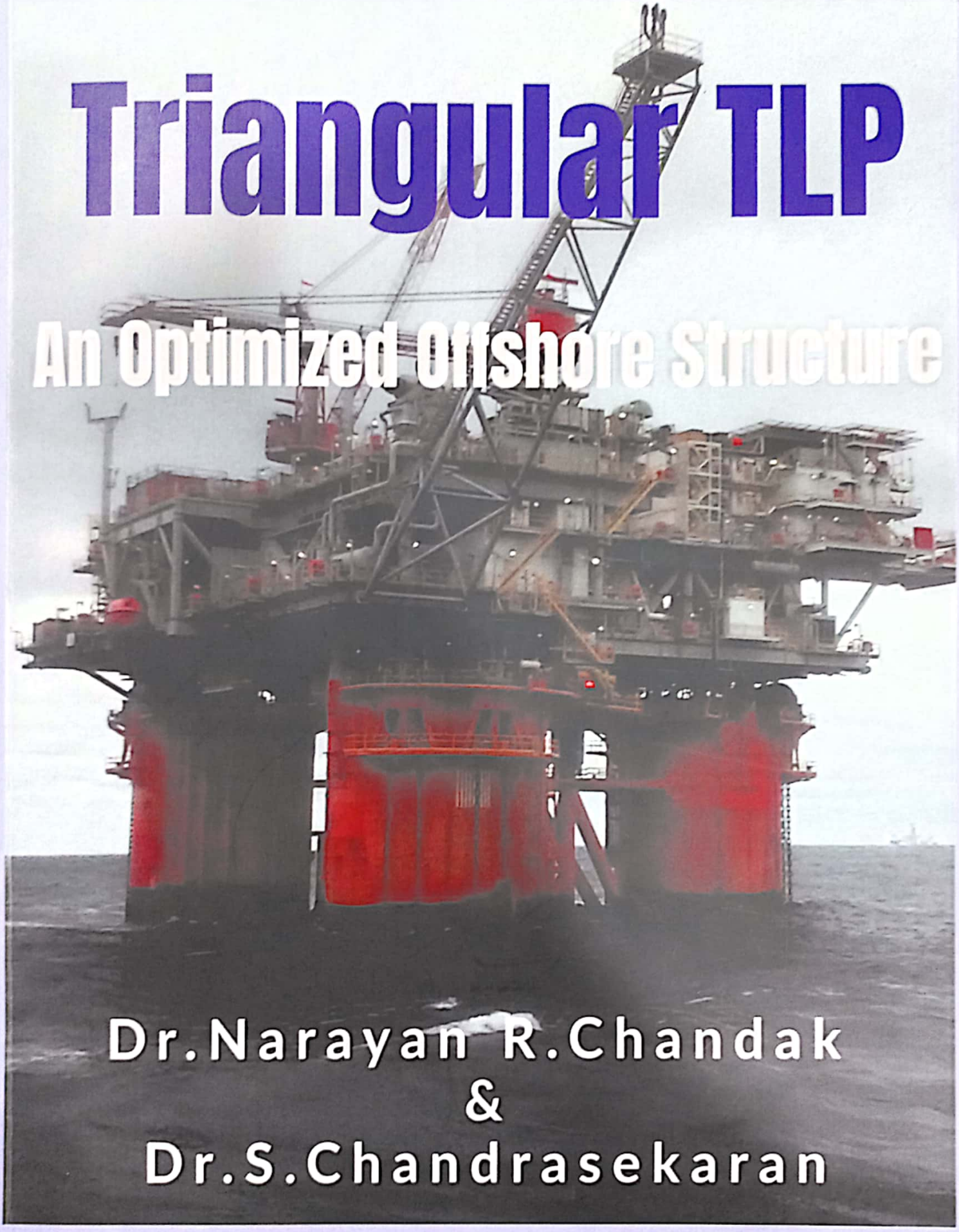
INTRODUCTION

ICTs have the possibilities to enhance exchange of information and empower current societal marginalized people. In responding to use of social equality and women's rights in the 1970s, the term "women's empowerment" was popularized. As the term got popular inside the 1990s, this was increasingly sometimes used explain oppressed women who lacked the choice and freedom as well as intervention to

DOI: 10.4018/978-1-6684-6118-1.ch014

Triangular TLP

An Optimized Offshore Structure



Dr.Narayan R.Chandak
&
Dr.S.Chandrasekaran

Triangular TLP

An Optimized Offshore Structure

Dr. Narayan R. Chandak

Professor

Department of Civil Engineering, SVKMs Institute of Technology, Dhule

&

Dr. S. Chandrasekaran

Professor

Department of Ocean Engineering, Indian Institute of Technology, Chennai

Made with ❤ on the Notion Press Platform

www.notionpress.com

ABOUT BOOK

The author tried to presnt the original research work conducted on triangular Tesnsion Leg Platform. It's basically used to explore oil & gas from sea bed. There are 6 chapters explainging the need and methods used to analyse the structure subjected to seviour weather conditions at a time (Waves, Wind, Earthquake). It will be surely provide a good reference source to the students and researchers in the field of civil/structural/Ocean engineering.

AUTHOR BIO:

Dr. Narayan is working as a Professor with SVKMs Institute of Technology, Dhule, M.S. Ph.D from IIT, BHU Varanasi. He has 17 years of teaching and research experience. He is the author of the book titled 'Design of Steel Structures- LSM' and 'Surveying'. Recipient of Senior Research Fellowship by CSIR, New Delhi.

Dr.Chandrasekaran is presently working as a Professor at Ocean Eng. Dept. IIT Chennai. He has 25 years of teaching & research experience. He is a author of sevral books and research papers. His area of reserach is non-linear dynamics of offshore structures.

Price Rs 400.00
979-889002807-5
9 798890 028075

Shri Vile Parle Kelavani Mandal's

Institute of Technology, Dhule

Approved by AICTE & Affiliated to DBATU

Title of the Book	Mobile Ad hoc Network – A Reliable Power Routing Scheme for Mobile Ad hoc Network
Name of Author	**Dr. Makarand Shahade**
Name of Publisher	Notion Press
Link for the published Book	https://notionpress.com/read/mobile-ad-hoc-network

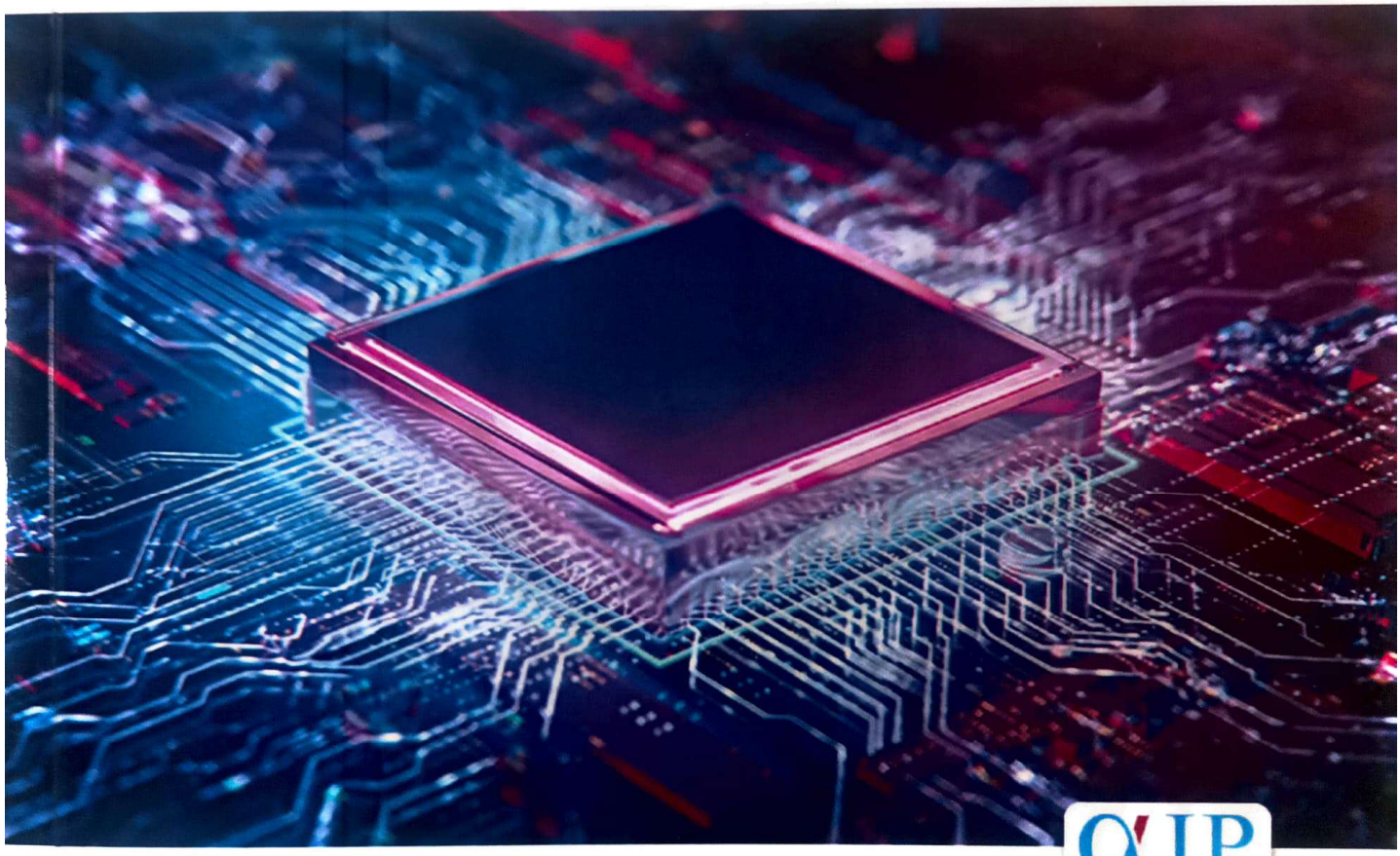
Shri Vile Parle Kelavani Mandal's

Institute of Technology, Dhule

Approved by AICTE & Affiliated to DBATU

Title of the Book	Analysis of Vortex Tube
Name of Author	**Dr. Hitesh Thakare**
Name of Publisher	Notion Press
Link for the published Book	https://notionpress.com/read/analysis-of-vortex-tube

MODERN VLSI FUNDAMENTALS & DESIGN



Dr. VISHAL MOYAL

Dr. D.V. MANJUNATHA

Dr. ANURAG SHRIVASTAVA

Title of the Book: **Modern VLSI Fundamentals & Design**

Edition: First - 2023

Disclaimer

The authors are solely responsible for the contents published in this text book. The publishers or editors do not take any responsibility for the same in any manner. Errors, if any, are purely unintentional and readers are requested to communicate such errors to the editors or publishers to avoid discrepancies in future.

ISBN : 978-93-5762-113-7

MRP: Rs. 600/-

PUBLISHER & PRINTER: Alpha International Publication (AIP),
3/725/2, Kammangudi, Adichapuram,
Thiruvarur District, Tamilnadu- 614717, INDIA

Email: editoraippublications@gmail.com

Website: www.alphainternationalpublication.com

AUTHORS BIOGRAPHY

Dr. Sonali. S. Chine

Dr. Sonali. S. Chine [M.Sc., Ph.D., B.Ed.]Assistant Professor, Department of Engineering Science and Humanities, SRES, Sanjivani College of Engineering Kopargaon, District. Ahmednagar, Maharashtra. She has a total of 14 years of teaching experience. She has published 30 research articles in Scopus, Web of Science, UGC care listed and peer reviewed journals. She has attended and presented research articles in the various State, National and International level Conferences, Symposiums, Workshops etc. She has received Best Outstanding Researcher National Award by KIER ,Tamil Nadu in December 2020.Her research thrust area is in Green Chemistry, organic chemistry, Nanotechnology and medicinal chemistry.

Dr. Manoj R. Sonawane

Dr. Manoj R. Sonawane [M.Sc., Ph.D., Post Doctorate] Assistant Professor, Department of Applied Science and Humanities, SVKM's Institute of Technology, Dhule, Maharashtra. He has a total of 8 years of teaching experience. He has published 10 research articles in National and International level. He is member of CCN organization. His research thrust area is in Organic and Medicinal chemistry as well as Green Chemistry.

It gives immense pleasure to present the book "Engineering Chemistry" to the students of first year degree course in Engineering.

We hope that this book will be useful for the students studying in first year degree courses in engineering and polytechnic too.

This book embodies six chapters which are of basic importance in the curriculum of engineering students. This book is written solely with a conviction to serve the academic and professional requirements of the students of all branches.

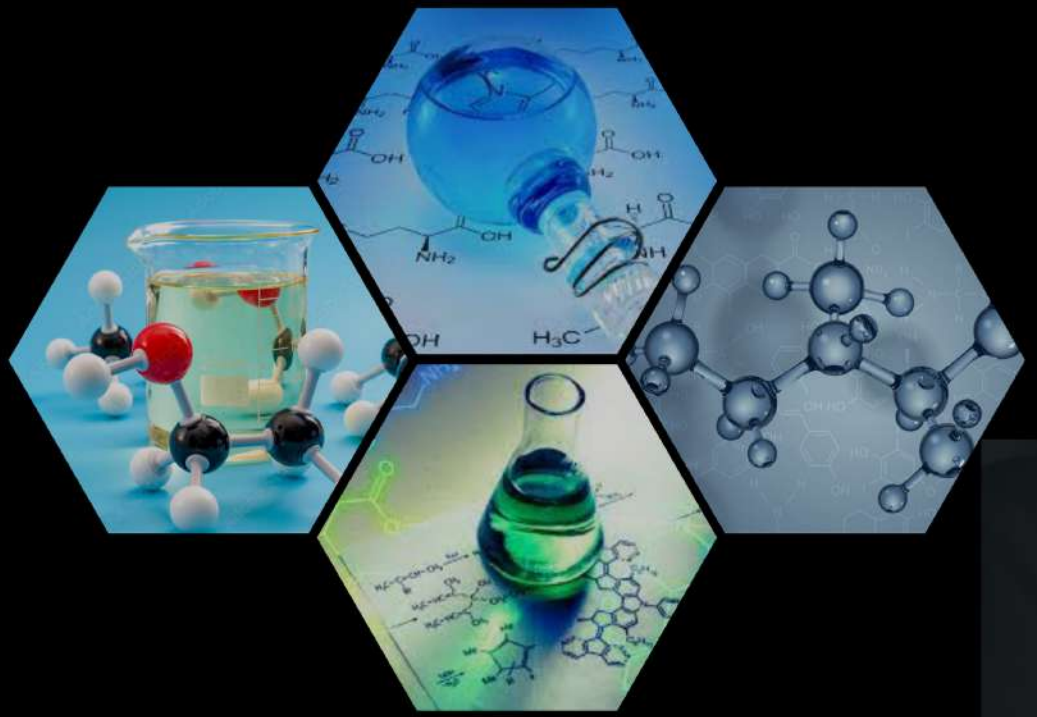
amazon.com

9 789358 503371

Rs 749-/

ENGINEERING CHEMISTRY

ENGINEERING CHEMISTRY



Dr. Sonali. S. Chine

Dr. Manoj R. Sonawane

ENGINEERING CHEMISTRY

Dr. Sonali. S. Chine

Dr. Manoj R. Sonawane

PUBLISHED BY JEC PUBLICATION

ISBN: 978-93-5850-337-1
Price: Rs. 749.00

Printed in India

ABOUT AUTHOR

Dr. Sonali. S. Chine
[M.Sc., Ph.D., B.Ed.]

Dr. Sonali. S. Chine [M.Sc., Ph.D., B.Ed.]Assistant Professor, Department of Engineering Science and Humanities, SRES, Sanjivani College of Engineering Kopargaon, District. Ahmednagar, Maharashtra. She has a total of 14 years of teaching experience. She has published 30 research articles in Scopus, Web of Science, UGC care listed and peer reviewed journals. She has attended and presented research articles in the various State, National and International level Conferences, Symposiums, Workshops etc. She has received Best Outstanding Researcher National Award by KIER ,Tamil Nadu in December 2020.Her research thrust area is in Green Chemistry, organic chemistry, Nanotechnology, and medicinal chemistry.

Dr. Manoj R. Sonawane
[M.Sc., Ph.D., Post Doctorate]

Dr. Manoj R. Sonawane [M.Sc., Ph.D., Post Doctorate] Assistant Professor, Department of Applied Science and Humanities, SVKM's Institute of Technology, Dhule, Maharashtra. He has a total of 8 years of teaching experience. He has published 10 research articles in National and International level. He is member of CCN organization. His research thrust area is in Organic and Medicinal chemistry as well as Green Chemistry.

****

ICSSIT

PROCEEDINGS

5th International Conference on Smart Systems and Inventive Technology (ICSSIT 2023)

23-25, January 2023

IEEE

Organized by

FRANCIS XAVIER ENGINEERING COLLEGE
AN AUTONOMOUS INSTITUTION
Approved by AICTE & Affiliated to Anna University

Francis Xavier Engineering College
Tirunelveli, India

ICSSIT

PROCEEDINGS

5th International Conference on Smart Systems and Inventive Technology (ICSSIT 2023)

23-25, January 2023

IEEE

Organized by

FRANCIS XAVIER ENGINEERING COLLEGE
AN AUTONOMOUS INSTITUTION
Approved by AICTE & Affiliated to Anna University

Francis Xavier Engineering College
Tirunelveli, India

5th International Conference on Smart Systems and Inventive Technology ICSSIT 2023

23-25, January 2023

Table of Contents

Proceedings of the 5th International Conference on Smart Systems and Inventive Technology (ICSSIT 2023)
IEEE Xplore Part Number: CFP23P17-ART; ISBN: 978-1-6654-7467-2

2023 5th International Conference on Smart Systems and Inventive Technology (ICSSIT) | 978-1-6654-7467-2/23/$31.00 ©2023 IEEE | DOI: 10.1109/ICSSIT55814.2023.10060942

Importance of Phasor Measurement Unit in Modern Power System

Namra Joshi, Assistant Professor,
Department of Electrical Engineering,
SVKM's Institute of Technology,
Dhule, Maharashtra, India
er.nrjoshi@gmail.com

Dr. Achala Khandelwal, Assistant Professor,
Thakur College of Engineering & Technology,
Kandivali, Mumbai,
Maharashtra, India
achalakhandelwal@gmail.com

***Abstract*— Indian Power system is now emerging as a vast power system infrastructure. A competent power system infrastructure is needed for efficient and reliable operation. Smart Grid technology is at the deployment stage as far as the Indian scenario is concerned. PMU is a major component of the smart grid. This paper highlights the role of the Phasor Measurement Unit in the Modern Power System.**

Keywords*— *Phasor Measurement Unit, SCADA, Modern Power System

I. INTRODUCTION

India is an emerging nation in power sector growth. The electrical power generation capacity is also rising day by day to meet the demand of consumers. The GoI encourages the generation of power through renewable sources like Solar [1], Biomass, Wind, etc. In this era of industrialization. The power sector is needed to be strengthened, for this purpose, it is required to use conventional methods & modern methods for monitoring and controlling the power system. For efficient operation of the power system,[2] it is required to use a competent mechanism for monitoring changing parameters. In the modern power system, the role of new members like the smart grid, and distributed generation system is also increased, due to which it is needed to use effective devices like PMU.[3] The phasor measurement unit gives transit in the monitoring of voltage and frequency. They are also used in HVDC systems.[5]

As on 30.11.2021, the installed capacity is 392017.243 MW. The share of several generating sources is illustrated in fig. 1. The PMU is a new methodology for tracking the voltage, frequency, and variation.

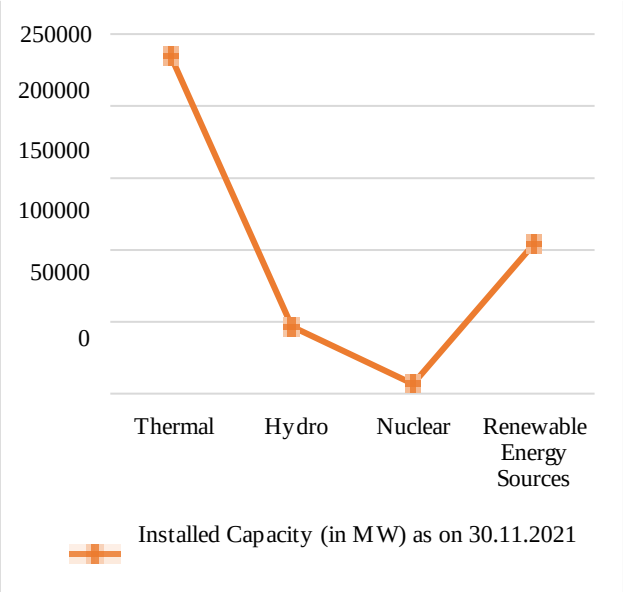


Fig. 1. Installed Capacity of India

II. PHASOR MESUREMENT UNITS

PMUs [4] are also an important component of the Wide Area Measurement system. Phasor measurement units are a very crucial element of the modern power system. As they give synchronized measurements with high accuracy and GPS signals. PMU is very useful in power system state estimation. The PMUs [6] are placed in substations and it gives data that is monitored for concerned feeders & buses. The following are major elements of the Phasor Measurement Unit:

- GPS Receiver
- Phase-Locked Oscillator
- Anti-Aliasing Filters
- A/D Converter
- Phasor Microprocessor
- Modems

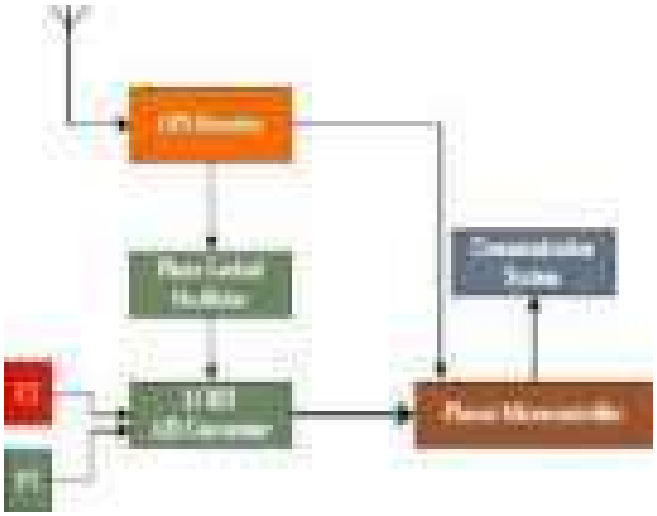


Fig. 2. Key Components of PMU's

III. PMU COMMUNICATION INFRASTRUCTURE

In a wide area measuring system, PMUs are one of the key components. They are placed at various key locations and are connected with PDC i.e. Phasor Data Concentrator. They do monitoring and provide visualization of gathered data, and archived data and also do analytic functions as and when required. [7] We can also control the system through the same with the help of collected data and visualizations as illustrated in fig.3.

IEEE Global Energy Conference (GEC2022)

October 26-29, 2022

Batman University, Batman, Turkey

Sponsored by Batman University and Batman Energy Coordination Center (EKOM)
Technically Co-sponsored by IEEE, IEEE Turkey Section, IEEE PES and IEEE PELS

IEEE Catalog Number

Media Type Requested	Part Number	ISBN	Media Qty Requested
XPLORE COMPLIANT	CFP22BX8-ART	978-1-6654-9751-0	1

Enhancing Capabilities of Wireless Transmission for Electric Vehicle

Sandeep Ushkewar
Department of Electrical Engineering
SVKM's Institute of Technology,Dhule
Maharashtra,India
sandeepushkewar1@gmail.com

Nilesh Ahire
Department of Electrical Engineering
Indian Institute of Technology,Bombay
Maharashtra,India
ahire.nilesh248@gmail.com

Gaurav Patil
Department of Electrical Engineering
SVKM's Institute of Technology,Dhule
Maharashtra,India
gauravpatilee@gmail.com

Abstract— **Era of electric vehicles has begun, now it is time to focus on enhancing the present technologies and to improve efficiency of current system being used. The paper introduced wireless power transmission technique using resonance inductive coupling method for charging electric vehicles, also using same for charging vehicle in dynamic condition. We have also mentioned factors affecting efficiency of wireless power transmission and ways to overcome such problems. As the system is helpful to transmit power wirelessly it will help the user to charge EV (electric vehicle) in easiest way without use of wires, also to improve charging efficiency with reduced charging time and losses. Better charging efficiency and simplifying process of charging is the main objective behind this project. The Changes in resonant frequency due to change in values of circuit components are studied with the help of some calculations and increased frequency has a direct relation with power transfer between the coils and indirect relation with efficiency of the magnetic resonance coupling wireless power transmission system can be concluded.**

Keywords—Electric Vehicle, Wireless Power Transfer, Resonance inductive Coupling, Dynamic Charging

I. INTRODUCTION

The global market of EV demanding for more reliable and convenient ways to charge the battery, also eliminating all the factors affecting efficiency of charging system is to be considered WPT (wireless power transmission) is a technique through which we can charge EV wirelessly so that we can overcome inconvenience caused by traditional charging method [6]. The initial objective is to use WPT technique by replacing conductive charging method and improving efficiency by eliminating all the major and minor factors that can affect charging of vehicle the long term goal is to reduce the battery pack and overall weight of vehicle by using more efficient ways to charge the vehicle. Battery is heart of electric vehicles if we try to increase range of vehicle by increasing battery pack it will take more space and also increase weight which may lead to certain complication like poor heat management, increased weight, reduced power of vehicle and performance of overall system so wireless charging in static and dynamic condition can help to reduce these problems [7]. Charging of EV with the help of wires can be a problem for user as one has to charge his EV at the end of the day occasionally user can forget to charge the EV which can lead to major inconvenience as it takes several hours to charge the EV, so to eliminate such problems wireless charging can help.

When user will park the vehicle in his parking slot where charging pad has installed, infrared sensors will sense the vehicle and charging will start automatically [8].
We can implement same system for charging of transport service vehicles which take fixed stops after certain distance, by implementing our system at such stops where vehicles will get charged on their way. Due to such kind of arrangement vehicles will be getting charged instantaneously so need of large battery packs can be eliminated by changing our way to charge vehicles [1].

There are various techniques of wireless power transmission having their own advantages and disadvantages but resonance inductive coupling is best suitable for electric vehicle charging [9]. First is comparison of power, energy and efficiency with different mode of transfer like Magnetic induction coupling, Magnetic Resonance Coupling, Laser microwave type power transfer, Radio wave type power transfer and capacitive type power transfer as shown in Fig.1

Fig.1 Comparison of power with different mode of transfer for wireless power transfer technologies.

2022 Global Energy Conference (GEC) | 978-1-6654-9751-0/22/$31.00 ©2022 IEEE | DOI: 10.1109/GEC55014.2022.9986616

IEEE BOMBAY SECTION

SVKM'S NMIMS Deemed to be UNIVERSITY

MUKESH PATEL SCHOOL OF TECHNOLOGY MANAGEMENT & ENGINEERING

IBSSC 2022

IEEE BOMBAY SECTION SIGNATURE CONFERENCE

December 8-10, 2022

2022 IEEE Bombay Section Signature Conference (IBSSC) | 978-1-6654-9291-1/22/$31.00 ©2022 IEEE | DOI: 10.1109/IBSSC56953.2022.10037504

Wireless Charging in a Dynamic Environment for Electric Vehicles

Sandeep Ushkewar
Department of Electrical Engineering
SVKM's Institute of Technology,Dhule
Maharashtra,India
sueedacademiccoordinator@gmail.com

Gaurav B. Patil
Department of Electrical Engineering
SVKM's Institute of Technology,Dhule
Maharashtra,India
gauravpatilee@gmail.com

Vishal Moyal
Department of Electrical Engineering
SVKM's Institute of Technology,Dhule
Maharashtra,India
vishalmoyal@gmail.com

Abstract— **Electrical vehicles require too much time to recharge their batteries, so to accommodate our busy schedule the conventional method of electric vehicle battery charging is replaced by "Dynamic Charging" The work presented involved the expansion of a novel type of wireless power transmission device to ensure high-efficiency battery charging stations for electric cars. A research project will look at the efficiency of traditional battery charging systems. In this paper, the finite element analysis is done by ANSYS simulation software. The static and dynamic modeling of the suggested wireless power transfer technique is the study's most important finding. A new model is created and describedthat takes into account both static and dynamic issues. This article will aid in the growth of future electric vehicle infrastructure.**

Keywords—Electric Vehicle, Wireless Power Transfer, Dynamic Wireless Charging System, Magnetic Resonance Coupling

I. INTRODUCTION

Because of the rising need for electricity, scientists have begun to look into alternative energy sources for power generation. In today's electricity grid, wind turbines and photovoltaic cells have progressively replaced coal, oil, and natural gas-based power generation. As a result, the means of mobility have moved from traditional gasoline cars to electric automobiles. Taking into account a variety of environmental concerns, the Indian government has chosen to have electric cars on Indian highways by 2030. The objective is for a minimum of 40% of buses and 80% of two-wheelers on the road to be electric by 2030. As the Indian government's Ministry of New and Renewable Energy announces numerous programs and subsidies for electric cars, the acceptance of electric cars (EVs) has increased dramatically. The primary issue with electric vehicles is battery charging. The problem is that electric cars require a simple and reliable charging system. Users are dissatisfied with the predictable recharging mechanism at home or in public places since a long recharge time is always required. Wireless car charging, with a few exceptions, is a better form of smartphone charging. An electric vehicle [EV] may be robotically charged via wireless inductive charging, which eliminates the need for cables or any other sort of wiring. Dynamic charging, also known as inductive charging of electric cars at high power levels, allows charging of electric vehicles while in a signal.

While moving down the highway, electric cars immediately charge the battery, reducing the battery's recharging time. A general wireless charging system with a simple, dense, low-cost circuit design that transports energy using induced magnetic flux formed between the power transmissions and receiving sides [1].

It is advised to adopt dynamic inductive power transmission technology. [2] Wireless charging was put to the test in a range of settings, including distance and alignment, and it was created to be 90 percent efficient. [3]. Source. Electric vehicles are becoming adopted quickly. economic and policy analysis. Electric vehicles (EVs) with dynamic charging have the potential to lessen anxiety while also reducing the necessary battery capacity for an acceptable range. The billing process is simple and fully automated. It does not need human intervention. It is small and compact when compared to a wired system. When compared to a standard wired system, the wireless scheme is more cost-effective. Because there is no touch, it takes up less space and may be placed below the surface. The electrical connections are hidden. It has the potential to lessen the danger of electrocution from electrical cables. In this study, the wireless recharging technique based on a moving vehicle was expanded upon and specified. Drivers respond favorably to the super-fast recharge station in terms of recharge time, but it is not always advised, particularly in terms of battery protection and durability.

II. METHODOLOGY

Generally, there are five main methods castoff for wireless charging of the electric vehicle.

[1] Magnetic induction
[2] Microwave
[3] Capacitive coupling
[4] Magnetic resonance coupling
[5] Magnetic Induction Coupling

Considering the advantages and limitations of each method stated above the Magnetic Resonance Coupling is selected for our software & future hardware model. As shown in Fig.1 Flux transfers from the main to the minor coil. The loops in the pavement use electricity to create a magnetic field.

2022 IEEE Bombay Section Signature Conference (IBSSC) | 978-1-6654-9291-1/22/$31.00 ©2022 IEEE | DOI: 10.1109/IBSSC56953.2022.10037388

5th IEEE International Conference on Emerging Smart Computing and Informatics (ESCI-2023)

Hybrid Conference- 1st –3rd March, 2023

Technically Co-Sponsored by

IEEE Pune Section

Sponsored by

Science and Engineering Research Board

SERB INDIA

Organized By

All India Shri Shivaji Memorial Society's Institute of Information Technology, Pune

AISSMS INSTITUTE OF INFORMATION TECHNOLOGY (IOIT)

ADDING VALUE TO ENGINEERING

An Autonomous Institute Affiliated to Savitribai Phule Pune University
Approved by AICTE, New Delhi and Recognised by Govt. of Maharashtra
Accredited by NAAC with "A+" Grade | NBA - 5 UG Programmes

Technical Oral Presentation Session 10: Internet of Things
Session Chair: Dr. Mukesh Ghobare I Dr. Milind Bongulwar
Session Coordinator: Mr. Sugat Pawar +918087685979 I Mrs.Mayura Shelake: +917722039352
Link : https://tinyurl.com/ESCI-2023-Day-2-Session-10 |Event Number: 2515 153 0942 | Event Password : esci2023
Time: 3.00 PM-5.00 PM

Sr. No.	Paper ID	Title
1	559	Real-Time Electricity Bill Management System Using IOT
2	560	Fruit Defect Inspection System Using Image Processing And IoT Framework
3	567	Patients' health analysis using machine learning
4	592	Water assessment using geospatial and data science tools
5	603	Integrated Environmental Monitoring and Disease Detection Using Internet of Things

Special Session 2
Session Chair: Dr. Shalli Rani I Dr. Preetinder Singh Brar
Session Coordinator: Mrs. Gayatri Mawale :+919764535258 | Ms.Bhagyashree Lambture: +918208863705
Link : https://tinyurl.com/ESCI-2023-SpecialSession-2 |Event number: 2518 502 1367 |Event password: esci2023
Time : 3.00 PM -5.00 PM

Sr. No.	Paper ID	Title
1	RT_18	Learning Aided Intelligent Mechanism for Channel Estimation in 5G Wireless Networks
2	RT_13	A Compact Asymmetric Coplanar Strip (ACS) Antenna for WLAN and Wi-Fi Applications
3	RT_15	A novel approach for extended network coverage in cell-free IoT
4	RT_03	Bibliometric Analysis on Security of Different Layers in Internet of Things (IoT) Environment
5	IS_08	Comparative Approach for early Diabetes detection with Machine Learning

2023 International Conference on Emerging Smart Computing and Informatics (ESCI)
AISSMS Institute of Information Technology, Pune, India. Mar 1-3, 2023

Fruit Defect Inspection System Using Image Processing and IoT Framework

Bhushan Chaudhari*
Department of Information Technology
SVKM's Institute Of Technology
Dhule, India
chaudharibs@gmail.com

Durwa Patil*
Department of Information Technology
SVKM's Institute Of Technology
Dhule, India
durwapatil2001@gmail.com

Hemant Patil
Department of Information Technology
SVKM's Institute Of Technology
Dhule, India
patilhemant2k@gmail.com

Rupal Patil
Department of Information Technology
SVKM's Institute Of Technology
Dhule, India
rupalpatil1617@gmail.com

Jui Gawali
Department of Information Technology
SVKM's Institute Of Technology
Dhule, India
juigawali30@gmail.com

2023 International Conference on Emerging Smart Computing and Informatics (ESCI) | 978-1-6654-7524-2/23/$31.00 ©2023 IEEE | DOI: 10.1109/ESCI56872.2023.10099913

***Abstract* — The consumption of fruits is in high demand due to their nutritional value. Most of the fruits available in the market are processed through chemical practices hampering their quality. Exposure to fruit preservatives and carbides enhances its life and ripens it faster. However, eating such fruit results in poor health and increases the probability of getting infected by various threatening diseases such as cancer, tuberculosis, etc. Organic farming is practiced in some areas of India to achieve fruit quality, but its inadequate to fulfill the demand. To overcome the issues mentioned, a model based on IoT is proposed in this research. A system to separate quality fruits from a basket is presented in this article. The classification will be done using a deep learning technology, Convolutional Neural Network (CNN) which uses a database consisting of pictures of three fruits particularly, apples, oranges, and bananas are used in the experiment. The input from the alcohol (MQ3) sensor and methane (MQ4) sensor are fed forward to node MCU. The input in turn is provided to Arduino UNO for comparison with preprocessed audit set. The inception V3 algorithm is used for classification purposes. This research proposes a cost-effective and near-to-accurate solution to issues in automated fruit quality identification.**

Keywords— Deep Learning (DL) Convolutional Neural Network (CNN), Inception V3, Internet of Things (IoT), Image Classification.

I. INTRODUCTION

Recent advancement in computer vision unlocks widespread new possibilities and implementations. The fruit sector has grown to be the third largest after grain and vegetables. Fruit classification is one of the issues brought on by the fruit industry's rapid development, along with clear economic benefits. Excess manpower is needed to sort and classify fruits according to their freshness, in retail and supermarkets. This process is time-consuming for performing operations as well as the expenditure on labor work is high. Therefore, to solve this issue, we require a monitored system that can minimize human efforts, production costs, and production time. The various flaws in the fruit's skin make it easier to identify the defects [3] in the fruits. To evaluate the quality of fruits, this research uses the technique of processing the image. The provided image is converted into a digital image, using an image processing approach to acquire the most useful information. These technologies not only replace human interference but also enhance the process of classification of fruits. It goes beyond human limitations in terms of assessing long-term processes that are invisible to human sight. Numerous studies have been performed that demonstrate the usage of Convolutional Neural Networks (CNN) [4] for various features. On the basis of earlier research, a system is proposed to identify the defects in the fruits. The proposed model determines whether the fruits are fresh or rotten with the help of the convolutional neural network (CNN). According to the applications of deep learning techniques in the domain of picture identification, CNN is identified as being among the standard deep learning frameworks [6] utilized for transfer learning. This model has a better representation of image categorization. Convolutional Neural Network has different structures expanded with upcoming technologies, particularly Inception - V3 is used. The inception family consists of the convolutional neural network (CNN). This makes various advancements in terms of both accuracy and computational competence. Hence, for the database of fresh and rotten fruits, Inception - V3 is an appropriate algorithm. Shape, color, edge recognition, methane and alcohol emission, and texture [12] are some of the factors that will be reviewed for classification purposes. Considering the industrial standards, this research contains cameras associated with the methane sensor and alcohol sensor to detect the deterioration in the quality of the fruit. In addition to this, data analysis would provide detailed knowledge about the fruits which would result in the influence on production.

II. LITERATURE REVIEW

This survey is done based on the study of various classification algorithms based on the past couple of years' algorithms with their obtained accuracy. By adopting the ResNet50 structure of the Convolutional Neural Network algorithm, the research on Automatic Fruit Classification Using Deep Learning for Industrial Applications [3] achieved the best precision of 97.92%. But it had a drawback because a small dataset was used to train the model and the system was built locally. In another paper on the topic of study on advanced methods of fresh and rotten fruit recognition using various convolutional neural networks [5] were reviewed, different CNN architectures such as InceptionV3, Xception, VGG16, Mobile Net, NASNetMobile were used and it was observed that Inception V3 provided the best accuracy of 97.34%. This study's

5th IEEE International Conference on Emerging Smart Computing and Informatics (ESCI-2023)

Hybrid Conference- 1st –3rd March, 2023

Technically Co-Sponsored by

IEEE Pune Section

Sponsored by

Science and Engineering Research Board

SERB INDIA

Organized By

All India Shri Shivaji Memorial Society's Institute of Information Technology, Pune

AISSMS INSTITUTE OF INFORMATION TECHNOLOGY (IOIT)

ADDING VALUE TO ENGINEERING

An Autonomous Institute Affiliated to Savitribai Phule Pune University
Approved by AICTE, New Delhi and Recognised by Govt. of Maharashtra
Accredited by NAAC with "A+" Grade | NBA - 5 UG Programmes

Technical Oral Presentation Session 10: Internet of Things
Session Chair: Dr. Mukesh Ghobare I Dr. Milind Bongulwar
Session Coordinator: Mr. Sugat Pawar +918087685979 I Mrs.Mayura Shelake: +917722039352
Link : https://tinyurl.com/ESCI-2023-Day-2-Session-10 |Event Number: 2515 153 0942 | Event Password : esci2023
Time: 3.00 PM-5.00 PM

Sr. No.	Paper ID	Title
1	559	Real-Time Electricity Bill Management System Using IOT
2	560	Fruit Defect Inspection System Using Image Processing And IoT Framework
3	567	Patients' health analysis using machine learning
4	592	Water assessment using geospatial and data science tools
5	603	Integrated Environmental Monitoring and Disease Detection Using Internet of Things

Special Session 2
Session Chair: Dr. Shalli Rani I Dr. Preetinder Singh Brar
Session Coordinator: Mrs. Gayatri Mawale :+919764535258 | Ms.Bhagyashree Lambture: +918208863705
Link : https://tinyurl.com/ESCI-2023-SpecialSession-2 |Event number: 2518 502 1367 |Event password: esci2023
Time : 3.00 PM -5.00 PM

Sr. No.	Paper ID	Title
1	RT_18	Learning Aided Intelligent Mechanism for Channel Estimation in 5G Wireless Networks
2	RT_13	A Compact Asymmetric Coplanar Strip (ACS) Antenna for WLAN and Wi-Fi Applications
3	RT_15	A novel approach for extended network coverage in cell-free IoT
4	RT_03	Bibliometric Analysis on Security of Different Layers in Internet of Things (IoT) Environment
5	IS_08	Comparative Approach for early Diabetes detection with Machine Learning

2023 International Conference on Emerging Smart Computing and Informatics (ESCI)
AISSMS Institute of Information Technology, Pune, India. Mar 1-3, 2023

Real-Time Electricity Bill Management System Using IoT

Bhushan Chaudhari
Department of Information Technology
SVKM's Institute of Technology
Dhule, India
chaudharibs@gmail.com

Nachiket Shinde
Department of Information Technology
SVKM's Institute of Technology
Dhule, India
nachiketshinde2001@gmail.com

Gitesh Yelave
Department of Information Technology
SVKM's Institute of Technology
Dhule, India
giteshyelave@gmail.com

Ganesh Sonawane
Department of Information Technology
SVKM's Institute of Technology
Dhule, India
ganeshsonawane0087@gmail.com

Kushal Borse
Department of Information Technology
SVKM's Institute of Technology
Dhule, India
borsekushal552@gmail.com

2023 International Conference on Emerging Smart Computing and Informatics (ESCI) | 978-1-6654-7524-2/23/$31.00 ©2023 IEEE | DOI: 10.1109/ESCI56872.2023.10099628

***Abstract* – Ever-increasing electricity prices and demand have inspired many organizations to find innovative solutions for energy monitoring, management, and conservation. The usage of digital appliances has increased recently, Intern the consumption of energy has also increased, and so has the hassle of electricity prices utilization. The proposed model provides real-time electricity usage by individual appliances. Because of the same, domestic/corporate consumers will be able to manage their electricity bills using a smart meter. The equipment having functional issues resulting in higher electricity consumption can be timely identified & can be repaired/replaced. The proposed model is based on ESP-32, Voltage sensors, and current sensors. ESP-32 is a wireless / wi-fi module for the transmission of real-time data to the user application. Voltage sensors having high accuracy are used to calculate the current voltage. The current sensor monitors live consumption.**

Keywords— IoT; energy management; smart meter; energy consumption; energy cost.

I. INTRODUCTION

A smart system for managing energy is a device created to measure, track, and reduce the amount of energy utilized at homes, apartments, and factories. As resources become more scarce and electric bills continue to increase daily, it is important for families and businesses to be aware of how they are utilizing electricity and how to optimize its usage. Ensuring the optimum use of electricity is most desirable for human and environmental well-being. By enabling the use of sensors for the monitoring and control of various home appliances, the Internet of Things (IoT) would help in resolving these challenges. It might also be used to manage the high energy consumption of all devices. Here, the creators recommend a home energy management system that connects your network at home to the Internet. Various in-home display systems and automatic meter reading devices were discussed in a presentation. The systems could be programmed to utilize the appropriate display devices based on ambient conditions [4]. It considers a number of parameters such as the capacity of the local energy generation, the duration of the energy consumption, and the real-time pricing of the unit-wise bills.[6] The proposed energy managing system will be useful for the common man in reducing electricity consumption by 16% to 19% resulting in cutting electricity bills[13].

II. LITERATURE SURVEY

Smart Electricity Billing Management System was performed. The objective of this paper is to propose a technique to stop fraud committed when generating power consumption invoices, to stop offenders from evading any applicable penalties, to prevent them from escaping to lessen the need for punishment, if any, and the amount of time required to bill and collect money owed [1]. This methodology will provide a fix for significant labor wastage, inaccurate and inefficient billing, massively increased fraud, and irregular payments in the electricity billing divisions [3].

As the need for power rises, the industry faces major new challenges. This phenomenon promotes the development of control methods that reduce the demand for useful resources. It has recently been discovered that the building zone significantly influences the system's very last strength call [4].

According to another paper a serial communication-based model with useful experiment results. The utility company will be able to directly access each of its customer's meters by using the proposed billing system. The project was split into three main sections: metering, communication, and billing [5].

Due to the advancement of high-tech industries and networks, IoT technology collects and analyzes customer and environmental records to provide a range of services[7]. IoT devices with a focus on HVAC systems, including the thermostat, are one type of device that use IoT technologies. However, these types of systems offer custom-designed surroundings control services and feature operational issues. To remedy these troubles This paper proposes smart HVAC systems that are IoT and Bigdata based [8].

The Internet of Things has evolved significantly in recent years. From the perspective of saving energy, a clever grid is an excellent answer to optimize the strength consumption even as the IoT can be an answer that gives customers the convenience of having a real-time approach to manipulate and monitor power usage in a domestic [9]. In this paper, the authors advocate the layout of smart grid gadget design based on IoT for smart domestic. The architecture of the proposed protocols to be used, the running of the gadget, and then venture inside the device layout are analyzed so that the

Proceedings of

2023 International Conference on Intelligent Systems for Communication, IoT and Security (ICISCoIS)

2023 International Conference on Intelligent Systems for Communication, IoT and Security (ICISCoIS) | 979-8-3503-3583-5/23/$31.00 ©2023 IEEE | DOI: 10.1109/ICISCOIS56541.2023.10100366

ICISCoIS 2023

ICISCoIS 2023

ORGANIZED BY

DEPARTMENT OF INFORMATION TECHNOLOGY

PSG COLLEGE OF TECHNOLOGY

COIMBATORE 641004, TAMILNADU, INDIA

9-11 February 2023

EDITORS

Dr. K. Umamaheswari
Dr. R. Rekha
Dr. N. Hema Priya
Ms. S. Shymala Gowri

Smart IOT Based Pothole Detection and Filling System

Priya Gurwani
Dept. of Information Technology
SVKM's IOT Dhule
priyagurwani09@gmail.com

Prof. Rubi Mandal
Dept. of Information Technology
SVKM's IOT Dhule
mandalruby@gmail.com

Shruti Chaudhari
Dept. of Information Technology
SVKM's IOT Dhule
shrutichaudhari850@gmail.com

Mitali Jadhav
Dept. of Information Technology
SVKM's IOT Dhule
mitalijadhav108@gmail.com

Sejal Sonawane
Dept. of Information Technology
SVKM's IOT Dhule
sejalsonawane23@gmail.com

2023 International Conference on Intelligent Systems for Communication, IoT and Security (ICISCoIS) | 979-8-3503-3583-5/23/$31.00 ©2023 IEEE | DOI: 10.1109/ICISCOIS56541.2023.10100458

***Abstract*—In most developing nations, a failure to maintain the current road infrastructure frequently results in the growth of potholes, cracks, etc. One of the difficulties in preventing accidents is dealing with excessive traffic. The foundation of our project is the ability to spot the potholes and fix them in two layers to prevent accidents. Additionally, the device keeps track of potholes and reduces labor expenses. The proposal describes an Internet-of-Things platform using basic ultrasonic sensor, a Raspberry Pi 3 Model B, a camera module for the Raspberry Pi 5MP and a mobile phone with Wi-Fi access. Our strategy is to fix the potholes in two layers after the detection phase is complete. Plastic trash will be used in the first layer so that it can be recycled, and the concrete layer of the road material will fill the pothole in the second layer. This filling allowed the plastic waste to be handled more effectively. The governments and road maintenance authorities have access to the information stored in the system. The suggested solution provides local authorities with real-time, objective data regarding the condition of a city's roadways a specific area so they can take further action.**

Keywords—Potholes, Internet-of-Things, ultrasonic sensor, Raspberry Pi, Plastic trash

I. INTRODUCTION

One of the key forms of communication and an essential component of a country's economy are its roads. Poor road maintenance causes emerging nations to face a number of difficulties, including a high rate of fatal accidents. The root of this may potentially result in someone's death. As of February 2017, there were 2,948,206 registered cars in the nation, which put extra strain on the roads' use and led to constant deterioration of the road surface, which resulted in potholes. The majority of the issues cannot be avoided due to their nature. Highway condition monitoring requires physical manpower and is time-consuming, inefficient, and costly. We require a lot of human resources, even if we think of it as a solution. People will become financially conscious as a result and spend a lot of money. Due to this, several methods that employ relatively little manpower are used to make the process simple and cost effective.

Here we proposed a prototype where potholes detection and filling is done. Finding the potholes can be done using a variety of methods. Some of them include vibration, vision-based, and 3D reconstruction assessments. The first method is very expensive because it needs high-end laser scanners, whereas the second method is less accurate and less dependable because of surface vibration brought on by breakers and the joints used to expand the bridge. So, the third is considering that it makes use of image processing

There are various existing methods for detecting potholes, but each one has its own disadvantages. This essay examines previous research in the field and suggests a practical solution that could be very beneficial to consumers.

Recently, there has been a lot of interest in computer vision and deep learning techniques as potential answers to the issues with pothole detecting systems. However, using the system as a whole is rather expensive because these applications require so much processing power.

This study report focuses on filling and detection. For the purpose of identifying potholes, we applied canny edge detection-based segmentation. Edge detection and thresholding approaches are those that many researchers use the most. Using various image processing approaches, pothole detection and counting helps to categorize different road profile types. Different processing approaches, including Potholes are found using edge detection along with image filtering, segmentation, and clustering techniques. The outcomes were assessed using the standard performance metrics of precision, sensitivity, specificity, and computing time.

A mechanism is proposed, in which any initial potholes will be filled in two stages. The plastic trash came first, followed by the concrete foundation. Over 15 million amounts of plastic are consumed annually in India. We have applied the 3 R's methodology, which stands for reducing costs, repairing potholes, and reusing plastic waste. Waste plastic is the second significant issue that we all face. Plastic garbage production is significantly rising. Shopping bags, betel nut wrappers, cold drink bottles, and any types of plastic that are only used once have a substantial negative environmental and social impact. economic difficulty Plastic is omnipresent in today's lifestyles and getting rid of it is a big concern. Because it is a non-biodegradable product, these materials contribute to environmental degradation and

Shri Vile Parle Kelavani Mandal's

Institute of Technology, Dhule

Approved by AICTE & Affiliated to DBATU

Title of the Book	**Waste Recovery and Management** An Approach Toward Sustainable Development Goals
Title of the Chapter	**E-waste Management Strategies and it's Opportunities: Toxic but Beneficial**
Name of Author	Prof. Khalid Alfatmi
Link for the published Book	https://www.routledge.com/Waste-Recovery-and-Management-An-Approach-Toward-Sustainable-Development/Kumar-Parveen-Kumar-Mittal-Goel/p/book/9781032281933

Proceedings of the International Conference on Sustainable Computing and Data Communication Systems (ICSCDS-2023)
IEEE Xplore Part Number: CFP23AZ5-ART; ISBN: 978-1-6654-9199-0

DAKSHA: A Smart Learning Platform for DBATU

Lina Thakare
Department of Computer Engineering
SVKM's Institute of Technology,
Dhule, India
linathakare2002@gmail.com

Tejaswi Salunke
Department of Computer Engineering
SVKM's Institute of Technology,
Dhule, India
tejusalunke99@gmail.com

Divya Pagare
Department of Computer Engineering
SVKM's Institute of Technology,
Dhule, India
divyapagare25@gmail.com

Aishwarya Patil
Department of Computer Engineering
SVKM's Institute of Technology,
Dhule, India
aishwaryapatil1909@gmail.com

Prof. Khalid Alfatmi
Assistant Professor,
Department of Computer Engineering
SVKM's Institute of Technology
Dhule, India
Khalid.Alfatmi@svkm.ac.in

2023 International Conference on Sustainable Computing and Data Communication Systems (ICSCDS) | 978-1-6654-9199-0/23/$31.00 ©2023 IEEE | DOI: 10.1109/ICSCDS56580.2023.10104916

***Abstract*—While learning for the university level exams, there is no platform to provide the content for learning university exams and effectively search for the content. There are many online platforms but for the pan India syllabus. One of the most famous online learning platforms uses 74 technologies (HTML5, google analytics, viewport meta) for its websites and serves millions of students. Major issues are the paid courses for students. To access the content on this app at some certain time students need to again take a subscription for the courses. The content available is for the Pan India syllabus. To solve this issue, we developed an application where students can take the test and access the content related to university exams. The test component of this system will allow users to take tests and receive results in the form of graphs that have been examined as well as recommendations for weak topics. As students can easily learn and can get exams ready before their exams, this application provides overall learning for students, and it can also help students to schedule their time for learning a concept and evaluation. Faculty will also make changes in the questions and can monitor student performance and growth using a mobile application. This mobile application will simplify education for students and allow them to focus more on developing their skills.**

Keywords—Recommendation, Mobile Application, Analysis Graph, Performance

I. INTRODUCTION

The application is designed to solve the challenges faced by university students in preparing for end(semester) exams as they don't get the study material on one platform and also, they wait for college exams to evaluate their concepts about topics.

To overcome all this, we have come up with a solution we have designed which contains the 3 main sections which include admin, student, and faculty. The admin section will manage the system and maintain the student record, faculty record, and changes made by the faculty in tests on the platform. This is the main section in which the user will check up on the previous year's question paper for preparation and can take the test before their exams, the system will also recommend the concept which he failed to answer so he/ she can further improve. Faculty section where faculty can change the question or can add questions in the question set as per the requirement and also can keep an eye on the growth of students and help them to improve more.

As our system will follow the university syllabus, students will not need to wait for the internal exams of the college to check their knowledge. Our system will also contain the previous question papers of that university so students will also get an idea about how the questions are asked and can practice the answers for those questions. Nowadays engineering students are struggling hard with their academics and subjects. There is no system for quickly monitoring their academic progress also. Students will see their results on the basis of graphs which will show them the improvement, Students will have all overall analysis results for their test. All this data will be stored in the database and will be printed on the system as per the requirement of data. This system is restricted to the university-related syllabus only. This application helps the students to take the exam from anywhere. Students take exams according to their preferred time from any location by using the Internet. Online examination system helps students offer a quick and effortless way to be available for the exam. It gives the results quickly after the examination of all analyses. Students can enter to take the exam only with their valid credentials. The online Examination contains multiple-choice questions according to chosen subjects.

II. LITERATURE SURVEY

Several approaches to solving the problems of automatic test evaluation have been examined. Some of them are listed below [1][2][11][13][14]:

Proceedings of

2023 International Conference on Intelligent Systems for Communication, IoT and Security (ICISCoIS)

2023 International Conference on Intelligent Systems for Communication, IoT and Security (ICISCoIS) | 979-8-3503-3583-5/23/$31.00 ©2023 IEEE | DOI: 10.1109/ICISCOIS56541.2023.10100366

ICISCoIS 2023

ICISCoIS 2023

ORGANIZED BY

DEPARTMENT OF INFORMATION TECHNOLOGY

PSG COLLEGE OF TECHNOLOGY

COIMBATORE 641004, TAMILNADU, INDIA

9-11 February 2023

EDITORS

Dr. K. Umamaheswari
Dr. R. Rekha
Dr. N. Hema Priya
Ms. S. Shymala Gowri

92	6839	AI Based mock interview evaluator-Anemotion and confidence classifier model *Rubi Mandal, PranavLohar, DhirajPatil, Apurva Patil and Suvarna Wagh*	80
93	6961	Automatic Tonic Pitch Estimation in South Indian Classical Musicusing Frequency-ratio Method *Aiswarya M.A., Sinith M.S.,* Rajeev Rajan	80
94	7037	Face Mask Detection using Deep Learning *V.Jyothsna, B.Nagadathri Madhuri, K.Siva Lakshmi, K.Himaja, B.Naveen, K. Dinesh Royal*	81
95	7044	A Comprehensive Review on Word Embedding Techniques *A Neelima and Shashi Mehrotra*	81
96	7109	Design and analysis of Tilted Grating Structure for Simultaneous Temperature and Humidity Measurement *BharathiRaju, R.Kumar, Samiappan Dhanalakshmi*	82
97	7201	Image Based Plant Disease Classification With Cause And Severity Analysis And Remedial Action *Gopika Rani N, Divya DarshiniR, Monirhithikka SP, SamsithaBanu S, Sarayu Miththira VC, Subashini B*	82
98	7417	Efficient Hardware Implementation of PRESENT Lightweight Cipher *R Parthasarathy and PSaravanan*	83
99	7463	Random forest based feature ranking to evaluate the effect of motion artifacton different clinical features of PPG Signal *Purbadri Ghosal,S. Himavathi and E. Srinivasan*	83
100	7503	Improving security using Swarm intelligence based optimal pixel selection in Image steganography-A study *G.Mahalakshmi, S.Sarathambekai, T.Vairam*	84
101	7506	Predictive Codec of Medical Image Compression Using Subb and Thresholding *Punitha Viswanathan and Kalavathi Palanisamy*	84
102	7628	Analysis Of Key Policy Attribute Based Encryption Schemes *Madhushree J, KAnitha Kumari and TP Kmatchi*	85
103	7917	AR Weather : Weather Forecasting and Visualization using Augmented Reality *R Manimegalai, Arawind S, G V Sri Rajiv Jegan and Gomathi B*	85

AI-Based mock interview evaluator: An emotion and confidence classifier model

Rubi Mandal
Dept. of Information Technology
SVKM's IOT Dhule
mandalruby@gmail.com

Pranav Lohar
Dept. of Information Technology
SVKM's IoT Dhule
prnvlohar@gmail.com

Dhiraj Patil
Dept. of Information Technology
SVKM's IoT Dhule
dhirajpatil.1434@gmail.com

Apurva Patil
Dept. of Information Technology
SVKM's IoT Dhule
patilapurva927@gmail.com

Suvarna Wagh
Dept. of Information Technology
SVKM's IoT Dhule
suvarnawagh25022001@gmail.com

2023 International Conference on Intelligent Systems for Communication, IoT and Security (ICISCoIS) | 979-8-3503-3583-5/23/$31.00 ©2023 IEEE | DOI: 10.1109/ICISCOIS56541.2023.10100589

***Abstract*—Interviews are extremely important for a candidate because it is the time when all your hard work is put on the line to get some desired fruitful outcomes in life. It is extremely important in our educational system and recruitment process since they aid in the selection of the right candidate based on the required skills. Mock interviews can boost our confidence and communication skills which can help to perform better. This paper proposed an AI-based mock interview platform that would operate as an intermediatory between the actual interview and preparation mode. Our system will assess the user based on an aggregation of three parameters called emotions, confidence, and knowledge base. Emotion is judged based on facial expression using deep learning CNN algorithm which will classify the emotion among the 7 categorical emotions and confidence evaluation is based on speech recognition using natural language processing and Pydub audio python libraries. For knowledge assessment, keyword mapping, semantic analysis technique is used and web scraping module will extract keywords from received replies and map them to online resources. Hence this system will not only lower the stress and anxiety before an actual job interview but also improve the candidate's confidence.**

Keywords: deep learning, CNN, categorical emotions, NLP, confidence evaluation, web scraping

I. INTRODUCTION

The interview process is a vital point in the recruitment process. It helps a recruiter understand whether a candidate is best for a position and judges the candidate in deciding whether the job suits them or not [1]. The period for an interview is usually 45 to 90 minutes (about 1 and a half hours). According to human psychology, a person only has seven seconds to make a strong impression [2], and as we know the first impression is the last impression. During this time, candidates feel lots of nervousness about looking good, try to impress their recruiter and not come off as nervous and keep eye contact and confidence. A recent statistical report about interviews shows that eye contact is a very important parameter to making a great impression according to 67% of recruiters and due to their lack of confidence level, voice quality or not smiling 39% of the candidates leave a bad impression on the recruiter [3][4]. Generally, our existing traditional interview system is very much physical means the interviewer asks the question [5], and the interviewee gives the answer based on the answers given and the confidence level and knowledge the candidate has the chance of getting selected. the importance of the interview system: The key element in interview preparation is attending mock interviews. You may wonder why mock interviews are important. Can't I do away with them? If you already know how to face a virtual interview it will definitely help you in your interview.

Here are some reasons why mock interviews are important:

1. Personality Analysis: - Mock interviews help you analyse your personality. You will know about your strengths and weaknesses inside and outside. With a mock interview, you will know how not to fall into the personality question traps set by the interviewers.

2. Expert Guidance: Mock interviews conducted by a panel of experts. They are domain experts, Thus, by attending mock interviews, you will get expert guidance on how to get a good score in the actual interview. A system is trained in such a way that, the system works as a domain expert according to the candidate's requirements. They provide a detailed analysis of things you need to improve by testing you on various aspects like your personality, subject matter knowledge, etc.

3. Ambiance Akin to Actual Interview -Mock interviews replicate the ambience of the actual interview. As such, there will be a five-member panel conducting mock interviews.

The main aim here is to familiarize you with the way of conducting an interview and make you less fearful of the actual interview. For it has been seen that many candidates fumble at the final interview due to a lack of awareness about the interview. Fear takes over, and they struggle to perform at the interview. Attending mock interviews will help avoid this.

4. Questioning Diversity: - It is futile to guess what the panel member might ask you during the actual interview. But, preparing yourself for the challenge will help. A mock interview thus prepares you in advance for any adversity you might face in front of the interview board.

5. Feedback: - The key element of mock interviews is the feedback that you receive. After an interview session, the

ICICCS

Proceedings

of the

7th International Conference on Intelligent Computing and Control Systems (ICICCS 2023)

May 17-19, 2023 | Madurai, India

IEEE

VAIGAI

Vaigai College of Engineering
Madurai, India

Proceedings of the 7th International Conference on Intelligent Computing and Control Systems (ICICCS-2023)
DVD Part Number: CFP23K74-DVD; ISBN: 979-8-3503-9724-6

Easy Job Eligibility Checking System Using Machine Learning

Mangesh Balpande
Department of Information Technology
SVKM's Institute of Technology,
Dhule
mangesh.balpande111@gmail.com

Sakshi Dagadu Mali
Department of Information Technology
SVKM's Institute of Technology,
Dhule
sakshimali888@gmail.com

Durgesh Sunil Chaudhari
Department of Information Technology
SVKM's Institute of Technology,
Dhule
durgeshchaudhari771@gmail.com

Nivedita Bapu Mali
Department of Information Technology
SVKM's Institute of Technology,
Dhule
niveditamali94@gmail.com

Ketaki Pradip Chaudhari
Department of Information Technology
SVKM's Institute of Technology,
Dhule
ketakichaudhari40@gmail.com

***Abstract*— This paper presents a novel approach to automate the process of job eligibility verification. The suggested system examines the candidate's qualifications and the job criteria using machine learning and natural language processing methods. The algorithm generates an eligibility score by comparing a candidate's qualifications to the job's criteria. Both recruiters and job seekers will have a smooth experience because to the suggested system's powerful, effective, and user-friendly architecture. The system also gives suggestion of skills and courses required for the eligibility job. The system's effectiveness was evaluated through extensive experimentation on a large dataset of job requirements and candidate qualifications, and the results demonstrated its high accuracy and effectiveness. The proposed system has the potential to revolutionize the job application process, making it easier and more efficient for both recruiters and job applicants.**

Keywords—Accuracy, Candidate's Eligibility, Candidate's Qualifications, Classification, Job's Criteria, Naive Bayes, Prediction etc.

I. INTRODUCTION

India boasts the most engineers in the world as well as the most engineering education facilities and infrastructure. By 2021, India will graduate fifteen lakh engineers every year. which not everyone achieves their ideal position. There are several potential causes for this, but the most significant one would be a lack of the appropriate abilities for the position. There are many software engineers in the IT sector, but not all of them are qualified. They frequently end up not getting the desired occupations as a result. The job seeker must develop their skill sets in order to land such a position. The predictive capacity of machine learning has grown astronomically in recent years.

The lack of relevant certifications, fraudulent resumes, inadequate technical knowledge, internships, skills, and courses, as well as a lack of understanding of how to properly examinean employer's eligibility requirements, are some of the reasons why people in the IT field losetheir employment. With this situation in mind, we create a system that enables students to lookup employment requirements and eligibility for jobs. The algorithm also suggests courses and skills needed for jobs that qualify. The system allows students to add jobs and descriptions andto view qualified applicants for those jobs. Students may use this method to simply examine the job requirements and eligibility requirements. The rest of the paper is organized as follows: section II discusses about related work. section III covers the proposed methodology, section IV deals with result and discussion and the paper is concluded in section V along with future scope.

II. RELATED WORK

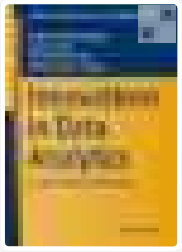
The process of classifying them becomes challenging as the range of work responsibilities continues to expand in the market in an ever-increasing manner. In paper [1] the goal of the optimization algorithm proposed in this paper is improve the accuracy of job referrals. Our optimization technique has considerably outperformed the original algorithm in tests using real-world data sets. Future research will be able to test the viability of our optimization methodology using several data files. In paper [2] Role projection for jobs Since job rivalry will only grow in the future, it would be better for all businesses if employees could work in fields that align with their interests and areas of expertise. Research done it provides a platform where it is easy to predict job role for a specific candidate. In [3], vacancy prediction system is proposed using a model of long-term short-term memory. Work vacancy prediction system will aid in lowering India's unemployment rate. Data is gathered for this vacancy prediction system from Naukri job seeker websites. Skill prediction problem, which is directly connected to the hotly debated subject of recruitment analysis. Staffing it as a recommender system is an approach that is frequently used for recruitment analysis. In paper [4] put less emphasis on extracting skills from text and more on defining the right skill set for the task. In [5] automated task state prediction analyses performance patterns and associated metrics in unsuccessful job executions. On the gathered run-time execution information measurement devices, next work will apply online failure prediction. Plan to use online failure prediction on other research clusters that have more nodes and support a variety of applications. In paper [6] introduced planning in this paper while restricting the time it takes for all activities to be completed and accounting for machine faults. The efficiency and application of the suggested algorithms were confirmed in a simulation, which has established them. In [7] infer that the model was extremely accurate and attained more than 97% accuracy from the findings reported. Additionally, the model was strong and realistic because it

Abhishek Bhattacharya · Soumi Dutta ·
Paramartha Dutta · Vincenzo Piuri
Editors

Innovations in Data Analytics

Selected Papers of ICIDA 2022

Springer



International Conference on Innovations in Data Analytics

ICIDA 2022: **Innovations in Data Analytics** pp 293–306

Diabetes Disease Prediction Using KNN

Makarand Shahade, Ashish Awate, Bhushan Nandwalkar & Mayuri Kulkarni

Conference paper | First Online: 01 June 2023

Part of the Advances in Intelligent Systems and Computing book series (AISC,volume 1442)

Abstract

Diabetes is a very common chronic disease that is of rising concern. According to the World Health Organization, it is estimated that approximately 422 million people worldwide suffer from diabetes. By 2040, the number of people suffering from diabetes is estimated to increase to approximately 642 million. Due to diabetes, one person dies every six seconds (five million a year) which is more than HIV,

Proceedings of the 7th International Conference on Intelligent Computing and Control Systems (ICICCS-2023)
IEEE Xplore Part Number: CFP23K74-ART; ISBN: 979-8-3503-9725-3

2023 7th International Conference on Intelligent Computing and Control Systems (ICICCS) | 979-8-3503-9725-3/23/$31.00 ©2023 IEEE | DOI: 10.1109/ICICCS56967.2023.10142705

E-Safe: An E-waste Management and Awareness Application using YOLO Object Detection

Prof. Khalid Alfatmi
Assistant Professor,
Department of Computer Engineering
SVKM's Institute of Technology, Dhule
khalid.Alfatmi@svkm.ac.in

Ms. Falguni Shashikant Shinde
Department of Computer Engineering
SVKM's Institute of Technology, Dhule
falgunishinde09@gmail.com

Prof. Makarand Shahade
Head of Department,
Department of Computer Engineering
SVKM's Institute of Technology, Dhule
makarand.shahade@svkm.ac.in

Ms. Shalaka Sanjay Sharma
Department of Computer Engineering
SVKM's Institute of Technology, Dhule
shalakasanjays11@gmail.com

Ms. Sejal Sanjay Aruja
Department of Computer Engineering
SVKM's Institute of Technology, Dhule
arujasejal45859@gmail.com

Mr. Tanmay Yograj Chaudhari
Department of Computer Engineering
SVKM's Institute of Technology, Dhule
tanmayc323@gmail.com

***Abstract* - Technology and related fields are advancing rapidly in today's era, which is leading to the increased usage of electronic equipment especially mobile phones. This rapid growth inthe usage of technological equipment gives rise to E-waste generation since the advancement in technology forces the users to replace their existing equipment with the advanced ones. This throw on the scrapheap is increasing exponentially, leading to the immense generation of E-waste. The growing amount of waste must be properly handled and disposed off. E-waste mainly consists of chemicals and metals, which can be harmful or toxic in nature. Giving a blind eye to the handling of this waste can lead to great mishaps. Here, it mainly focuses on the technologies used for the handling of E-waste and provide a technical solution, which is an Android Application. This will take the image for processing and based on YOLO algorithms, it will identifythe electronic device from image and will list out the components of identified device. The final output of the application will make the E-waste management process easier for managing data and will work as an awareness tool to make people aware about the E-Waste threats.**

Keywords *–E-waste Object Detection, YOLO object detection model, E-waste, Recycle.*

I. INTRODUCTION

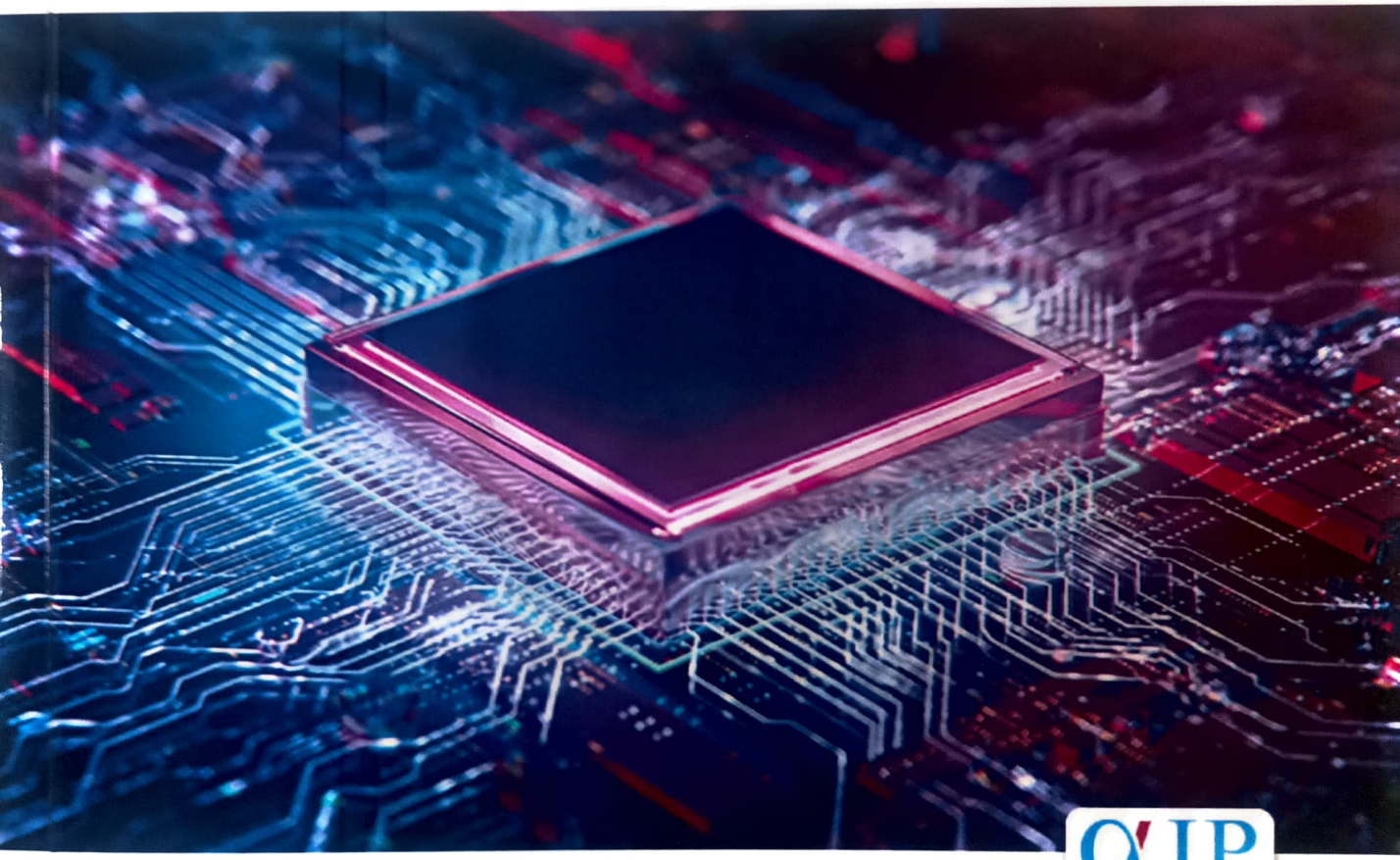
India is one of the top five nations for scientific research and space exploration, and it is ranked third among the most enticing investment locations worldwide for technology transactions [27]. Modern India places a high importance on science and technology because they are crucial to the country's economic growth. Technology advancement has caused a significant increase in the production of E-waste, which is currently growing in India at a rate of 10% annually [19].

After the U.S. and China, Asian countries rank 3rd in E-waste generation, manufacturing over 3.23 million metric tons of E-waste per year [2][25]. Since 2011, only India has had a legal framework for addressing e-waste among the nations of Southeast Asia. Large amounts of e-waste end up in landfills or are burned outdoors because Indian rural and urban communities prefer the traditional methods of garbage handling and disposal [26]. This causes major health and environmental risks by allowing harmful compounds to enter the soil and water through natural processes, leading to soil and water pollution [27]. The main dangers produced from e-waste include the risk of fires and explosions due to the mishandling of electronic components containing hazardous materials. Exposure to toxic chemicals, such as lead, mercury, and cadmium, can also cause serious health problems. The safety hazards related to e-waste include the release of toxic chemicals and heavy metals, which can contaminate the air, soil, and water. These toxins can cause damage to the nervous system, liver, kidneys, and other vital organs in humans and animals. Improper solid waste management in developing countries can lead to a range of environmental impacts, including soil and water pollution, habitat destruction, and loss of biodiversity.

According to research, among all technological products, mobile phones cause the greatest harm. By 2040, the tech industry's highest carbon footprint will be emitted by data centers and smart-phones, according to studies [2][4]. According to a research analysis by Counterpoint, smart-phones account for 12% of all electronic waste generated globally, and this percentage will keep growing unless action is made to stop it [27]. Both the environment and the human brain are significantly impacted by the radiation that comes from smart-phones. Due to the technology's quick advancement and ongoing introduction of improved versions, consumers are compelled to update their phones more frequently. As a result, mobile phones end up having a very short useful life, which leads to significant waste stream production. In developing countries, the mobile phone's use phase lasts less than three years, while in industrialized countries it lasts less than two years [9]. Thus, it can be assumed that the majority of mobile phones that end up in trash streams may still be valuable. Fig. 1 shows how the parts of a mobile phone can be reused.

To deal with the problem of recycling e-waste, the proponents have created a system that an e-waste recycling firm can use to motivate its customers to recycle their e-waste and raise customer awareness for each disposal. Creating an

MODERN VLSI FUNDAMENTALS & DESIGN



Dr. VISHAL MOYAL
Dr. D.V. MANJUNATHA
Dr. ANURAG SHRIVASTAVA

Title of the Book: Modern VLSI Fundamentals & Design

Edition: First - 2023

Disclaimer

The authors are solely responsible for the contents published in this text book. The publishers or editors do not take any responsibility for the same in any manner. Errors, if any, are purely unintentional and readers are requested to communicate such errors to the editors or publishers to avoid discrepancies in future.

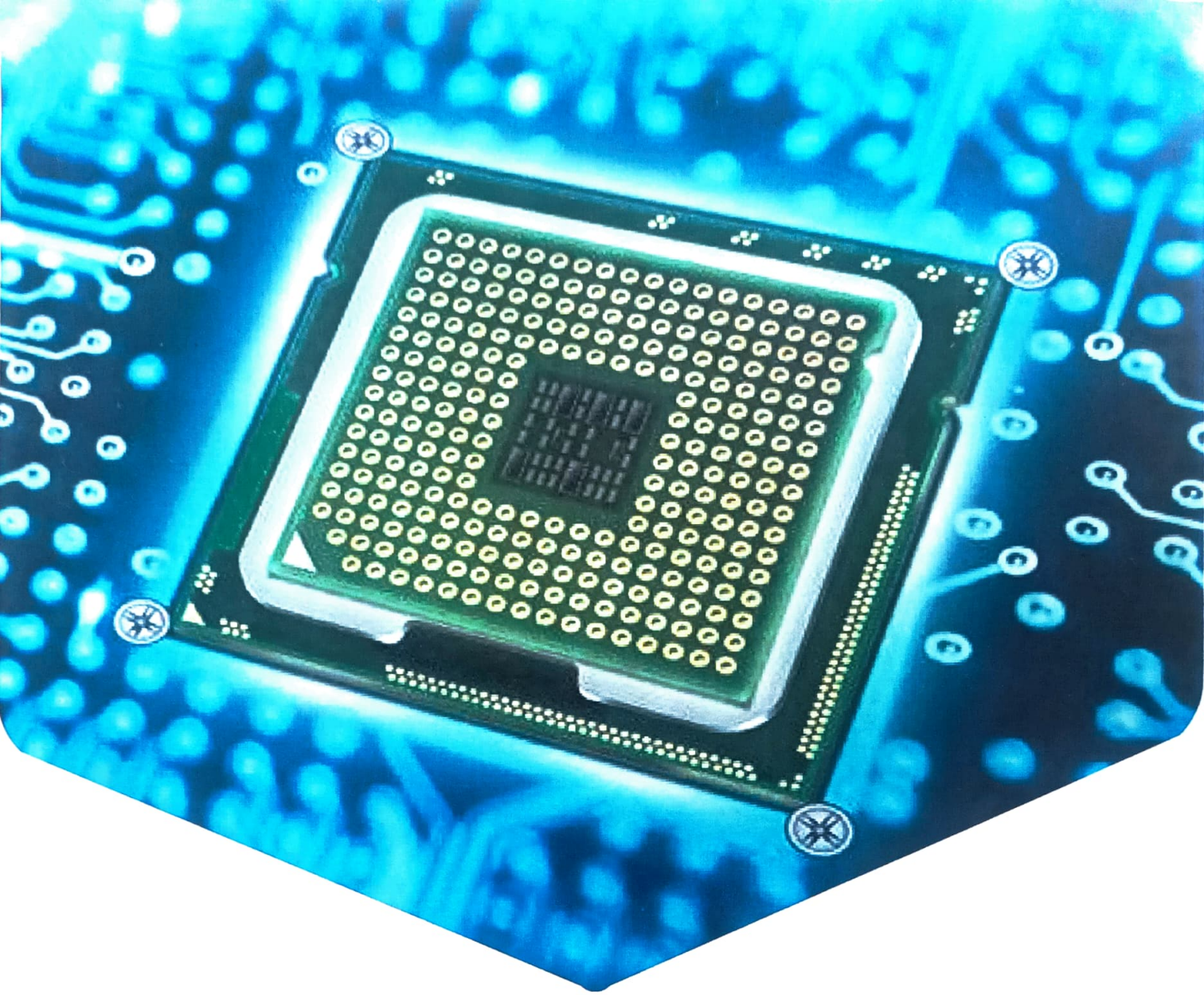
ISBN : 978-93-5762-113-7

MRP: Rs. 600/-

PUBLISHER & PRINTER: Alpha International Publication (AIP),
3/725/2, Kammangudi, Adichapuram,
Thiruvarur District, Tamilnadu- 614717, INDIA

Email: editoraippublications@gmail.com

Website: www.alphainternationalpublication.com



MICROPROCESSOR AND MICROCONTROLLER

K.J. BENJAMIN ANDRO JEROME

DR. VISHAL MOYAL

DR.SHRIKANT UPADHYAY

SIPH

Title of the Book: Microprocessor and Microcontroller

Edition: First – 2022

Disclaimer

The authors are solely responsible for the contents published in this text book. The publishers or editors do not take any responsibility for the same in any manner. Errors, if any, are purely unintentional and readers are requested to communicate such errors to the editors or publishers to avoid discrepancies in future.

ISBN: ISBN: 978-93-5625-225-7

MRP: Rs 550 /-

PUBLISHER & PRINTER: Scientific International Publishing House

Contact: +91-7019991025

Website: www.sipinternationalpublishers.com

Lecture Notes in Civil Engineering

Cuong Ha-Minh · Anh Minh Tang ·
Tinh Quoc Bui · Xuan Hong Vu ·
Dat Vu Khoa Huynh *Editors*

CIGOS 2021, Emerging Technologies and Applications for Green Infrastructure

Proceedings of the 6th International Conference on Geotechnics, Civil Engineering and Structures

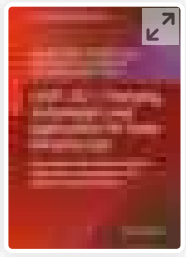
Springer

Cuong Ha-Minh · Anh Minh Tang · Tinh Quoc Bui ·
Xuan Hong Vu · Dat Vu Khoa Huynh
Editors

CIGOS 2021, Emerging Technologies and Applications for Green Infrastructure

Proceedings of the 6th International Conference on Geotechnics, Civil Engineering and Structures

Springer



CIGOS 2021, Emerging Technologies and Applications for Green Infrastructure pp 1253–1260

Conference paper

Deep Insights into the Self-compacting Concrete with Hybrid Fibres

Achal Agrawal & Narayan Chandak

Conference paper | First Online: 28 October 2021

Part of the Lecture Notes in Civil Engineering book series (LNCE,volume 203)

Abstract

This review article focuses on the mix d
terms of the constituents used and thei
proportions in the mix design of Self-C
Concrete (SCC) reinforced with fibres. T
mix theory for SCC reinforced with fibre
hybrid fibres are rare in the available lit
attempt is made to collect the mixed de
on SCC with hybrid fibres from last 4 years. It
includes the type of cement, mineral admixture,

Achal Agrawal

Department of Civil Engineering, SVKM's NMIMS, MPSTME, Mumbai, Maharashtra, India

Department of Civil Engineering, SVKM's Institute of Technology, Dhule, Maharashtra, India

View author publications

You can also search for this author in PubMed | Google Scholar

Lecture Notes in Intelligent Transportation and Infrastructure
Series Editor: Janusz Kacprzyk

Ajit Kumar Parwani
PL. Ramkumar
Kumar Abhishek
Saurabh Kumar Yadav *Editors*

Recent Advances in Mechanical Infrastructure

Proceedings of ICRAM 2021

Springer

Editors
Ajit Kumar Parwani
Department of Mechanical and Aero-Space Engineering
Institute of Infrastructure Technology Research and Management (IITRAM)
Ahmedabad, India

PL. Ramkumar
Department of Mechanical and Aero-Space Engineering
Institute of Infrastructure Technology Research and Management (IITRAM)
Ahmedabad, India

Kumar Abhishek
Department of Mechanical and Aero-Space Engineering
Institute of Infrastructure Technology Research and Management (IITRAM)
Ahmedabad, India

Saurabh Kumar Yadav
Department of Mechanical and Aero-Space Engineering
Institute of Infrastructure Technology Research and Management (IITRAM)
Ahmedabad, India

ISSN 2523-3440 ISSN 2523-3459 (electronic)
Lecture Notes in Intelligent Transportation and Infrastructure
ISBN 978-981-16-7659-8 ISBN 978-981-16-7660-4 (eBook)
https://doi.org/10.1007/978-981-16-7660-4

This Springer imprint is published by the registered company Springer Nature Singapore Pte Ltd.
The registered company address is: 152 Beach Road, #21-01/04 Gateway East, Singapore 189721, Singapore

Contents

Performance Analysis of Desiccant Material Prepared by Simple Mixing of Silica Gel and Calcium Chloride

Bhushan C. Behede, Siddhartha S. Chakrabarti, and Uday S. Wankhede

Abstract To increase the performance, reliability, and economic feasibility of the desiccant-based dehumidification system, it is required to use good desiccant material in the system. In this research work, five samples of desiccant material are prepared by simple mixing of silica gel granules and calcium chloride by varying percentages of their contribution by weight. To calculate the percentage increase in MRR in five samples, one sample is prepared using stand-alone silica gel as a desiccant. An analysis is done by the gravimetric method to calculate its moisture removal rate (MRR) against the operating conditions of the air in the hot and humid environments. The goal of the current research work is to select the best suitable proportion of silica gel and calcium chloride in the composite desiccant as per as MRR is concerned. Different performance indicators were also determined and discussed in this paper. It is found that there is a 92% increase in the MRR when the sample contains 60% of silica gel and 40% of calcium chloride by weight in the desiccant instead of stand-alone silica gel.

Keywords Desiccant · Dehumidification · Adsorption · Desorption

1 Introduction

AQ1

Dehumidification is an important process in air-conditioning. Typically, dehumidification can be achieved by removing water vapor present in the air, and to do so, the temperature of the air is reduced well below its dew point temperature. To reduce the temperature, vapor compression refrigeration system (VCRS) is used which consumes electrical energy. Energy-consuming potential is very high for the VCRS systems, and it is increasing day by day; several buildings are adopting air-conditioning devices based on VCRS. We can reduce energy-consuming potential if

B. C. Behede (✉) · S. S. Chakrabarti
O. P. Jindal University, Raigarh, Chhattisgarh 496109, India

U. S. Wankhede
Government College of Engineering, Chandrapur, Maharashtra 442403, India

A. K. Parwani et al. (eds.), *Recent Advances in Mechanical Infrastructure*,
Lecture Notes in Intelligent Transportation and Infrastructure,
https://doi.org/10.1007/978-981-16-7660-4_1

511132_1_En_1_Chapter ☑ TYPESET ☐ DISK ☐ LE ☑ CP Disp.:8/11/2021 Pages: 14 Layout: T1-Standard

Lecture Notes in Mechanical Engineering

Ramesh Kumar Nayak
Mohan Kumar Pradhan
Animesh Mandal
J. Paulo Davim *Editors*

Recent Advances in Materials and Manufacturing Technology

Select Proceedings of ICAMMT 2022

Springer

Editors
Ramesh Kumar Nayak
Department of Materials and Metallurgical Engineering
Maulana Azad National Institute of Technology
Bhopal, India

Animesh Mandal
School of Minerals, Metallurgical and Materials Engineering
Indian Institute of Technology Bhubaneswar
Bhubaneswar, India

Mohan Kumar Pradhan
Department of Mechanical Engineering
National Institute of Technology
Raipur, India

J. Paulo Davim
Department of Mechanical Engineering
University of Aveiro
Aveiro, Portugal

ISSN 2195-4356 ISSN 2195-4364 (electronic)
Lecture Notes in Mechanical Engineering
ISBN 978-981-99-2920-7 ISBN 978-981-99-2921-4 (eBook)
https://doi.org/10.1007/978-981-99-2921-4

This Springer imprint is published by the registered company Springer Nature Singapore Pte Ltd.
The registered company address is: 152 Beach Road, #21-01/04 Gateway East, Singapore 189721, Singapore

Monolithic Integration of $Cu(In,Ga)Se_2$ Thin Film Solar Modules by all Nanosecond Laser Scribing

Amol Badgujar, Bhushan Nandwalkar, and Sanjay Dhage

Abstract $Cu(In,Ga)Se_2$ (CIGSe) thin film solar cell (TFSC) is an emerging photovoltaic technology with lab-scale device efficiency surpassing 23% and monolithically integrated module efficiency ranging from 17–19%; it is anticipated to meet escalating global electricity demand. The division of a large photovoltaic cell into serially interconnected smaller devices is known as monolithic integration. To reduce shunting losses, a monolithic integration configuration of CIGSe TFSC comprising stacks of Al:ZnO/i:ZnO/CdS/CIGSe/Mo/Glass is adapted, often by combination of laser-mechanical scribing operations during the device fabrication process. The traditional mechanical scribing procedure, which engages sharp ceramic tips, is sluggish (< 0.2 m/s) and produces broader scribing widths (> 100 μm). The module's scribing area is a dead zone and a loss of active photovoltaic region that must be minimized. Given this, we report rapid (1 m/s) nanosecond pulsed fiber laser-driven micro-patterning of CdS/CIGSe/Mo/Glass (P2 scribing) and Al:ZnO/i:ZnO/CdS/CIGSe/Mo/Glass (P3 scribing) stacks, which replaces typical sub-optimal mechanical scribing. The electrical, morphological and compositional analysis of scribed structures confirmed a significant reduction in scribe widths (< 50 μm) using a laser with 1064 nm wavelength and pulse width 25 ns, a commonly utilized configuration for scribing of Mo thin film electrodes. The process eventually reduces the dead zone and increases the overall active area in the module.

Keywords Scribing · CIGSe · Thin films · Solar modules · Laser · Nanosecond

A. Badgujar · B. Nandwalkar
SVKM's Institute of Technology, Dhule, Maharashtra 424001, India

A. Badgujar (✉) · S. Dhage
International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Hyderabad 500005, India
e-mail: amol.badgujar@svkm.ac.in

R. K. Nayak et al. (eds.), *Recent Advances in Materials and Manufacturing Technology*, Lecture Notes in Mechanical Engineering,
https://doi.org/10.1007/978-981-99-2921-4_81

Shri Vile Parle Kelavani Mandal's

Institute of Technology, Dhule

Approved by AICTE & Affiliated to DBATU

Title of the Book	**Pandemic Detection and Analysis Through Smart Computing Technologies**
Title of the Chapter	**Wi-Fi-Based Proximity Social Distancing Alert to Fight Against COVID-19**
Name of Author	Mayuri Diwakar Kulkarni and Khalid Alfatmi
Link for the published Book	https://www.routledge.com/Pandemic-Detection-and-Analysis-Through-Smart-Computing-Technologies/Raw-Jain-Das-Sharma/p/book/9781774910320

Shri Vile Parle Kelavani Mandal's
Institute of Technology, Dhule
Approved by AICTE & Affiliated to DBATU

Title of the Book	**Healthcare Monitoring and Data Analysis using IoT: Technologies and application**
Title of the Chapter	M-health: a revolution due to technology in healthcare sector
Name of Author	Mayuri Kulkarni
Link for the published Book	https://digital-library.theiet.org/content/books/10.1049/pbhe038e_ch2;jsessionid=19ixph02bq724.x-iet-live-01

Accredited by NAAC & NBA*

SVCE BENGALURU

SRI VENKATESHWARA COLLEGE OF ENGINEERING

— Affiliated to VTU, Approved by AICTE, Recognised by UGC u/s 2(f) & 12(B)—

IEEE

Sri Venkateshwara College of Engineering

Vidyanagar, Kempegowda International Airport Road, Bengaluru, Karnataka, India-562157

International Interdisciplinary Humanitarian Conference for Sustainability (IIHC-2022)

IEEE XPLORE ISBN
978-1-6654-5687-6

Bengaluru, Karnataka | 18th,19th Nov—2022

Technical Sponsors

IEEE BANGALORE SECTION

Financial Sponsors

THE BIG LEAP
Aspire. Achieve. Excel

Conference Proceedings

Welcome Message
Table of Contents
Papers

ARIIA ATAL RANKING OF INSTITUTIONS ON INNOVATION ACHIEVEMENTS

GOLD

2022 International Interdisciplinary Humanitarian Conference for Sustainability (IIHC) | 978-1-6654-5687-6/22/$31.00 ©2022 IEEE | DOI: 10.1109/IIHC55949.2022.10059680

The Current State of the Art for PV Grid Connected System Issues with Power Quality

Mohanish Thakur
Btech Scholar, Department of Electrical Engineering, SVKMs IOT, Dhule
Maharashtra, India
mbthakur2001@gmail.com

Aayush Patil
Btech Scholar, Department of Electrical Engineering, SVKMs IOT, Dhule
Maharashtra, India
patilaayush3232@gmail.com

Gaurav Patil
Assistant Professor, Department of Electrical Engineering, SVKMs IOT, Dhule
Maharashtra, India
gauravpatilee@gmail.com

2022 International Interdisciplinary Humanitarian Conference for Sustainability (IIHC) | 978-1-6654-5687-6/22/$31.00 ©2022 IEEE | DOI: 10.1109/IIHC55949.2022.10060091

***Abstract*—The globe is turning to renewable energy sources in the face of rising energy demand and diminishing. Solar energy is the best renewable energy source currently accessible because of its many benefits over other renewable energy sources. Presented is a study on the evaluation of solar energy's integration issues into electrical grids with power quality issues By using the sun's energy and converting it from DC to AC, photovoltaic or PV systems are driving this transformation. Due to the present energy demand, the depletion of fossil fuel sources, and environmental effects, integrating renewable energy from this source into grids has gained attention among researchers and scientists. In this study, the power quality issues due to solar-grid integration are highlighted, the properties of the solar system that make them suitable for integration, and the consequences and difficulties of integration are covered. When connected to the grid, the photovoltaic (PV) system proved to be beneficial for contemporary civilization. Although connecting a sizable PV system with the grid raises a number of power quality challenges. Poor or low power quality could result in losses in revenue and inconvenience for end users. The components of the power system overheat and begin acting in undesirable places as a result of low power quality issues, which results in significant damage. This paper examines the problems with electrical power quality related to grid-connected solar systems.**

Keywords---PV system, Power quality, Grid Integration

I. INTRODUCTION

It is vital to transition to green energy sources due to the rapidly rising energy demand, the quick depletion of the world's fossil fuel reserves, global warming, and the harm done to nature by conventional energy sources. Green energy sources include things like wind, small hydro, solar, tidal, fuel cells, biomass, biogas, geothermal, etc., which can be either renewable or non-renewable.

Compared to the conventional system, hybrid renewable energy sources (HRES) are quickly growing in popularity since they are more environmentally friendly and can meet the enormous demand demanded by the utilities. The modelling, control, and design analysis are used in the proposed paper with a battery, PV, and wind energy storage system.

For power generation of all scales, inverters have become a standard component in connecting PV systems to the utility grid. While both current- and voltage-source inverters provide the same benefits, current-source inverters cannot account for harmonics on the power grid. For PV DG grid integration, Pulse Width Modulation (PWM)-based VSIs have proven to be a popular choice. Power point tracking, power conversion, power flow management, fault prevention, system balancing, efficient voltage control, power factor correction, etc. are all provided by VSIs at the greatest possible level.

As of last year, solar photovoltaic (PV) power generation accounted for 2.7% of the world's total electricity generation, second only to wind in absolute terms and a 131 TWh increase from the previous year. With worldwide solar PV capacity additions having stopped in 2018 and China's deployment having further declined in 2019, this development was noticeably slower than it had been 2 years earlier. The abrupt shift in China's solar PV inducements to control costs and overcome grid integration hurdles for more sustainable PV development was largely responsible for this. Solar power expansion was achieved by equal contributions from the European Union, India, and the United States. Generation of solar photovoltaics in Southeast Asia increased dramatically, with much of the growth attributable to a dramatic increase in new capacity in Viet Nam, from 0.1 GW to 5.4 GW. A record year for PV deployment occurred in 2019, with 109 GW being installed. This was despite a slowdown in China, which was compensated for by increases in the United States, the European Union, Latin America, the Middle East, and Africa. By 2030, the amount of power generated from solar PV will need to increase from 720 TWh in 2019 to over 3300 TWh in 2030 in order to attain the Sustainable Development Scenario (SDS) goal.

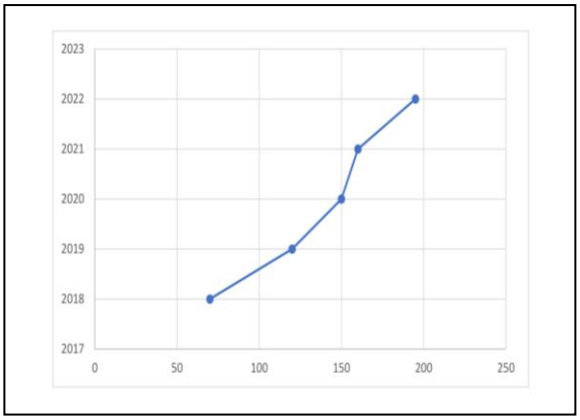


Fig.1 Addition of Generation using Solar PV in Recent years

As shown in figure 1. Up until January 2018, solar power produced 100GW, or 85.65 billion units of power, according to the most recent statistics that is currently accessible. By 2022, it is predicted that solar power installation would increase by about360% due to the rising demand.

978-1-6654-5687-6/22/$31.00 ©2022 IEEE

Accredited by NAAC & NBA*

SVCE BENGALURU

SRI VENKATESHWARA COLLEGE OF ENGINEERING

— Affiliated to VTU, Approved by AICTE, Recognised by UGC u/s 2(f) & 12(B)—

IEEE

Sri Venkateshwara College of Engineering

Vidyanagar, Kempegowda International Airport Road, Bengaluru, Karnataka, India-562157

International Interdisciplinary Humanitarian Conference for Sustainability (IIHC-2022)

IEEE XPLORE ISBN
978-1-6654-5687-6

Bengaluru, Karnataka | 18th,19th Nov—2022

Technical Sponsors

IEEE BANGALORE SECTION

Financial Sponsors

THE BIG LEAP
Aspire. Achieve. Excel

Conference Proceedings

Welcome Message
Table of Contents
Papers

ARIIA ATAL RANKING OF INSTITUTIONS ON INNOVATION ACHIEVEMENTS

I-GAUGE INDIAN COLLEGE RATING GOLD

2022 International Interdisciplinary Humanitarian Conference for Sustainability (IIHC) | 978-1-6654-5687-6/22/$31.00 ©2022 IEEE | DOI: 10.1109/IIHC55949.2022.10059680

Comparative Analysis of Power Quality Issues in Grid-Integrated Wind Energy System

Amit Wani
B.Tech Scholar, Department of Electrical Engineering, SVKMs IOT, Dhule,
Maharashtra, India
amitwani27@gmail.com

Prathamesh Mistari
B.Tech Scholar, Department of Electrical Engineering, SVKMs IOT, Dhule,
Maharashtra, India
pmistary16@gmail.com

Gaurav B.Patil
Assistant Professor, Department of Electrical Engineering, SVKMs IOT Dhule,
Maharashtra, India
gauravpatilee@gmail.com

***Abstract*— Nowadays, with non-renewable energy sources dwindling, consumer demand for power is rising dramatically. So we turned to renewable sources like wind and solar in order to reduce the disparity between supply and demand. We use renewable resources in conjunction with conventional systems since they cannot meet demand on their own. We must therefore integrate renewable energy sources into the grid. The system encounters several power quality problems while performing this. However, this integration presents numerous operational and control difficulties that limit the grids' ability to run steadily and dependably. This paper discusses a thorough analysis of each of these problems and their solutions. It also covered the fundamentals of grid integration and offered advice on how to prepare effectively.**

Keywords*— *Wind System, Voltage Stability, Grid Interconnection

I. INTRODUCTION

Renewable energy production is quickly improving and becoming more efficient and affordable. Their share of global energy use is also increasing. More than two-thirds of the recently installed power capacity worldwide as of the end of the previous decade was renewable. By 2022, solar PV and onshore wind will be the most affordable options for building new energy facilities in most countries. Figure 1 depicts the recent year's tremendous expansion of renewable energy capacity. It rose thrice in times in the last five years as shown in fig.1.

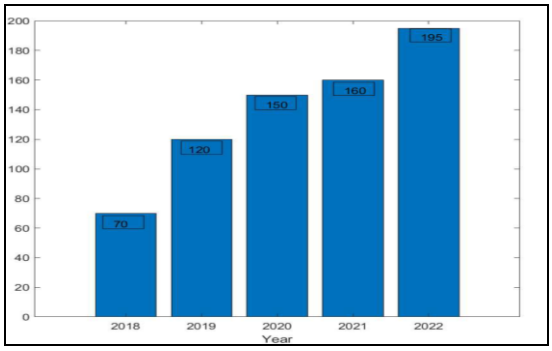


Fig.1. Addition to Renewable Energy

Generation (in GW) in Recent Years

If solar PV were the main consideration by the end of 2022, the installed solar capacity would have reached 1TW. There are two ways to install a solar PV system. One is a "Grid Connected" solar system and the other is an "off Grid" Solar PV system that is "Off Grid" are autonomous and stand-alone systems that are not connected to the main electric supply line or the electricity distribution system. Whereas the "Grid Connected" solar PV system, is linked to the main grid or the electricity distribution company. The storage device is the key difference between these two. In an off-grid linked system, batteries show to be a high-cost component, making them rather expensive to utilize. In addition to being expensive, it is inefficient because batteries lose energy over time [3]. Off-Grid is typically necessary for more isolated locations that are far from any energy grid.

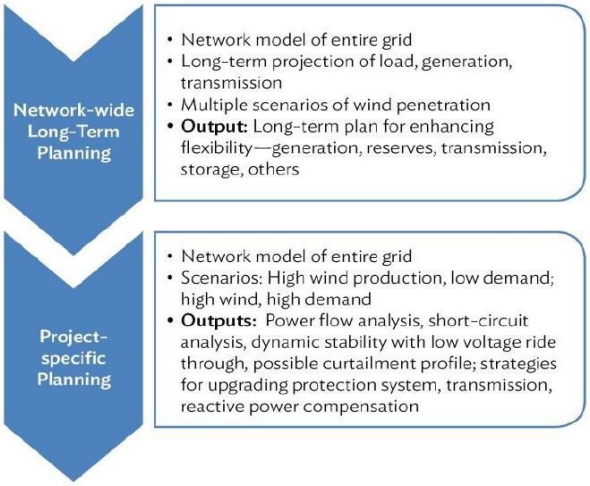


Fig.2. Tiered Planning for Grid Integration

The high amounts of electricity produced by photovoltaic systems that are connected to the grid system encourage the use of solar energy on the one hand, but PV generation also leads to new initiatives for planning and development, the quality of the PV power, the activation process, safety, and many other factors [2]. Figure 2 showing step by step planning of integration. Consumers' access to high-quality power is impacted by PV power productivity aspects, particularly when PV output relates to the grid, the topology of the grid, and the flow channels are changed. The impact of PV systems connected to the grid on the quality of the power is examined in this study.

II. GRID INTEGRATION PRINCIPLE

While connecting the grid to renewable sources one must follow the grid principles to achieve the required results. Fig. 3 shows wind grid integrated system. Several actions can be made to increase the capability of power, and networks to integrate growing amounts of windcapacity[14].

2022 International Interdisciplinary Humanitarian Conference for Sustainability (IIHC) | 978-1-6654-5687-6/22/$31.00 ©2022 IEEE | DOI: 10.1109/IIHC55949.2022.10059791

978-1-6654-5687-6/22/$31.00 ©2022 IEEE

2021 6th International Conference on Inventive Computation Technologies (ICICT) | 978-1-7281-8501-9/21/$31.00 ©2021 IEEE | DOI: 10.1109/ICICT50816.2021.9358724

ICICT

PROCEEDINGS of the 6th International Conference on Inventive Computation Technologies (ICICT 2021)

20-22, January 2021

Technical Sponsors

IEEE

RVS TECHNICAL CAMPUS - COIMBATORE
EDUCATE INSPIRE INNOVATE
2009

Proceedings of the Sixth International Conference on Inventive Computation Technologies [ICICT 2021]
DVD Part Number: CFP21F70-DVD; ISBN: 978-1-7281-8500-2

An Overview on HVDC Transmission Projects in India

Namra Joshi, *Assistant Professor,*
Department of Electrical Engineering,
SVKM's Institute of Technology,
Dhule, Maharashtra, India
er.nrjoshi@gmail.com

Jaya Sharma, *Assistant Professor,*
Department of Electrical Engineering,
Shri Vaishnav Vidyapeeth Vishwavidyalaya,
Indore, Madhyapradesh, India
jayasharmaee@gmail.com

***Abstract*— With the increase in energy demand, the need for an efficient and stable transmission system is required. However, transport of bulk power and over long distance gives rise to considerable problems like variation of voltages profiles, decrease in power transfer, and generation of reactive power, so rapid advance in DC transmission technology has been taken place because it has numerous advantages over EHV AC transmission. This paper illustrates the recent developments in the HVDC Transmission System in India, also a comparative analysis between the EHV AC Transmission System & HVDC Transmission system, and an overview of projects of HVDC power plants in India is presented.**

***Keywords*— HVDC, Transmission System, FACTS**

I. INTRODUCTION

India is a developing country with this rate of development the power requirement has been increased tremendously. For fulfilling such a requirement, strong transmission infrastructure is needed. Formerly EHV AC transmission system is used invariably for the same. HVDC transmission system is used since 1990.HVDC transmission system can be employed for the transfer of power in a large amount over a long distance economically. The transmission losses in the case of an HVDC system are also less and it disturbs the vicinity elements in very less amount.[1]

II. HVDC TRANSMISSION SYSTEM

In the HVDC transmission system, two major power electronics converters i.e. rectifier and inverter are used. The HVDC system comprises of power electronics-based converters. Two converters we are using one at the sending end & the other at the receiving end. The transformers are also used to change the voltage level. Wave Shaping circuit and filters are used for pure AC and DC output voltage. The systematic block diagram of the HVDC transmission system is illustrated in fig. 1[5]

Fig. 1 Basic Block Diagram of HVDC System

A. Major Components of HVDC Transmission System

- **Transformers:** It is a static device which is used for changing the voltage level as and when required in the power system.
- **Converting Station:** In the HVDC transmission system, it required to change the nature of supply several times at both ends i.e. sending end and receiving end. The main function of the converter station is to change supply from AC-DC or DC-AC with the aid of power electronics-based converters.
- **Switchgears:** The main function of switchgear is to make safe switching operations and providing support to the system to operate in a normal state even after being subjected to faulty conditions.[4]

B. Cost Analysis of HVDC System

The following Cost will be taken into consideration while planning for HVDC Transmission System:

- Cost of Valves
- Converter Transformers
- AC Filters
- Civil Works Building
- Erection and Commissioning etc.
- Engineering
- Insurance etc.

Fig. 2 Cost Components of HVDC Transmission System

D. Jude Hemanth · Danilo Pelusi ·
Chandrasekar Vuppalapati
Editors

Intelligent Data Communication Technologies and Internet of Things

Proceedings of ICICI 2021

Springer

Biomass Energy For Rural India: A Sustainable Source

[*]Namra Joshi[1]
[1]Assistant Professor, Department of Electrical Engineering,
SVKM's Institute of Technology, Dhule, India
[1*]er.nrjoshi@gmail.com
* Corresponding Author

Abstract. Energy plays a crucial role in the social-economic development of developing nations like India. To address the issues like depletion of fossil fuels and increasing concern towards environmental pollution, the Government of India promoting the use of renewable energy sources which are clean and green. Biomass Energy is a type of effective source of energy. This paper focuses on the Indian Potential of Biomass Energy and Grid Integration opportunities for biomass energy-based plants. Various methodologies are also addressed to utilize biomass energy at a major level.

Keywords: Renewable Energy, Biomass Energy, Grid Interconnection.

1 Introduction

India is a developing nation and the population is getting rise year by year. As per the census of the year, 2011 the Indian population is 1.21 billion and it is expected to rise by 25 % by the year 2036. With such a rise in population, the power demand is increasing tremendously. [1] In the upcoming two decades, worldwide power consumption will be rise by 60-70 %. According to the world outlook magazine, India will have peak energy demand and to fulfill the same emissions will also increase. India is looking towards clean sources of energy i.e. renewable sources of energy. It is having around 17 % of the entire GDP. The energy sources which can renew again are termed as Renewable Source of Energy. Renewable Energy sources like Solar [2], Wind [3], Geothermal, etc. include any type of energy obtained from natural resources that are infinite or constantly renewed. The classification of renewable energy sources is illustrated in Fig.1. India is about to achieve the aim of 10 GW bioenergy-based generation by the year 2022. The position of India is 4th in renewable energy capacity. Government of India promoting waste to Energy program with the help of financial support from the ministry of petroleum & natural gas.

PROCEEDINGS

of the

3rd International Conference on Inventive Research in Computing Applications

ICIRCA - 2021

2-4, September 2021

IEEE XPLORE COMPLIANT ISBN
978-0-7381-4627-0

IEEE DVD ISBN
978-0-7381-4626-3

Organized by

RVS College of Engineering and Technology
Coimbatore, India

PROCEEDINGS

of the

3rd International Conference on Inventive Research in Computing Applications

ICIRCA - 2021

2-4, September 2021

IEEE XPLORE COMPLIANT ISBN
978-0-7381-4627-0

IEEE DVD ISBN
978-0-7381-4626-3

Organized by

RVS College of Engineering and Technology
Coimbatore, India

3rd International Conference on Inventive Research in Computing Applications [ICIRCA 2021]

2-4, September 2021

Table of Contents

Proceedings of the Third International Conference on Inventive Research in Computing Applications (ICIRCA-2021)
DVD Part Number: CFP21N67-DVD; ISBN: 978-0-7381-4626-3

Stability Analysis of Wind Integrated 14 Bus System

Namra Joshi, Assistant Professor
Department of Electrical Engineering,
SVKM's Institute of Technology, Dhule,
Maharashtra, India
er.nrjoshi@gmail.com

Dr. Pragya Nema, Professor,
Department of Electrical Engineering,
Oriental University, Indore
Madhyapradesh, India

***Abstract*— The world is looking towards effective and efficient sources of energy. The generation of Wind Power across the globe is raised. This paper illustrates a detailed analysis of the voltage stability of the wind integrated system. The 14 Bus IEEE system was used as the study case. STATCOM is used for the improvement of Voltage stability. In this paper power system analysis toolbox of Matlab software is used for the analysis of stability.**

***Keywords*— Wind Power, Voltage Stability; STATCOM**

I. INTRODUCTION

The demand for Electrical power is raising day by day for meeting this demand efficient power system is required. This rise in demand can be fulfilled in two ways first is by expanding the capabilities of an existing system [1] or secondly by the installation of a new power generating system. The load on the existing line is increased, so it is required to do some measures to maintain stability.[2] Similarly, for the same purpose, it is required to enhance voltage stability. Nowadays for providing reactive power compensation use of a Flexible Alternating Current Transmission System is increasing tremendously.[3] In this paper simulation work is being carried out with the help of the Power System Analysis Toolbox of Matlab software. [4] It is a very nice tool for power system analysis. IEEE 14 Bus system is considered a test system. A part of Madhyapradesh, India grid is taken for simulation data. The power electronics-based controllers used for enhancing controllability & power transfer capability of a transmission line are called FACTS. [5] There are several types of FACTS devices:

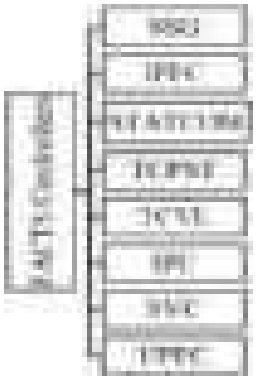


Fig. 1 Types of FACTS Controllers

A. Advantages of FACTS Devices:

There are the following advantages of FACTS:

- With the help of these controllers, we can enrich the stability.
- The total number of supply interruptions is also reduced.[6]
- The quality of the power supply can be improved.
- With the help of them, demand can be fulfilled with less margin.[7]
- It reduces the overall cost of maintenance of the transmission system.
- It doesn't affect the environment. [8]

B. Applications of FACTS Devices:

FACTS are very useful and its applications are illustrated in fig. 2.

Fig. 2 Applications of FACTS Controllers

ICECMSN

PROCEEDINGS

of the

International Conference on Evolutionary Computing and Mobile Sustainable Networks ICECMSN - 2021

28-29, September 2021

Springer

Organized by

RV Institute of Technology and Management®
Affiliated to Visveraya Technological University, Belagavi | Approved by AICTE, New Delhi.

RV Institute of Technology and Management
Bengaluru, India

Effective Integratıon of Distributed Generation System in Smart Grid

*Namra Joshi[1], Jaya Sharma[2]
[1]Assistant Professor, Department of Electrical Engineering,
SVKM's Institute of Technology, Dhule, Maharashtra, India
[1*]er.nrjoshi@gmail.com
[2]Assistant Professor, Department of Electrical Engineering,
Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore, Madyapradesh, India
[2]jayasharmaee@gmail.com

* Corresponding Author

Abstract. In this modern era, developing nations are using Distributed Generation systems as a major energy source in deregulated power systems. Distributed Generation (DG) is having an important part in improving the quality of human life. This paper emphasis on the various issues concerning the various issues of DG integration into the smart grid. Also highlights the benefits & design issues of this integration.

Keywords: Grid Integration, Distributed Generation, Smart Grid, Renewable Energy.

1 Introduction

For bulk power transmission competent infrastructure is needed. Smart grid in conjunction with distributed generation [DG] [1] system is very effective to fulfill such requirements. The primary idea is that the power generation near consumer premises will reduce the load on transmission & distribution system and will become an alternative source of energy & it will reduce the capital cost required for the erection of new transmission lines. [4] DG is not a recent phenomenon. Before the origin of AC systems and mega-sized generators, most of the power needs is fulfilled through local generators. With the developments in nascent technologies, the whole world is looking towards modernized and compact systems for power generation. With the new developments in compact size in technologies used for power generations like PV panels, fuel cells, micro turbines, etc. Also, this technology facilitates the availability of power at a very cheap cost and the reliability of supply is also raised. The opportunities of DG integration in the smart grid are discussed in this paper.

2021 10th IEEE International Conference on Communication Systems and Network Technologies (CSNT) | 978-1-6654-2306-9/21/$31.00 ©2021 IEEE | DOI: 10.1109/CSNT51715.2021.9509703

2021 10th IEEE International Conference on Communication Systems and Network Technologies

CSNT 2021

Table of Contents

Track -J: Intelligent Systems, Software Testing and IT Applications

2021 10th IEEE International Conference on Communication Systems and Network Technologies (CSNT) | 978-1-6654-2306-9/21/$31.00 ©2021 IEEE | DOI: 10.1109/CSNT51715.2021.9509683

New Approach for Online Examination Conduction System Using Smart Contract

Mayuri Diwakar Kulkarni
Dept. Computer Engineering
SVKM's Institute of Technology
Dhule, India
mayuridkulkarni@gmail.com

Khalid Alfatmi
Dept. Computer Engineering
SVKM's Institute of Technology
Dhule, India
alfatmi.khalid@gmail.com

***Abstract*— Today's era is the smart era where every person is trying to execute the process smartly. Then how the education system will be in a back place. The online conduction of courses either by engaging online classes or by introducing the MOOC courses. This made learning easier but the major concerning issue in the online system is the conduction of online examination. This paper discusses the current treads in an online examination system as well as the new approach introduced for smooth conduction of online examination at any place anywhere at any time. This new approach is based on blockchain technology such as the smart contract. The smart contract will be helpful to the universities, institutes for conduction of online examination at any place at any time. This will keep regress monitoring on the examinee such as posture analysis as well as control panel processes. By using *CompareHashAndPassword() the authentication of the examinee password will be possible. GoCV* package is used to authenticate the examinee through video capturing. *dlib toolkit* used to monitor the continuous posture of the examinee during the examination.**

Keywords- Online examination, Smart Contract, Authentication, Blockchain

I. INTRODUCTION

In the digital era, we are moving towards all the work in an online manner. The same thought process is recommended in the examination system. But to conduct the examination online at the examinee's place is not possible in the current examination system. This is because of the possible malpractices used by the examinee. For that online examination come up with a solution such as the examination centers. On these centers, the mode of examination was online either using some preinstalled software or on websites on the intranet. And to avoid malpractices in an examination system the invigilators are appointed. Then only replacing the paper and pen to use the only computer is an online examination?

David Chaum proposed a blockchain-like protocol in 1982[28]. Stuart Haber and W.Scott Stornetta work on a cryptographically secured chain of blocks [29].In 1992, Haber, Stornetta, and Dave Bayer used Merkle trees to improve efficiency. Blockchain technology was introduced in 2008 by Satoshi Nakamoto. The first application based on blockchain technology is Bitcoin. Bitcoin is a cryptocurrency. This introduced technology was initially limited up to cryptocurrencies only. Due to continuous enhancements in blockchain technology the smart contacts came into existence. The smart contract was invented by Nick Szabo. These smart contacts are more secured and transparent [29]. Security in an examination is very important in an examination system. This security issue has a solution through the Smart Contracts in Blockchain technology. Smart contracts are more secured, authenticated, transparent, and preserves privacy [29].

This paper consists of a literature survey on the current online examination system as well as smart contracts in an existing system proposed system for conduction of online examination followed by the conclusion.

II. LITERATURE SURVEY

Now a day's world is more moving towards digitalization. This digitalization system allows come up with easy-to-use. But the major factor affecting this digitalization is hacking or attacks. To solve this hacking the data made more secured through encryption algorithms, private and public key, and digital signature.

Current Scenarios of Online Examination System as follows:

1) The online platforms of examination conduction having the features as monitoring to the multiple browsing through the same system.
2) Due to COVID-19, in the online examination system, the examinations were online but the invigilators were allocated to monitor the examination [27].
3) In the case of online examination, the examination center is allocated where the software is previously installed and then only examinations are conducted [1][9] [26].

Table 1, indicates the current scenario in the online examination system which mainly focuses only on the intranet as well as desktop-based applications. The existing technologies either use web-based applications or desktop-based applications. In this approach, online examination conduction has some of the restrictions such as either online or proctor online mode.

TABLE I. EXISTING EXAMINATION SYSTEM

Reference	Mode of Examination	Existing System	Implementation platform and language	Purpose
[26]	Online Examination-Conduct	Web-based examination system consists of question management, Paper	Client-side JavaScript and server-side JSP	Examination

978-1-6654-2306-9/21/$31.00 ©2021 IEEE
DOI: 10.1109/CSNT.2021.149

International Conference on Communication and Information Processing (ICCIP-2020)
Available on: SSRN

Estimation of Failure Sustainability Factor in Today's Youth: An Experimental Analysis

Vijaylaxmi Bittal and Rubi Mandal

Assistant professor,SVKM's IOT,Dhule 424001,India

Abstract

Youths are the backbone of the nation and they are future assets of the nation. But in today's environment youths are easily attracted and influenced by frequent changes of their surroundings. These qualities are becoming an inseparable source which is influencing not only their present life but also their future life. The main objective of this paper is to identify the failure sustainability factor of the youth using a data analysis approach. This paper demonstrates how we can extract the thinking pattern of today's youth by analyzing the digital responses we gathered from action-oriented questionnaires and then classifying the text to approach towards the decision making for failure sustainability factor. Using data analysis as a platform this work intends to gather the real time data from today's youth which helps us identifying their thinking patterns, their interests. The experimental result of this approach shows the resilience power of the youth on various matters and thus identify their failure sustainability factor. The technique proposed may help the today's youth and their closed ones identify their pitfalls in their inner strength and make required changes in the right time in their thinking pattern to succeed in their life.

Keywords-Thinking Pattern, Data Analysis, Resilience Power, Failure Sustainability factor, Decision Making.

1. Introduction

External influences [1][3] are inseparable from youth, all youths are addicted to one another influence. Continuous involvement [4-5] leads to reducing their self-actualization. One common thing you can find in today's youth the acceptance level of failure is very less, leads to end with doing suicide [2] or attempting crime to succeed in real time challenges. So there is a necessity requirement to estimate the failure sustainability factor, using this can suggest timely improvement in a youth and preparing them for real world competitions that directly increases nation will power. In this we developed a decision-making system to calculate failure sustainability factor and did effective experimental data analysis using python pandas.

2. Related Work

Due to the flare-up of different social media applications, people are getting inclined towards social media. [1][3] Deals with external influences like social media and their addiction, usage positive and negative aspects by designing an application to help people realize their inclination towards it and provide productive results according to the inputs given based on previously taken data from surveys. It also confers about the development of the reference interaction model for intensifying young adults from dangerous frameworks to access adult education opportunities by social media-based amenities.[2] Deals with ideation of suicide by feature selection suggests various attributes using an algorithm to build an efficient and powerful supervised perspective to classifying tweets with suicidal ideation.

Shri Vile Parle Kelavani Mandal's

Institute of Technology, Dhule

Approved by AICTE & Affiliated to DBATU

Title of the Book	**Emerging Trends in Electrical, Communications, and Information Technologies**
Title of the Chapter	**Mathematical Modelling of STATCOM for Reactive Power Compensation in Power System and Approach to the Renewable Energy**
Name of Author	Sandeep Ushkewar
Link for the published Book	https://link.springer.com/chapter/10.1007/978-981-13-8942-9_15

Shri Vile Parle Kelavani Mandal's
Institute of Technology, Dhule
Approved by AICTE & Affiliated to DBATU

Title of the Book	**Intelligent Communication Technologies and Virtual Mobile Networks**
Title of the Chapter	RTMDC for effective cloud data security
Name of Author	Vijaylaxmi Bittal
Link for the published Book	https://link.springer.com/chapter/10.1007/978-3-030-28364-3_6

ISBN 978-1-7369640-5-7

Estd. in 2001

Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. AY 2019-20

ISO 9001:2015 Certified Institute	NBA Accredited Programs	NAAC Accredited Institute with 'A' Grade	AICTE-CII Survey rating in Platinum category for Industry linkages	Among Top 250 Colleges in NIRF Ranking	68th & 78th in All India Rank by Outlook survey published in June 2019 & May 2018 respectively

e-Conference on Data Science and Intelligent Computing (eC-DSIC) 2020:
Theory, Applications and Research Opportunities

November 27th & 28th 2020
Friday & Saturday

Organized by

Department of Computer Engineering

Editors

Dr. Harshali Patil

Dr. Anand Khandare

Jagdu Singh Charitable Trust's (Regd.)

THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY

Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra

A - Block, Thakur Educational Campus, Shyamnarayan Thakur Marg,
Thakur Village, Kandivali (East), Mumbai - 400 101

Tel.: 022-6730 8000 / 8106 / 8107 Telefax: 022-2846 1890 • Email: tcet@thakureducation.org

• Website: www.tcetmumbai.in www.thakureducation.org

Smooth Medicare Services Using Machine Learning Techniques

Upasana Patil, Tejaswini Yeole, Sachin Patil, Pratik Chavan, Tukaram Gawali
Department of CE , Shri Vile Parle Kelavani Mandal's Institute of Technology, Dhule, India
upasanapatil26@gmail.com, tejaswiniyeole28@gmail.com, sachinpatil4188@gmail.com, pratikchavan601@gmail.com, t.gawali@gmail.com

Abstract -Health **is a useful gift of nature. It is one among the essential needs of all the citizenry and it's influenced by many factors, such as, food, housing, basic sanitation, healthy lifestyles, protection against environmental hazards and communicable diseases. Health care is the most vital aspect of any society and is prime need for every citizen of every country. Within the recent past vast amount of knowledge is generated in Bangladesh. We used machine learning techniques to predict the quantity of various outpatient of community clinics. A singular approach towards deciding process and better quality is developed by using the machine learning. Machine Learning approach is employed in determining the patient satisfaction in health care sector. To predict the self-care problems of youngsters with physical and motor disability beforehand, an expert system is proposed using machine learning. (KNN) K Nearest Neighbor is proposed to predict self-care problems.**

Keywords—Temperature, Arduino UNO, Patient Satisfaction, Healthcare, Regression, Self-care, Physical and Motor Disability, Health Data Analysis, Community Clinics, Bangladesh

I. INTRODUCTION

Health care is the maintenance or improvement of health via the prevention, treatment, recovery, or cure of disease, illness, injury and other physical and mental impairments in people. A healthy population plays an important role in contributing the economical burden to the government and reduce pressure overloaded hospitals, clinics. We all know the fashionable healthcare system is vital to remain people effective and healthy. In Bangladesh there are 64 districts and 492 sub-districts Dysentery diarrhea, Bacterial and Fungal diseases. According to Sandwip Upazilla Health complex survey 61.4% patients get admitted. During this manner we used ML techniques to predict number of out of door patients who will visit the clinic. Clinic management are getting to be benefited and manage their human resource in better way. Just in case of health care sector patient satisfaction plays a key role in evaluating the quality service they provides. So an expert system is proposed to predict the self-care problems of youngsters with physical and motor disability, Computer-based expert systems are developed using different machine learning classification techniques. Among them, Artificial Neural Network (ANN) is one of the foremost used once because of performance. Among the other used classification techniques, Support Vector Machine (SVM), K Nearest Neighbor (KNN) But a haul with these classifiers is that each of the mentioned classifiers isn't imagined to work well altogether situations.

II. LITERATURE SURVEY

In this paper an endeavor possesses to make a literature survey on totally different aspects of health care watching system.The review of literature is also a vital a vicinity of the analysis in any field.throughout this section, we have a tendency to gift recent connected works on swish Medicare services victimisation Machine Learning techniques.Recent and former literatures have designed totally different prototypes for patient watching system.However, there area unit many limitations for these studies.The sudden development of health technologies fostered the prospect of measurement Associate in Nursing outsize quantity of clinical knowledge with the last word aim to strengthen patients' management [1].Nowadays, physicians and medical researchers will perpetually monitor clinical knowledge of every patient, permitting correct pursuit of the disease's evolution.Such knowledge area unit usually collected and keep in electronic health records (EHR), that holds promise to strengthen potency and quality of attention, creating knowledge a lot of accessible,facilitating health info exchange and ability between attention suppliers [2] Machine learning techniques (MLTs) provide a replacement chance in terms of the management of this info.A growing body of literature shows MLT applications in medical specialty, particularly for developing prediction models victimisation each supervised and unsupervised strategies [3].supply Regression [LR], Support Vector Machine [SVM] and Neural Network [NN] were applied to guage the practicableness of such techniques in predicting hospitalization of patients with HF.we have a tendency to set to match these algorithms, given their increasing quality in clinical settings for prediction of binary outcomes and their ability to find advanced relationshipsbetween the result and predictors and interactions between covariates [4].Logistic Regression (LR) is maybe the manoeuvre most often accustomed predict the incidence of an incident in clinical analysis [5].the recognition of LR is especially associated with its ability to supply important and easy-to-interpret quantities like odds ratios (ORs), which might offer clinical info on the impact ofpredictors on the incidence of the event of interest.However, LR is understood to possess some limitations given its constant quantity assumptions and so the matter to find non-linearities and interactions between covariates.LR was typically used as a benchmark in studies aimed to match totally different MLTs for the prediction of the incidence of a binary outcome [6].Support Vector Machine (SVM) is Associate in Nursing algorithmic program that was developed for binary classification settings with 2 categories [7].SVM works by constructing hyperplanes

ISBN 978-1-7369640-5-7

Estd. in 2001

Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. AY 2019-20

ISO 9001:2015 Certified Institute	NBA Accredited Programs	NAAC Accredited Institute with 'A' Grade	AICTE-CII Survey rating in Platinum category for Industry linkages	Among Top 250 Colleges in NIRF Ranking	68th & 78th in All India Rank by Outlook survey published in June 2019 & May 2018 respectively

e-Conference on Data Science and Intelligent Computing (eC-DSIC) 2020:
Theory, Applications and Research Opportunities

November 27th & 28th 2020
Friday & Saturday

Organized by

Department of Computer Engineering

Editors

Dr. Harshali Patil

Dr. Anand Khandare

Jagdu Singh Charitable Trust's (Regd.)

THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY

Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra

A - Block, Thakur Educational Campus, Shyamnarayan Thakur Marg,
Thakur Village, Kandivali (East), Mumbai - 400 101

Tel.: 022-6730 8000 / 8106 / 8107 Telefax: 022-2846 1890 • Email: tcet@thakureducation.org

• Website: www.tcetmumbai.in www.thakureducation.org

Cloud Computing In Ehealth

Ms.Amruta Patil, Mr.Praful Pawar, Ms..Neha Baviskar, Prof. Ashish Awate,Ms.Janhavi Kulkarni
Department of Computer Engineering,Shri Vile Parle Kelvani Mandal's Institute of Technology,Dhule, Maharashtra, India.
patilamruta9319@gmail.com, prafulpawar7887@gmail.com, nehabaviskar111@gmail.com, ashish.awate87@gmail.com, Janhavik172@gmail.com

Abstract— **Cloud technology is hired to make community along patients, doctors, and care establishments by offering applications, services and moreover through maintaining the record within cloud. Presenting the cloud administrations in the wellbeing area not just encourages the trading of electronic clinical records among the emergency clinics and facilities, yet in addition license the cloud to go about as a clinical record stockpiling focus. This survey paper targets to discuss, examine security challenges and available solutions in cloud computing. Various approaches were used to keep the safety of the health information in the cloud environment. The SPS model, DACAR model are used to enhance security of data.**

***Keywords— eHealth, cloud computing, health records, sensor networks, security, privacy, data buckets*.**

I. INTRODUCTION

The cloud computing is web based climate permits us to utilize software, information and services over the web from any location on any web enabled gadget. Cloud computing gives client another approach to share information assets and that have place with different organizations or destinations**.** It is in any case seen that various spaces being locked in with sharing of clinical information have made the application extremely hard to oversee subsequently the requirement for cloud-based climate which permits communitarian sharing of data over different authoritative areas [1]. Cloud computing gathers the information or data, resources and also provides services to millions of users simultaneously. Data security is the serious issue in cloud computing. Patients these days are higher proponent for his or her own healthcare they are educated to their diseases and increasingly demand access to the most recent technologies. Simultaneously, patients search for the simplest care at the simplest price and are willing to research their decisions.

Subsequently, requests for admittance to non-public patient records are expanding and associations got the opportunity to proceed. By utilizing cloud in medical services quiet information are accessible whenever and anyplace for specialists to dissect and analyze. It has been set up in various scholastic papers that distributed computing offers various advantages going from adaptability, cost viability, spryness improvement of community-oriented sharing of assets [2].

E-health is rising zone within the crossing point of clinical informatics, public fitness and business, regarding fitness offering and information delivered or enhanced through the Internet and related technologies. From a more extensive perspective, the term portrays a specialized turn of events, yet in addition a perspective, a perspective, an attitude, and a dedication for networked, worldwide speculation, to improve medical services locally, territorially, and worldwide by utilizing Information and Communication Technology [3].

The significance of our survey is to collect as much knowledge as viable on how to maintain the security requirements of the cloud-based e-health systems so that this system might be able to storing and transferring the patient health data through a public cloud in a stable and secure manner.

II. CLOUD COMPUTING

Cloud computing is a system for conveying data innovation administrations inside which assets are recovered from the web through electronic devices and applications, as resistance a quick association to a worker. Rather than keeping documents on a restrictive plate drive or local memory gadget, cloud based capacity makes it feasible to abstain from squandering them to a distant data.

However long device approaches the organization, its admittance to the data and furthermore the product bundle projects to run it. It's alluded to as distributed computing because of the information being gotten to found in "the cloud" and needn't bother with a client to be during a particular spot to acknowledge admittance to that.

Cloud Computing Characteristics:

According to the definition, cloud computing has five main characteristics: resource pooling, rapid elasticity, on-demand self-service, broad network access, and measured service [4].

1. **Elasticity:**
The cloud is adaptable and configurable. Customers feel that assets are boundless.
2. **On-demand self-service**:
If necessary, any client can naturally design the cloud without the obstruction of administration professionals.
3. **Shared resources**:
Customers can share assets like organizations, workers, stockpiling, programming, memory, and preparing at the same time. Suppliers can powerfully designate assets as indicated by the vacillations popular, and the customer is totally unconscious of the physical areas of these administrations.
4. **Broad network access**:
The cloud permits a wide admittance to the organization utilizing the Internet from any gadget.
5. **Measured service**:
Diverse cloud administrations can be estimated utilizing various measurements. Itemized use reports are created to save the privileges of clients and suppliers.

Let's see how cloud is used in eHealth:

1) Now a days we are seeing more Electronic Health Records are moved to cloud.
2) Cloud based emails are mostly used in eHealth.

ISBN 978-1-7369640-5-7

Estd. in 2001

Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. AY 2019-20

ISO 9001:2015 Certified Institute	NBA Accredited Programs	NAAC Accredited Institute with 'A' Grade	AICTE-CII Survey rating in Platinum category for Industry linkages	Among Top 250 Colleges in NIRF Ranking	68th & 78th in All India Rank by Outlook survey published in June 2019 & May 2018 respectively

e-Conference on Data Science and Intelligent Computing (eC-DSIC) 2020:
Theory, Applications and Research Opportunities

November 27th & 28th 2020
Friday & Saturday

Organized by

Department of Computer Engineering

Editors

Dr. Harshali Patil

Dr. Anand Khandare

Jagdu Singh Charitable Trust's (Regd.)

THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY

Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra

A - Block, Thakur Educational Campus, Shyamnarayan Thakur Marg,
Thakur Village, Kandivali (East), Mumbai - 400 101

Tel.: 022-6730 8000 / 8106 / 8107 Telefax: 022-2846 1890 • Email: tcet@thakureducation.org

• Website: www.tcetmumbai.in www.thakureducation.org

Convergence Of Machine Learning And Blockchain For Securing Future Of Internet Of Things

Darshana Borse, Nikita Hire, Dnyanal Gavale,Ashish Awate
Computer Engineering,SVKM's Institute of Technology Dhule, India
darshanaborse687@gmail.com,nikitashire@gmail.com,dnyanalgavale@gmail.com,ashish.awate87@gmail.com

Abstract: **Recently, IoT Technology has become a part of our day to day lives it is known to be smart things for smart homes over internet. In addition to being everywhere, in almost every face of life, IoT devices are being actively used. As the number of devices connected in an IoT network is usually very large, so it is not easy to secure from getting cracked. Blockchain and Machine learning has emerged as the possible solution for creating more secure IoT systems in future. In this paper, we explained about an overview of the Blockchain technology and Machine Learning with its implementation; In last we have proposed the model to secure IoT by integrating Blockchain network and machine learning algorithm.**

Keywords: Internet of Things (IoT), Machine Learning, Blockchain Technology.

I. INTRODUCTION

The Internet of Things (IOT) is a network to interconnect computing devices which have the ability to transfer data through network, without any human interaction. There is tremendous growth in technologies in past decades, which has resulted the increased use of IoT devices. To better understand in terms of scale, Till 2020, the use of IoT devices had reached to 50 billion. These numbers are expected to increase to 125 billion by 2030.

Recently, Internet of Things (IoT) has received much attention in many fields; its applications are widespread in various domains. When IoT technologies started to be developed by connecting small devices equipped with sensors, there was no serious consideration on the security issues. However, as IoT technology advances and many devices are connected to exchange private and sensitive information, security problems became a major concern. Each layer of the architecture of IoT has its own security challenges and researchproblems. Due to many reasons specific to IoT, providing the security services for IoT is a very challenging task.

As the explosive need of IoT devices results in security challenges. So this paper aims, to provide solutions for these security and privacy concerns by combining machine learning algorithms and Blockchain techniques. As review of ML algorithms and BC techniques employed to protect IOT applications from security and privacy attacks. Based on the review, we highlight that a combination of ML algorithms and BC techniques can offer more effective solutions to security and privacy challenges in the IOT environment. [2].

Blockchain and machine learning (ML) are considered as promising technologies to support secure and sharing of information and model as well as the intelligent network operation and management. In this paper, we specialize in Blockchain and ML, which have a major potential to promote the event of communications and networking systems [3]

II. OVERVIEW OF BLOCKCHAIN

Blockchain is paradigm that consists of a distributed ledger which contains all transactions ever executed within its network, enforced with cryptography and administered collectively by peer-to-peer nodes. Blockchain technology could be a Google Doc. once we create a document and share it with a group of individuals; the document is distributed rather than copied or transferred. Thus, Blockchain allow us to possess a distributed peer-to-peer network where non-trusting members can interact with one another without a trusted intermediary, in a cryptographically verifiable manner. Blockchain consists of multiple blocks, nodes and miners.

1. Blocks: Every chain consists of multiple blocks and every block has three elementsas data, nounce, and hash.
2. Miners: It creates new blocks on the chain through a process called mining.
3. Nodes: it's kind of device that maintains copies of the Blockchain and keeps the network functioning.

A. Implementation of Blockchain

In three domains Blockchain can be deployed:

1. *Public*: In this domain each and each node can send or read transaction and may participate within the consensus process without the requiring any permission.
2. *Consortium area*: In this domain, only defined nodes can participate within the consensus process. The permission to read or send could also be made public or could also be provided only too few authorized nodes.
3. *Private*: In this area, only the organization to whom the network of Blockchain belongs can write transaction to it. Reading of transaction could also be public or restricted to few nodes depending upon the

ISBN 978-1-7369640-5-7

Estd. in 2001

Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. AY 2019-20

ISO 9001:2015 Certified Institute	NBA Accredited Programs	NAAC Accredited Institute with 'A' Grade	AICTE-CII Survey rating in Platinum category for Industry linkages	Among Top 250 Colleges in NIRF Ranking	68th & 78th in All India Rank by Outlook survey published in June 2019 & May 2018 respectively

e-Conference on Data Science and Intelligent Computing (eC-DSIC) 2020:
Theory, Applications and Research Opportunities

November 27th & 28th 2020
Friday & Saturday

Organized by

Department of Computer Engineering

Editors

Dr. Harshali Patil

Dr. Anand Khandare

Jagdu Singh Charitable Trust's (Regd.)

THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY

Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra

A - Block, Thakur Educational Campus, Shyamnarayan Thakur Marg,
Thakur Village, Kandivali (East), Mumbai - 400 101

Tel.: 022-6730 8000 / 8106 / 8107 Telefax: 022-2846 1890 • Email: tcet@thakureducation.org

• Website: www.tcetmumbai.in www.thakureducation.org

Credit Card Fraud Detection Using Machine Learning Algorithm

Hitesh Nikam,Kirtish Wankhedkar,Nishant Patil,Uddhav Sharma,B.R.Nandwalkar
Dept of Computer Engg.Shri Vile Parle Kelavani Mandal's,Institue of technology,Dhule
hiteshnikam021@gmail.com,wankhedkarkirtish19@gmail.com,patilnishant222@gmail.com,uddhavsharma786@gmail.com,nandwalkar.bhushan@gmail.com

Abstract--**According to the world's current scenario, we can quickly notice that all the countries are highly expanding on digital platforms. All of the sectors are maximum dependent on the internet. The superiors of the country are also working for the development of the country in technological aspects. The amount of cashless transactions taking place all over the internet is very high. Due to this, the risks of fraud and theft are also increasing. Financial scams are taking place in an excessive number. The data of credit cards people use during the transaction is getting stolen and is used to commit fraud. In this paper, there are some techniques discussed through which the credit card frauds can be detected. The objective of this study is to choose the best machine learning algorithm for credit card fraud detection.**

Keywords—Local Outlier Factor, Isolation Forest, Random Forest, Support vector machine, Logistic Regression, Decision Tree, K-Nearest Neighbor

I. INTRODUCTION

In Today's growing technological world, the growth of the e-commerce sector has experienced tremendous growth because most people find it an efficient way to purchase things. The e-commerce offers a variety of payment options like net banking, credit card, and various online transaction apps; as the e-commerce users are increasing, the fraud in online transactions is also growing, and the major one is the credit card fraud. To commit fraud in these varieties of purchases, a fraudster gathers the card details. Most of the time, the real cardholder isn't aware that somebody else has seen or taken his card information and using it for their own benefit.

II. LITERATURE SURVEY

[1] Pawan Kumar and Fahad Iqbal proposed different system techniques of fraud detection, user-friendly and secure. The system examines the achievability of credit card fraud detection based on outlier mining, applies outlier detection mining based on distance sum into credit card fraud detection and proposes this detection procedure and its empirical process. They approach three algorithm Isolation forest, Local outlier factor and Support vector machine. Their observation was Isolation Forest had detected 73 errors while Local Outlier Factor has detected 97 errors along with SVM detecting 8516 errors. Isolation Forest features a 99.74% correct than LOF of 99.65% and SVM of 70.09. So, the Isolation Forest performed far better than the Support vector machine and slightly better than Local outlier factor.

[2] Maja puh, Ljiljana Brkić proposed a paper for fraud detection in credit card transactions by focusing on three machine learning algorithms Random Forest, Support Vector Machine, Logistic Regression. They applied two learning approaches, static and incremental learning, on chosen algorithms. In a static method, training and testing were done once using all datasets. For incremental learning, divided data into two chunks, and training and testing were done on each data chunk separately, which generated two models. For Random Forest, the number of trees is set T=100. For SVM, use Gaussian radial basis function as the kernel was cost parameter c set to 10, and gamma was 0.01. For logistic regression, we set C to 100 and used L2 regularization. And observation is given in table 1.1

Table 1.1 Algorithm accuracy

Static learning	Random Forest	0.9148
	SVM	0.8877
	Logistic Regression	0.9114
Incremental learning	Random Forest	0.9013
	SVM	0.8678
	Logistic Regression	0.9107

From the observation, they conclude that SVM shows the most inadequate performance, and the difference between the performance of Logistic Regression and Random Forest is slight.

[3] Imane SADGALI, Nawal SAEL, Fouzia BENABBOU focus on that results and try to compare the same dataset. Their research investigated a comparative study of data mining techniques on the same generated dataset. Their task is done on a generated dataset, containing approximately 60.000 transactions across 12 attributes. These attributes include transaction and client information. There is a significant imbalanced data in the dataset where 99.72% of transactions are of the non-fraudulent class. The applied machine learning algorithm was Decision Tree, Support Vector Machine, Random Forest, K-Nearest Neighbor.

Table 1.2 Algorithm accuracy

Supervised Learning technique	Accuracy
Decision Tree	78.9%
Support Vector Machine	99.7%
Random Forest	82.5%
K-Nearest Neighbor	97.1%

And by this observation table1.2, they conclude that performance of four supervised machine-learning techniques, decision tree, k-nearest neighbor, random forests and support vector machines, for credit card fraud detection. Support vector machines have proven to be the best of the others.

ISBN 978-1-7369640-5-7

Estd. in 2001

Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. AY 2019-20

ISO 9001:2015 Certified Institute	NBA Accredited Programs	NAAC Accredited Institute with 'A' Grade	AICTE-CII Survey rating in Platinum category for Industry linkages	Among Top 250 Colleges in NIRF Ranking	68th & 78th in All India Rank by Outlook survey published in June 2019 & May 2018 respectively

e-Conference on Data Science and Intelligent Computing (eC-DSIC) 2020:
Theory, Applications and Research Opportunities

November 27th & 28th 2020
Friday & Saturday

Organized by

Department of Computer Engineering

Editors

Dr. Harshali Patil

Dr. Anand Khandare

Jagdu Singh Charitable Trust's (Regd.)

THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY

Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra

A - Block, Thakur Educational Campus, Shyamnarayan Thakur Marg,
Thakur Village, Kandivali (East), Mumbai - 400 101

Tel.: 022-6730 8000 / 8106 / 8107 Telefax: 022-2846 1890 • Email: tcet@thakureducation.org

• Website: www.tcetmumbai.in www.thakureducation.org

Review On: Applications Of Augmented Reality

Mayank Gindodiya , Tejas Bhavsar, Uzair Shaikh, Ashish Awate
Computer Engineering,S.V.K.M's IOT, Dhule, India
gindodiyam@gmail.com,tbhavsar121gmail.com, uzair11120007@gmail.com, ashish.awate87@gmail.com

Abstract— **Augmented Reality (AR) technologies for supporting various applications have been an academic research topic for around many years now. In the last 10 years, AR technology is getting used for solving industrial problems. In this paper, applications of AR have been explored.**
This paper aims to show, through the results of a systematic literature review, the current state of AR technology in industries and different applications and the advantages of using AR technologies. In this paper a total of 5 papers are discussed which solely describes applications of the AR technology. The paper also gives a brief history of the AR and an illustrated discussion of the same. Paper also proposes an idea of overcoming some limitations of the AR to make it more usable in today's world

Keywords— Augmented Reality(AR), Mobile Device, 3D object manipulation, device-based interaction technique, shopping assistance by AR,
pokemon.

I. INTRODUCTION

Augmented Reality: augmented reality (AR) refers to all cases in which the display of an otherwise real environment is augmented by means of virtual (computer graphic) objects.
The commonly accepted definition of AR as a technology:

1. Combines real and virtual imagery.
2. Is interactive in real-time and Registers the virtual imagery with the real world in 3 dimensions (3D).

Augmented Reality allows the user to interact with the system in a more efficient manner. This enhances the user experience (UX) and the growth of the system. Augmented reality is now being implemented on mobile computing devices that include digital cameras. In such implementations, the view that is currently being captured by a camera can be displayed as a scene on a screen of the mobile device, and data about items that are shown in the scene may have textual annotations added to them. Non-visible objects may also be represented by annotations. The applications of Augmented Reality include many fields of multi-diverse measure. Examples of Augmented Reality include Archaeology, Architecture, Urban design and planning, Industrial Manufacturing, Commerce, Literature, Visual Art, Immersive Video Gaming. Within recent trends, Augmented Reality has revolutionized social media platforms with recent major groundbreaking innovations like LIDAR (Light Detection and Ranging). Although, the hardware component requirements are often a variety of complicated, fragile, and delicate electronic components like MEMS (Microelectromechanical Systems), Sensors like accelerometer, GPS (Global Positioning System), Solid State Compass, Gyroscope, Camera system, HUD (Head-up Display), HMI (Human Machine Interface), VRD (Virtual Retinal Display). Despite its implementation complexity Augmented Reality shows itself as a promising contender for mainstream media consumption channels.
[6] The history of the AR is described in points along with its year.

1. In the late 1950s, Morton Heiling developed a simulator called "Sensorama".
2. In 1962, Ivan Sutherland created "Sketchpad", the first computer graphic user interface. Also in the same year first HMD was patented by Morton Heilig, but never produced(Biocca & Levey, 1995).
3. In 1966, Ivan Sutherlan developed "Ultimate Display" with a cathode-ray tube screen (Ivan Sutherland Biography, 2009).
4. In 1975, Myron Krueger created an artificial reality lab which was called 'videoplace'(now called Hamilton, 2011).
5. In 1980, Steve Mann developed wearing computers (Hamilton, 2011).
6. In 1989, Jaron Lainer coined the term Virtual Reality or VR.(Hamilton, 2011)
7. In 1990, Tom Caudell coined the term 'Augmented Reality' or AR (Hollerer and Feiner, 2004).
8. In 1992, L. B. Rosenberg developed 'Virtual Fixtures', one of the first functioning AR systems (Rosenberg, 1993).
9. In 1998, Ramesh Raskar, Greg Welch, and Henry Funchs introduced 'Spatial Augmented Reality' to UNCG (Raskar, welch and Funchs, 1998).
10. In 1999, Hirokazu Kato developed the first ARToolKit in Japan(Kato and Billinghrust, 1999).
11. In 2000, Bruce Thomas created the first outdoor mobile AR game called 'ARQuake'.(Thomas et. al. 2001).
12. In 2008, Wikitude released the AR Travel Guide[6].
13. In 2009, Esquire magazine collaborated with Robert Downey Jr. and used AR in their magazine to give AR experience in reading magazines.
14. In 2013. the company Volkswagen used Augmented Reality to show its car manuals.
15. In 2014, Google made available the google glass to the market, which is an example of wearable augmented reality.
16. In 2016, Niantic Inc. released Pokemon GO that uses Augmented Reality to view and catch Pokemon characters.
17. In 2018, IKEA launched an app that can preview the customers' home decor items before the actual purchase.

ISBN 978-1-7369640-5-7

Estd. in 2001

Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. AY 2019-20

ISO 9001:2015 Certified Institute	NBA Accredited Programs	NAAC Accredited Institute with 'A' Grade	AICTE-CII Survey rating in Platinum category for Industry linkages	Among Top 250 Colleges in NIRF Ranking	68th & 78th in All India Rank by Outlook survey published in June 2019 & May 2018 respectively

e-Conference on Data Science and Intelligent Computing (eC-DSIC) 2020:
Theory, Applications and Research Opportunities

November 27th & 28th 2020
Friday & Saturday

Organized by

Department of Computer Engineering

Editors

Dr. Harshali Patil

Dr. Anand Khandare

Jagdu Singh Charitable Trust's (Regd.)

THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY

Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra

A - Block, Thakur Educational Campus, Shyamnarayan Thakur Marg,
Thakur Village, Kandivali (East), Mumbai - 400 101

Tel.: 022-6730 8000 / 8106 / 8107 Telefax: 022-2846 1890 • Email: tcet@thakureducation.org

• Website: www.tcetmumbai.in www.thakureducation.org

Role Of Fog Computing In Iot Based Applications

Manasi Kukarni, Mayur Panchariya, Damini Mahale, Ritesh Kulkarni, Bhushan Nandwalkar
Computer Engineering,Shri Vile Parle Kelvani Mandal's Institute of Technology,Dhule,India
manu221143@gmail.com, mayurpanchariya95@gmail.com, daminimahale234@gmail.com, riteshkulkarni2311@gmail.com, nandwalkar.bhushan@gmail.com

Abstract— **Services of Internet of things (IoT) have been accepted and accredited universally for the past few of years and have had increasing interest from researchers. Requirement of Internet of Things, are mobility support and geo-distribution in addition to location awareness and low latency. We express that a new platform is needed to meet these requirements; we call it the Fog Computing platform. The Cloud Computing paradigm to the sting of the network was extended by Fog Computing, thus enabling a replacement breed of applications and services. The potent idea of fog computing is currently attracting many researchers because it brings cloud services closest to the end-user. The aim of this paper is to spotlight the role of fog computing in IOT based applications.**

Keywords— Fog computing, Cloud computing, Edge computing, IoT applications, Fog with IoT

I. INTRODUCTION :

This template, The Strong concept of fog computing is now attracting many researchers as because it brings many cloud services closer to the end-user.

Over the previous couple of years, Internet of Things (IoT) has gained significant attention, because it provides various IoT services in most fields of life and Technology. IoT is an interconnected network of huge numbers of IoT devices, each having the capacity or power of sensing and communication, through which they report their sensed data to the most server. This permits the center, supported received data, to require decisions intelligently like small wireless devices utilized in S-band sensing technique, IoT uses small sensor devices. The rise in usage of IoT devices has led to requirement of resource and computing paradigms which can work efficiently together with IoT environment. The main prototypes are Fog computing, Cloud computing, and Edge computing. This paper will mainly special in Fog computing with IoT services.

Before that specialize in Fog computing allow us to know the technologies used before it, that are Cloud Computing and Edge Computing.

A. IOT:

The Internet of Things, or Iota, refers to the billions of physical devices round the world that are now connected to the web, all collecting and sharing data. because of the arrival of super-cheap computer chips and therefore the ubiquity of wireless networks, it's possible to show anything, from something as small as a pill to something as big as an aeroplane into a neighborhood of the IoT. Connecting up of these different objects and adding sensors to them adds A level of digital intelligence to devices that might be otherwise dumb, enabling them to speak real-time data without involving a person's being. the web of Things is making the material of the planet around us more smarter and more responsive, merging the digital and physical universes..

B. Cloud Computing:

The use of hardware and software to deliver a service over a network or we will say that internet is understood as Cloud Computing. another word we will say that Cloud computing is that the on-demand availability of computer Resources of systems, especially data storage and computing power, without direct active management by the user. The term is generally wont to describe data centers available to many users over the web .

Cloud didn't managed various requirements of IoT efficiently such as: privacy, scalability, enormous bandwidth requirements, efficiency in network computations, energy consumption, and delay-sensitive communication

C. Edge Computing

The computational processing of sensor data far away from the centralized nodes and shut to the logical fringe of the network, toward individual sources of knowledge is understood as Edge computing. The technologies involved network nodes storing static cached media information at locations closest to end-users. Only partial sets of data processed and analyzed by edge computing. And it Only delete the remainder of the records. thanks to its proximity to the users, latency in edge computing is usually less than in cloud computing. Edge Computing cannot Support the Multiple IOT Devices.

D. Fog Computing

Fog computing could also be a replacement technology paradigm to reduce the complexity, scale and size of the data actually rising to the cloud. Pre-processing of data beginning of the sensors and IOT devices is important and it's an efficient way to reduce the load of the large data on the cloud. Fog computing connects the gap between the cloud and end devices (e.g., IoT nodes) by enabling computing, storage, net-working, and data management on nodes network within the close vicinity of IoT devices

II. FOG COMPUTING IN IOT

Internet of Things (IoT) needs to be operate on a fast network topologies that provides end-to-end connection and real-time responses. For instances the frequent dis-connections and reconnections by the devices, or notifications of a disaster or an imminent collapse of the system. In many cases, decisions must be taken in a short time and it is necessary to be able to rely on a reliable connection between the customer and the corresponding servant who performs complex tasks. In many situations, especially dictated by the overload of communications in multi-hop WAN networks, these qualities aren't guaranteed by the Cloud. Because cloud computing isn't reliable for several Internet-of-Things

ISBN 978-1-7369640-5-7

Estd. in 2001

Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. AY 2019-20

ISO 9001:2015 Certified Institute	NBA Accredited Programs	NAAC Accredited Institute with 'A' Grade	AICTE-CII Survey rating in Platinum category for Industry linkages	Among Top 250 Colleges in NIRF Ranking	68th & 78th in All India Rank by Outlook survey published in June 2019 & May 2018 respectively

e-Conference on Data Science and Intelligent Computing (eC-DSIC) 2020:
Theory, Applications and Research Opportunities

November 27th & 28th 2020
Friday & Saturday

Organized by

Department of Computer Engineering

Editors

Dr. Harshali Patil

Dr. Anand Khandare

Jagdu Singh Charitable Trust's (Regd.)

THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY

Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra

A - Block, Thakur Educational Campus, Shyamnarayan Thakur Marg,
Thakur Village, Kandivali (East), Mumbai - 400 101

Tel.: 022-6730 8000 / 8106 / 8107 Telefax: 022-2846 1890 • Email: tcet@thakureducation.org

• Website: www.tcetmumbai.in www.thakureducation.org

E-Voting System Using Blockchain

Waseem Ansari, Siddesh Sharma, Yatish Chaudhari, Mayuri Kulkarni
Department of Computer Engineering, Shri Vile Parle kelvani Mandal,Institute of Technology,Mumbai Agra Highway, behind Gurudwara, Dhule, Maharashtra 424001
waseemansari9746@gmail.com , siddeshsharma1999@gmail.com , chaudhariyash29@gmail.com

Abstract- **In second Decade of 21st century,Latest technology is coming up with positive impacts on social life. And this all-time globally connected network enables us to access a variety of resources easily. One such revolution is Blockchain. With its special characteristics like immutability,decentralized architecture, many services are moving towards it. A potential application of blockchain can be found in electronic voting schemes. It has been a challenge since a long time to build an e-voting system which satisfies all legal requirements of lawmakers. Distributed ledger technologies can offer an infinite range of applications. This paper discusses various e-voting system frameworks conceptualized by different teams. Blockchain will give its benefits on e-voting systems including authentication, immutability of votes,system security, updation of votes in global ledger with not depending upon number of nodes in the network.**

Keywords—**Blockchain,E-Voting,ashing,Decentralized technology, Distributed System**

I. INTRODUCTION

Blockchain definitely became one of the most trending computational technologies.Blockchain is originally a continuous list of blocks, growing continuously, where each block is linked to next using cryptography. Every block consists of a hash, a timestamp and the data of transactions occurred. The generated hash is a cryptographic and according to the developer hash can be generated in many different ways. Blockchain consists of a system of recording all transactions efficiently and most importantly, in a verifiable manner and permanent way, known as distributed ledger. The main feature of blockchain is that its data can‟t be modified once it‟s been added to ledger.

I) E-VOTING

Electronic voting is a term that surrounds several different types of voting, embracing both electronic means of casting a vote and counting votes. an electronic voting (E-Voting) system is a voting system in which the election data is recorded, stored and processed primarily as digital information.Currently, various researches are conducting in - order to make a secure and reliable voting system while tackling issues of anonymity, fairness, reliability, and availability. Through the use of Blockchain, the focus is on making the Voting Process fair and without any third party intervention

While surveying these papers we see various concepts and ideologies,Various frameworks like Ethereum, Sawtooth are defined and concept of Smart Contracts using Solidity language. Various concepts like receipt free voting, E2E, Third-Party verifiable systems with development of various protocols relating to blockchain.

Ethereum

Ethereum is a decentralized, open source, and distributed vast computing platform that enables the creation of smart contracts and decentralized applications, also known as dapps. Ethereum is the largest cryptocurrency by market capitalization after Bitcoin.

Hyperledger Sawtooth

Hyperledger Sawtooth is an open source project of the Hyperledger umbrella, works as an enterprise level blockchain system which is used to create and operate distributed ledger applications and networks particularly for use by enterprises.

II) CHALLENGES OF VOTING

• Privacy: There shall be no third party intervention of any kind regarding Election. Only Voter is allowed to view his/her details and to whom they voted. The only disclosed information in election is total votes to candidates as well as in the entire election.

• Lack of Evidence: Although privacy with anonymity can ensure safeguards against electoral fraud. There is no way to ensure that votes are being casted under effect of bribes or any form of electoral fraud. This issue has roots from the beginning.

• Fraud-Resistance: Each eligible voter should be able to vote exactly once and no other voters should be able to vote. The system must verify the identity of each potential voter and check their status, but must not allow this information to become associated with their vote.

• Ease-of-Use: Elections must serve the entire public. It must be designed in such a way that it can be used with minimal training and some technical skills.

• Scalable: Election is a means to serve a large population. It must be flexible enough to work at large scale also.

• Speed: In this Computer Driven era, It must be ensured that results are declared within a few hours of election procedure ends.

ISBN 978-1-7369640-5-7

Estd. in 2001

Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. AY 2019-20

ISO 9001:2015 Certified Institute	NBA Accredited Programs	NAAC Accredited Institute with 'A' Grade	AICTE-CII Survey rating in Platinum category for Industry linkages	Among Top 250 Colleges in NIRF Ranking	68th & 78th in All India Rank by Outlook survey published in June 2019 & May 2018 respectively

e-Conference on Data Science and Intelligent Computing (eC-DSIC) 2020:
Theory, Applications and Research Opportunities

November 27th & 28th 2020
Friday & Saturday

Organized by

Department of Computer Engineering

Editors

Dr. Harshali Patil

Dr. Anand Khandare

Jagdu Singh Charitable Trust's (Regd.)

THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY

Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra

A - Block, Thakur Educational Campus, Shyamnarayan Thakur Marg,
Thakur Village, Kandivali (East), Mumbai - 400 101

Tel.: 022-6730 8000 / 8106 / 8107 Telefax: 022-2846 1890 • Email: tcet@thakureducation.org

• Website: www.tcetmumbai.in www.thakureducation.org

Voice And Text Based Natural Language Query Processing

Ashwini Kulkarni, Pranali Pawar, Mayuri Khairnar, Shital Patil, Tukaram Gawali
Computer Engineering, SVKM's IOT, Dhule,India
ashu798coolkarni@gmail.com,pranalipawar0110@gmail.com,mayurikhairnar2310@gmail.com,shitalpatil@gmail.com,t.gawali@gmail.com

Abstract—**Traditional query languages needs manual query writing to retrieve a result. In this paper we are going to propose system that aims to develop for users who do not know the database. Language like SQL is facing challenging and difficult situations while accessing or retrieving data. In these system natural language accepts a user as an input in natural language text or via voice input then extracts the necessary information needed for the formation of a query. They sing of natural language processing mapping the query in the English language to SQL after receiving query output generated as a table format. Which predicts which type of query is demand by the user. The information from this output is given to the final query and then it is given to the user on the interface.**

Keywords— SQL, Natural Language Processing, Mapping

I. INTRODUCTION

The main objective of Natural Language Processing is to communicate between humans and computers. This helps users who do not know the structured query language.it means a computer understands the human language used by humans. It is a branch of Artificial intelligence (AI) that is a retrieval machine translation and linguistic analysis. The NLP is an interface to a database system that application accepts a SQL query is creates as SQL query and executes is to retrieved data from relational databases. The results of the retrieved database are a stream of elements. Speech recognition is a machine or program to recognize words or phrases. Which is either spoken or word text.it is better than an excel sheet to stored and retrieved data. User one can view all the table. They can enter a query and the entered query and the query in natural language the query will be executed in SQL query. It describes natural language and query based on a probabilistic context-free grammar to the relational database. These systems are used for placement cell officers who work. on student databases to extract data .and also tourism. Railway reservation, chat robot voice, or textual interactions. Using our current system, we can predict which query the users have requested for select, update, delete, and any other query for that matter. And these system focuses on the resolution of problems arising in the analysis or natural language text or speech, such as syntactic and semantic analysis for a compilation of dictionaries and grammar necessary for such analysis. After this, it will be formatting final SQL query based on its type and execute it.

II. FIGURES AND TABLES

Nowadays data is increasing rapidly. There are lot of new database tools and technologies are growing, hence we can store large data, but the problem is that the technology or an interface which can process data and display the data as per the user demand is not familiarized with many of the people. The user will give voice input, which will be recognized and then converted into text format. The system takes input as spoken query language and dispatch it to the speech recognition engine. The output will be the into query text extracted from the speech. The accurate input query is extracted and sent to token tokenization. Perform preprocessing on text converted from a voice in tokenization. The sentences are broken down into tokens and remove the unwanted tokens. And then text translator translates the main content which is required for query processing. After the execution of the query, the expected output will be displayed on the system in the form table. User who wants to access a database but does not have any knowledge about the database language facing difficulties. Hence there is a requirement for a system that enables the users to retrieve the information in the database. This project aims to develop such a system using NLP by giving structured natural language question as input and receiving SQL query as the output. This project gives a use the regular expression to formation of the query in the natural language such as English to SQL. The system accepts the user input as natural language text or via voice input.

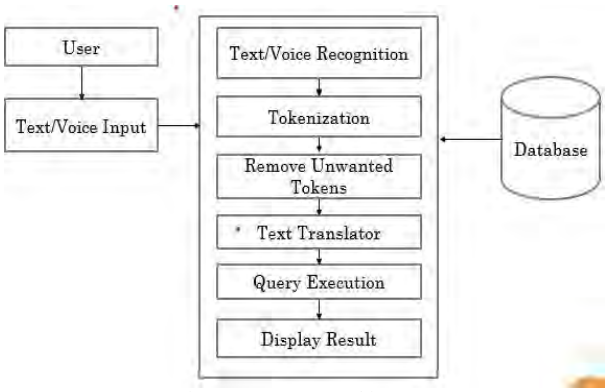


Figure 1. System Architecture

The main goal of this system is to allow communication between the database and its human users using natural language. The use of Natural Language brings ease for any human being. This system will help T&P officer to easily retrieve and manage data from student database using their natural language such as English language. There is no need for the user to learn complex query syntax to retrieve data. The facility to accept the input in speech format makes the system user friendly. For example, the Name of the department that has the maximum students count? So, the query for the above

Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. AY 2019-20

ISO 9001:2015 Certified Institute	NBA Accredited Programs	NAAC Accredited Institute with 'A' Grade	AICTE-CII Survey rating in Platinum category for Industry linkages	Among Top 250 Colleges in NIRF Ranking	68th & 78th in All India Rank by Outlook survey published in June 2019 & May 2018 respectively

e-Conference on Artificial Intelligence and Machine Learning (eC-AI & ML) 2020: Research Opportunities and Applications in the field of Engineering & Science

November 27th & 28th 2020
Friday & Saturday

Organized by

BRIGHT tcet IT ENGINEERS

Department of Information Technology

Editors

Dr. Bijith Marakarkandy

Dr. Sangeeta Vhatkar

Jagdu Singh Charitable Trust's (Regd.)

THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY

Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra

A - Block, Thakur Educational Campus, Shyamnarayan Thakur Marg,
Thakur Village, Kandivali (East), Mumbai - 400 101

Tel.: 022-6730 8000 / 8106 / 8107 Telefax: 022-2846 1890 • Email: tcet@thakureducation.org

• Website: www.tcetmumbai.in www.thakureducation.org

CONTENTS

COVIBOT: An efficient AI-based Chatbot with Voice Assistance and Multilingualism for COVID-19.

Ankush Patil, Ketaki Patil, Gaurav Shimpi, Mayuri Kulkarni
Shri Vile Parle Kelavani Mandal's Institute of Technology, Dhule, Maharashtra 424001, India
aankushpatil1989@gmail.com, patilketaki172@gmail.com, gauravshimpi630@gmail.com, mayuridkulkarni@gmail.com

Abstract. **The designed system "COVIBOT" is an Artificial Intelligence-based Chatbot that can describe or predict the possibility of getting infected by coronavirus based on factors such as the user's travel history, symptoms, age, postal code, severity, and health conditions. Based on the responses, COVIBOT will recommend a treatment or a course of action such as consult with your doctor, self-quarantine, or go to the hospital. This chatbot helps the patient to take proper medication and remote consultation. It is very user-friendly as it is voice interactive and is multilingual. COVIBOT can also benefit the Indian people by offering them a quick self-assessment test. The self-assessment test will enable anyone to answer a few questions to check whether the person might be at risk of being affected by the COVID-19 coronavirus.**

Keywords: Chatbot, Artificial Intelligence, treatment, course of action, medication, self-assessment test, voice interactive, multilingual, remote consultation, IBM Watson, NLP.

I. Introduction.

We are all together in the fight against the COVID-19 pandemic. The COVID-19 is the most conversational and searched topic in recent times and chatbots are conversational software that artificially replicates patterns of human interaction. Also, chatbots can be found everywhere, we can find it replacing queries and FAQs on the websites and providing virtual assistance. These features make chatbots useful to spread awareness about COVID-19. These days' Chabot's are not only used for general interaction, but they are also built and developed to be domain-specific. The data used in chatbot diversifies with the change in domain. Domain-specific or Closed-domain chatbot is designed for a specific area of interest making it thoughtful and relevant. There have been a lot of searches for the pandemic COVID-19 and people are coming across false information, so we decided on COVID-19 as our domain. [1]

COVIBOT helps the users and the health providers by giving immediate replies to the Questions asked by the user. Due to adequate Healthcare Infrastructure and facilities, which is one of the topmost concerns regarding COVID-19 treatment available in India, people are finding it difficult to get proper treatments. Establishing question-answer forums is becoming a simple way to answer those queries rather than browsing through the list of potentially relevant documents from the web.[2]

COVIBOT plays a leading role by bridging the gap between the patient and doctor. This Chatbot uses Artificial Intelligence, which will be forecasted to help people understand what they are supposed to do when they face COVID-19 symptoms. [3]

As India has a population of more than a billion, COVIBOT will help to manage the rush of those seeking medical care and reduce the high number of walk-ins to hospitals by those who suspect they have been affected by the virus. Soon, the COVIBOT will also provide a map that will be based on postal codes to the medical authorities and decision-makers, which could help them, see where outbreaks are occurring and help them take action to contain them.

It is becoming increasingly important to develop chatbots that can best respond to the personalized needs of their users so that they can be helpful to the user in a real human way. In India, many users may not understand a particular language. COVIBOT thereby supports multiple languages including Hindi, which is one of the majorly spoken languages. COVIBOT will rapidly and radically transform in-person care to remote consultation of patients. [4]

II. Literature Survey

One of the major challenges that India as a country faces is to cater to good quality and affordable healthcare to its growing population. The World Health Report issued by WHO has ranked India's healthcare system at 112 out of 190 countries [5]. This inaccessibility of healthcare facilities especially in rural India and the intricacy in accessing means of transport further causes patients to postpone their treatment, or opt for medical facilities that may be closer but at the same time are not cost-efficient and well-matched to their medical needs. To seek more efficient ways to provide timely medical care, access and quality treatment to the patient, the role of COVIBOT comes into play which connects patients with healthcare providers, healthcare information, and treatment. One of the reviews aimed to provide an overview of the features of chatbots used by individuals for their mental health as reported in the empirical literature. It has identified 53 studies that assessed 41 different chatbots. The most common use of chatbots was delivery of therapy, training, and screening. Of the 17 chatbots providing therapy, 10 chatbots were based on cognitive behavioral therapy,

Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. AY 2019-20

ISO 9001:2015 Certified Institute	NBA Accredited Programs	NAAC Accredited Institute with 'A' Grade	AICTE-CII Survey rating in Platinum category for Industry linkages	Among Top 250 Colleges in NIRF Ranking	68th & 78th in All India Rank by Outlook survey published in June 2019 & May 2018 respectively

e-Conference on Artificial Intelligence and Machine Learning (eC-AI & ML) 2020: Research Opportunities and Applications in the field of Engineering & Science

November 27th & 28th 2020
Friday & Saturday

Organized by

BRIGHT tcet IT ENGINEERS

Department of Information Technology

Editors

Dr. Bijith Marakarkandy

Dr. Sangeeta Vhatkar

Jagdu Singh Charitable Trust's (Regd.)

THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY

Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra

A - Block, Thakur Educational Campus, Shyamnarayan Thakur Marg,
Thakur Village, Kandivali (East), Mumbai - 400 101

Tel.: 022-6730 8000 / 8106 / 8107 Telefax: 022-2846 1890 • Email: tcet@thakureducation.org

• Website: www.tcetmumbai.in www.thakureducation.org

CONTENTS

URJA ANALYSIS: Energy Consumption Prediction using Big Data Analysis and Machine Learning

Purnansh Billore, Sankalp Gupta, Neha Pagar, Vijaylaxmi Bittal
SVKM's Institute Of Technology , Dhule ,DBATU University, Leonere, MH, India.
purnanash7@gmail.com; sankalpgupta.619@gmail.com; nehapagar30@gmail.com; vijaylaxmi.bittal@svkm.ac.in;

Abstract - **The electricity grid usually overloads or is under loads in different locations at different times which essentially leads to wastage of power and poor power distribution (in rural and semi-rural areas). There is a need for a system which can smartly predict energy consumption and reduce the load on grids based on the consumer's usage pattern. Also there is a need for specific recommendations for particular consumers to help them reduce their bills.**

Keywords— Big data Analysis, Machine Learning, Smart grid, Energy forecasting, Demand side management, Dynamic Time-of-Use electricity pricing.

I. INTRODUCTION

I.1 What is Smart Grids and DS/DR

The conception of a perspicacious grid isn't a new one, recent technological developments suggest will allow the construction of an intellective grid. The current grid scenario is based on centralized generation, which pushes in a single direction through the network to the terminus users. As of now pattern improves by integrating bi-directional communication, distributed and utility scale renewable energy generation and energy storage etc. Balancing of electric supply and inductively authorizing at the grid has always been an immensely colossal challenge for electric utility companies. contravene this, utilities design Demand Replication (DR) and DSM programs.

Demand side management analyst the electricity consumption of a customer and helps the customer to use less electricity in peak time and help to flatten the demand curve[1].

Demand response helps a person to reduce electricity payment and electricity usage when the grid is jeopardised [2].

I.2 Motivation to apply data science in keenly intellective grid

With the incrementing perforation of advanced sensor systems in power systems, an influx of profoundly and astronomically immense datasets presents a valuable opportunity to gain insight for ameliorating system operation and orchestrating in the context of the electric grids. The 4 Vs of Sizably voluminous Data i.e. volume , velocity , variety , and veracity come with a plethora of opportunities as challenges[3] . Astute meter data potentiates the utilities to make better decisions to optimize the load at the grid. Modern statistical techniques for data exploration enable them to better understand customer's utilization pattern, estimate consumption pattern and provide suggestions to consumers predicated on their authentic-time transmuting demeanor. It allows them to prognosticate the power failures and negotiate pricing with the cessation users. Moreover, it provides the opportunity to the consumers to adjust their loads according to dynamic pricing in order to minimize their monthly bills.[4].;

I.3 Challenges

Demand Replication and DSM are very promising, however, there are many challenges associated with their implementation.

Forecasting: This is a conundrum because of the sundry uncertainties in electricity peak demand such as population magnification, transmuting technology, economic conditions, prevailing weather conditions. The most challenging part is that we often want to forecast the peak demand rather than the average demand, which varies on sundry features mentioned The above and precise forecast is an astronomically immense challenge.

Customer Profiling: Uncertainties in analyzing and presaging the energy consumption. It is a challenging task to analyze energy consumption of customers with different energy consumption and there will be different peak price recommendations predicated on different customers.

Recommendations: Our project seeks to introduce a dynamic pricing system and it is critical to research on how the customers should be recommended so that this incipient pricing the project becomes a prosperity. To obtain an opportune recommending medium is a challenging task .

I.4 Our Contributions/Research Questions

In this project, our focus will be to optimize the load at the grid, by doing descriptive, predictive and prescriptive data analytics. Our research questions are summarized below. Our objective of this project is to answer these questions.

How is household electricity consumption affected by the following:

Consumer's demographics:We will analyze the energy consumption in households with different age categories. This would avail in determining the energy consumption and make recommendations to households predicated on the people living in that house

Static characteristics: The energy consumption pattern with veneration to different insulation types will be analyzed. With the solution to this research question, recommendation could be given to the household regarding which type of insulation type to be used so that they can lower their energy consumption.

Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. AY 2019-20

ISO 9001:2015 Certified Institute	NBA Accredited Programs	NAAC Accredited Institute with 'A' Grade	AICTE-CII Survey rating in Platinum category for Industry linkages	Among Top 250 Colleges in NIRF Ranking	68th & 78th in All India Rank by Outlook survey published in June 2019 & May 2018 respectively

e-Conference on Artificial Intelligence and Machine Learning (eC-AI & ML) 2020: Research Opportunities and Applications in the field of Engineering & Science

November 27th & 28th 2020
Friday & Saturday

Organized by

BRIGHT tcet IT ENGINEERS

Department of Information Technology

Editors

Dr. Bijith Marakarkandy

Dr. Sangeeta Vhatkar

Jagdu Singh Charitable Trust's (Regd.)

THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY

Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra

A - Block, Thakur Educational Campus, Shyamnarayan Thakur Marg,
Thakur Village, Kandivali (East), Mumbai - 400 101

Tel.: 022-6730 8000 / 8106 / 8107 Telefax: 022-2846 1890 • Email: tcet@thakureducation.org

• Website: www.tcetmumbai.in www.thakureducation.org

CONTENTS

Zero Hunger

Juhi Patil, Gayatri More, Pooja Mahale, Nikita Harale, VijayLaxmi Bittal
SVKM's Institute Of Technology, Dhule , DBATU University Lonere, Maharashtra, India
juhipatil293@gmail.com; gayatrimore012@gmail.com; mahalepooja57@gmail.com; nikitaharale17@gmail.com; vijaylaxmi.bittal@svkm.ac.in;

Abstract: **In the Coronavirus circumstance hungry individuals confronting food issues and loads of individuals kicked the bucket in the Coronavirus lockdown by considering this continuous issue we are attempting to give a constant answer for that. We are attempting to construct the system 'Zero Hunger' utilizing ML and IoT innovation with the mission to end food wastage and craving is a food wastage decrease based innovation in which gets surplus food from public capacity café, birthday celebrations show corridors home, and so on and convey to those who are directing NGOs.**

Keywords: Sustainable goal, Food Supply Management, Food quality assurance, ML, IoT.

I. INTRODUCTION

Wastage of food is the biggest problem that has increased social and environmental awarenessin the past years. Hunger is one of the most concerning issues which is in the corner for many decades. The reasons behind this issue may vary but there are lots of effective solutions. We did quite research about this issue and got to know that technology can also help us in solving this issue. Thereby, surveys were conducted with a few research papers to gain knowledge about the organization's daily prerequisites that are fulfilled and the ones that remain unfulfilled. This system is a food wastage reduction-based technology in which gets surplus food from public occasional functions and marriage, canteen, restaurant, get together (if there is a large quantity). etc and distributes to those who are conducting NGOs. For quality assurance, this system will use IoT sensors.[8]Also, many organization has conveyed their wish to ask them for necessary items such as clothing, food, etc. But there is no way to meet their needs. then the system has been developed a food donation for people. They can easily donate the food as per their capacity and the system will authorize to keep their request i.e if their needy peoples get food.[7]

Area of project:

Wasting food is a common problem in our society. Food waste management is crucial since it can improve our environmental and economic sustainability. We have identified the use of mobile technology to reduce food waste management and built an android mobile application that allows restaurants to donate and share their foods and leftovers with people in need. Everyone enjoys the functions with a lot of food and other products and most of them left waste or unused. We all waste food for various reasons. Typically it's as a result of there has been an amendment of plans and it's out of our management, however, most of the time we tend to waste identical varieties of food for identical a pair of main reasons we've got bought or read an excessive amount of, or we've got forgotten to use it on time. Regardless of the rationale why you throw out food, you got it and currently, it's cost accounting you to throw it out. To solve this problem we come up with a system which can take request from the users who want get settle with the waste food ,they can request to donate or sell at cost to our systems managers who comes to them at given time and pick the order and further park that food to needy place where most people are without food according to need status . Hence our system takes feedbacks and gives it best to settle the need and cleaning the place and more or less doing humanity.

Introduction to Problem Statement:

Zero hunger is a food wastage reduction based technology in which gets surplus food from public function, restaurants, Birthday parties convention halls, homes (if there is a large quantity), etc. and distributes to those are conducting NGO's.

Motivation Behind Project:

The motivation behind this project is to feed the needy and hungry with untouchable edible surplus food. To bring a social change in every individual to reduce food waste and to make the World Hunger-Free. This system will reduce the amount of food wasted and being used by needy people.

Scope:

The whole scope of our project is that food should reach every person in India. No one shouldgo hungry. And we develop "Zero hunger" system is very helpfull for the social group and who are doing social activities.

II. LITERATURE SURVEY:

Sr. No	Title	Author	Description
1	Application of Machine Learning to support production planning of a food industry in the context of waste generation under uncertainty.	Alberto Garrea, MariCarmen Ruizb, Eloy Hontoriac	This study illustrates the added value that the application of ad- vanced analysis to historical data can bring to the food industry. MLmethods have provided valuable information, outperforming classical statistical methods for predictingthe amount of food waste.

Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. AY 2019-20

ISO 9001:2015 Certified Institute	NBA Accredited Programs	NAAC Accredited Institute with 'A' Grade	AICTE-CII Survey rating in Platinum category for Industry linkages	Among Top 250 Colleges in NIRF Ranking	68th & 78th in All India Rank by Outlook survey published in June 2019 & May 2018 respectively

e-Conference on Artificial Intelligence and Machine Learning (eC-AI & ML) 2020: Research Opportunities and Applications in the field of Engineering & Science

November 27th & 28th 2020
Friday & Saturday

Organized by

BRIGHT tcet IT ENGINEERS

Department of Information Technology

Editors

Dr. Bijith Marakarkandy

Dr. Sangeeta Vhatkar

Jagdu Singh Charitable Trust's (Regd.)

THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY

Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra

A - Block, Thakur Educational Campus, Shyamnarayan Thakur Marg,
Thakur Village, Kandivali (East), Mumbai - 400 101

Tel.: 022-6730 8000 / 8106 / 8107 Telefax: 022-2846 1890 • Email: tcet@thakureducation.org

• Website: www.tcetmumbai.in www.thakureducation.org

Automatic Car InsuranceUsing ML

Gunjan Deore, Rutu Patil, Jayesh Jadhav , Yogesh Gawali , Vijaylaxmi Bittal
Department of Computer Engineering, DBATU University, Dhule, India
deoregunjan@gmail.com; rutupatil2999@gmail.com; jayesh33jadhav@gmail.com; yogeshgawali9175@gmail.com;
vijaylaxmi.bittal@svkm.ac.in

Abstract - **The Vehicle insurance system is a perfect solution for those who conduct the organizations who claims the vehicle insurance. It is very arduous to manage clerical data. It deplete the lot of time bring down the details of any insurance claim. In present time, the amount of insurance claims increases day by day and due to this renovation of old claims are difficult to maintain due to this losing of data can be happens. We are introduced a vigorous computer software, which has the malleable of design to match the specific needs of clients for carry out their business goal of quality of service and earnings generation.**

Keywords- Machine Learning, Damage detection, Insurance, Data leakage problem, Insurance management, Car accident detection, Image recognition, Convolutional neural networks.

I. INTRODUCTION:

Automatic car insurance using machine learning is a perfect solution for those who conduct the organizations who claims the vehicle insurance. It is very arduous to manage clerical data.[1] It drain the lot of time bring down the characteristics of any insurance claim. In present time, the amount of insurance claims increases day by day and due to this renovation of old claims are difficult to maintain due to this losing of data can be happens.[3]

We are introduced a vigorous computer software, which has the malleable of design to match the specific needs of clients for carry out their business goal of quality of service and earnings generation.[2] Insurance policy control system include a mathematical notation that represent the relationship between policies and objects and the entities that deal policies for those objects.[5] Hence it is necessary for an self-operating system, which can methodical manage the company, records, provides jiffy access and one that ameliorate the generative capacity.[7]

As a result of this self-operating system, the agility of the company are performed with in the set out time and the dependable and systematic service is clinch to its users.[4] In the damaged vehicle noticing problem make use of freeway cameras, the presence of uniformity is the silent index in difference between damaged and non-damaged vehicles.[8]

1.2 Introduction to Problem Statement:

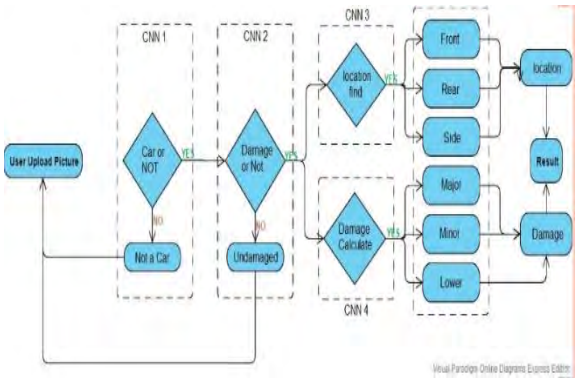
Automatic car insurance is a car insurance system that is based on insurance system in which the insurance can claim by using image, it's very easy to claims the insurance of new as well as damaged car.

1.3 Motivation behind the Project:

Motivation behind this project is to make easy system for the insurance claims not so time consuming it is fast and secure system.

II. LITERATURE SURVEY

Sr. No	Journal	Author & Publication	Summary
1	Front-View Vehicle Damage Detection using Roadway Surveillance Camera Images	Burak Balci, Yusuf Artan, Bensu Alkan and Alperen Elihos	Car frame impairment observation out of quite photo has collect applicable need in the computer vision community in recent years.
2	An Automatic Car Accident Detection Method Based on Cooperative Vehicle Infrastructure Systems	Daxin Tian, Chuang Zhang, Xuting Duan, and Xixian Wang	In this paper, we are introduced a vigorous computer software, which has the malleable of design to match the specific needs of clients for carry out their business goal of quality of service and earnings generation.
3	Automatic Car Damage Recognition using Convolutional Neural Networks	Jeffrey de Deijn	It is very arduous to manage clerical data. It drain the lot of time bring down the characteristics of any insurance claim.



Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. AY 2019-20

ISO 9001:2015 Certified Institute	NBA Accredited Programs	NAAC Accredited Institute with 'A' Grade	AICTE-CII Survey rating in Platinum category for Industry linkages	Among Top 250 Colleges in NIRF Ranking	68th & 78th in All India Rank by Outlook survey published in June 2019 & May 2018 respectively

e-Conference on Artificial Intelligence and Machine Learning (eC-AI & ML) 2020: Research Opportunities and Applications in the field of Engineering & Science

November 27th & 28th 2020
Friday & Saturday

Organized by

BRIGHT tcet IT ENGINEERS

Department of Information Technology

Editors

Dr. Bijith Marakarkandy

Dr. Sangeeta Vhatkar

Jagdu Singh Charitable Trust's (Regd.)

THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY

Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra

A - Block, Thakur Educational Campus, Shyamnarayan Thakur Marg,
Thakur Village, Kandivali (East), Mumbai - 400 101

Tel.: 022-6730 8000 / 8106 / 8107 Telefax: 022-2846 1890 • Email: tcet@thakureducation.org

• Website: www.tcetmumbai.in www.thakureducation.org

Enhanced Machine Learning Approach to Predict Movie Success

Neha Yeolekar, Divya Surana, Gayatri Patil, Vijaylaxmi Bittal
Department of Computer Engineering, SVKM's Institute of Technology, Dhule DBATU University
Lonere, MH, India.
yeolekarneha29@gmail.com, suranadivyar13@gmail.com, gayatripatil2707@gmail.com, vijaylaxmi.bittal@svkm.ac.in

Abstract— Predicting movie victory is invariably a favored research topic in the film sector. ML algorithms in film sector have been adapted to modeling economic accomplishment. Hit rate of movie is of extreme importancebecause millions of dollars are devoted in making each of the movie. In such a case, prior understanding regarding success or failure of a movie will help the production houses and distributors as these forecasts will present idea of how to go with promotions, ads. we are using stacking approach of Ensemble Machine Learning in this paper as it gives more accuracte prediction and has capabilities to well-perform on wide range of classification models. Thus it gives best results for movie prediction.

Keywords— Machine Learning, Forecast, Stacking, Movie success, Ensemble Machine Learning Algorithm

I. INTRODUCTION

Movie Success Prediction plays crucial role for producers for investment purposes. Knowing this will also help in further future decisions making. Related to this, uptil now many researchs has taken place. In this paper, we suggested the Enhanced method for Movie Success Prediction and Ensemble Machine Learning Algorithm. The Paper is divided into different parts: Related work, Data Preprocessing, Methodology, Conclusion, Future Work. Using Ensemble Machine learning, we can combine predictions from two or more machine learning models on same dataset. It consists of base- model and meta-model. Base-models makes the hypothesis of the prediction and meta-models provide a clarification to hypothesis made by base-models. Support vector machines, neural networks, random forest algorithm, etc. can be used as a base and meta-model. Meta-model can be used for training.

II. LITERATURE SURVEY

Title	Author	Research Gap/Limitations
Pre-release	Parimi R., Caragea D.	Classification of new set of instances required for entire training everytime. Information learnt previously by model cannot be used further.
Predicting Success Bollywood Movies Using Machine Learning Techniques	Sameer Ranjan Jaiswal,	No need to learn model again and again which was done in above model. It gives outcome on the basis of mean predictions from subet tree.
A Machine Learning Approach to Predict Movie Box-Office Success	Nahid Quader, Dipanker Chaki,OsmanGaniand Haider Ali	It cannot predict the success before release as it requires pre and post release features.
Bollywood Movie Success Prediction Using Machine Learning Algorithms	Ashutosh Kanitkars	Feature scaling required, expensive from computation point of view, cannot handle missing data. Different features included in this paper which are not in previous papers.
Movies Success Prediction Using Machine Learning Algorithms and their Comparisons	Rijul Dhir, Anand Raj	Dataset containing linearly seperable features cannot be used and requires more time for training model. Handle missing values, no feature scaling required , less impacted by noise.
Predicting Bollywood Movies Success Using Machine Learning Technique.	Garima Verma, Hemraj Verma	Model is overfitted when the dataset is highly dimensional, sensitive to outliers. Useful for dataset with linearly separable features, Less training time.
Predicting Movie Performances by Machine Learning Methods	Jong-Min Kim , Leixin Xia , Iksuk Ki, Seungjoo Lee and Keon-Hyung Lee.	Not suitable for closed loop networks.

Table.Comparison Analysis of different models.

Prediction models and mechanisms can be used to

Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. AY 2019-20

ISO 9001:2015 Certified Institute	NBA Accredited Programs	NAAC Accredited Institute with 'A' Grade	AICTE-CII Survey rating in Platinum category for Industry linkages	Among Top 250 Colleges in NIRF Ranking	68th & 78th in All India Rank by Outlook survey published in June 2019 & May 2018 respectively

e-Conference on Artificial Intelligence and Machine Learning (eC-AI & ML) 2020: Research Opportunities and Applications in the field of Engineering & Science

November 27th & 28th 2020
Friday & Saturday

Organized by

BRIGHT tcet IT ENGINEERS

Department of Information Technology

Editors

Dr. Bijith Marakarkandy

Dr. Sangeeta Vhatkar

Jagdu Singh Charitable Trust's (Regd.)

THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY

Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra

A - Block, Thakur Educational Campus, Shyamnarayan Thakur Marg,
Thakur Village, Kandivali (East), Mumbai - 400 101

Tel.: 022-6730 8000 / 8106 / 8107 Telefax: 022-2846 1890 • Email: tcet@thakureducation.org

• Website: www.tcetmumbai.in www.thakureducation.org

RFID and Face Recognition Verified Temperature Monitoring Contactless Attendance System

Chaudhari Sanket Kishor
dept. Computer Engineering
Shri. Vile Parle Kelavani Mandal's Institute Of Technology, Dhule
Dhule, India
sanket22499@gmail.com

Baviskar Krushnna Hemraj
dept. Computer Engineering
Shri. Vile Parle Kelavani Mandal's Institute Of Technology, Dhule
Dhule, India
krushnnabaviskar@gmail.com

Chaudhari Pooja Suresh
dept. Computer Engineering
Shri. Vile Parle Kelavani Mandal's Institute Of Technology, Dhule
Dhule, India
chaudharipooja812@gmail.com

Patil Dipali Bhikan
dept. Computer Engineering
Shri. Vile Parle Kelavani Mandal's Institute Of Technology, Dhule
Dhule, India
dbpatil959@gmail.com

Prof. Mayuri Kulkarni
dept. Computer Engineering
Shri. Vile Parle Kelavani Mandal's Institute Of Technology, Dhule
Dhule, India
mayuridkulkarni@gmail.com

***Abstract*— The institutions and organization generally use fingerprint recognition and signature-based attendance system to mark the attendance. The fingerprint recognition system is secure and reliable but in both the process user has to get in contact with the surface of the attendance system, which can cause the spread of viruses and bacteria among the people, for example, diseases like COVID-19, influenza and the common cold can spread through getting in contact with a contaminated surface. So, in the pandemic of COVID-19 and other future infections, uses of such systems are not feasible. For that, this paper presents the model which is secure, reliable and contactless. The model is consist of serially connected face recognition and Radio Frequency Identification (RFID) module for marking the attendance, Infrared thermal sensor for scanning body temperature and FAR Ultraviolet-C light container for self-sanitization of the complete module.**

Keywords*— *Facial Recognition, RFID, IR Thermal Sensor, FAR Ultraviolet-C.

I. INTRODUCTION

The behaviour of workers in a company is judged on the basis of their job performance, particular assessment role which is tracked by their daily attendance. Members will be kept responsible for observing their proper work schedule in order to ensure adequate service, good workplace ethics, and to achieve expected productivity and functional expectations within the organization. If the person is unable to satisfy these conditions and duties, he/she shall refer them to his / her supervisor.

In assessing the performance of the students within the class, the same scenario can be observed. The student must follow the percentage and schedule of attendance required to assist educators in evaluating each student's failure and strength in the class.

For such organizations, the secured, reliable and fast attendance system is required. The current tradition of tracking the attendance is fingerprint recognition but there are some challenges to this technology such as FAR and FRR, the value of FRR of face recognition is 0.019 which can reduce the accuracy in some extent. Another main challenge to this system is that number of people used to touch the surface of attendance system which can make the surface contaminated, different types of viruses and bacteria can sustain on that surface for a long time and transfer to the others easily.To overcome from these challenges, we have developed our model based on RFID technology which is a contactless process and has better accuracy than face recognition as it has only 0.005 FRR value, to make the model more secure we have integrated face recognition based verification so that there is no chance of false attendance. As our system is contactless there is no chance of spreading the virus through a contact although we have attached FAR-UVC light container for automatic sanitization of the system. In most of the viral infections, fever is a common symptom so to reduce community spread of virus we have to integrate IR thermal sensor which and detect the higher body temperature.

II. LITERATURE REVIEW

In most of Institution, organization and hospitals the attendance tracking system is the manual signing on the attendance sheet or fingerprint recognition based attendance. Manual signing on the sheet can be prone to bogus attendance as it is not secure, reliable and it takes a lot of manual efforts to keep the data of the attendance

Comparatively biometric attendance system such as fingerprint recognition is secure and reliable which makes it most popular in the market with the market share of around 50% [10], although it offers easy and reliable process the system has some challenges like false acceptance (FAR) i.e. a person that was not registered previously was falsely enrolled for attendance, false rejections (FRR) i.e. system failed to identify some registered users. These challenges can happen due to improper placement of finger, dirty finger or some injury to the finger, which can reduce the accuracy of the system up to 2.56% [11].

One hidden factor of this attendance systems is they are not contactless process so that user will get in contact with the surface of the systems, which can lead to spreading viruses among the community. Contagious diseases such as COVID-19, Influenza and Common Cold can transmit through the physical contact with the surfaces touched by the infected person [13]. As per research, the basic reproductive

Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. AY 2019-20

ISO 9001:2015 Certified Institute	NBA Accredited Programs	NAAC Accredited Institute with 'A' Grade	AICTE-CII Survey rating in Platinum category for Industry linkages	Among Top 250 Colleges in NIRF Ranking	68th & 78th in All India Rank by Outlook survey published in June 2019 & May 2018 respectively

e-Conference on Artificial Intelligence and Machine Learning (eC-AI & ML) 2020: Research Opportunities and Applications in the field of Engineering & Science

November 27th & 28th 2020
Friday & Saturday

Organized by

BRIGHT tcet IT ENGINEERS

Department of Information Technology

Editors

Dr. Bijith Marakarkandy

Dr. Sangeeta Vhatkar

Jagdu Singh Charitable Trust's (Regd.)

THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY

Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra

A - Block, Thakur Educational Campus, Shyamnarayan Thakur Marg,
Thakur Village, Kandivali (East), Mumbai - 400 101

Tel.: 022-6730 8000 / 8106 / 8107 Telefax: 022-2846 1890 • Email: tcet@thakureducation.org

• Website: www.tcetmumbai.in www.thakureducation.org

Analytic and Reporting System for ASHA Workers in India

Sneha Kulkarni[1], Pratiksha Patill[2], Revati Jadhav[3], Shweta Wagh[4], Tukaram Gawali[5]

SVKM's Institute of Technology, Dhule, MH, India

[1]kulkarnisnehah29@gmail.com;[2]ppratiksha452@gmail.com; [3]jadhavrevati24@gmail.com;[4]waghshweta99@gmail.com;

[5]t.gawali@gmail.com

Abstract-Asha Workers are hired by the Government of India for the non-availability of doctors and nurses in rural areas of India. They are paid based on information collected from rural people and submitted to the Department of Health. We will be able to deliver their payment to them without any hassle and find out the status of the service so that it is convenient for everyone. and take biometric from people. They can easily convey the collected information to the health department.

Keywords-*Medical care services, website, households, application system, voucher, vaccination, map*

I. INTRODUCTION

Nowadays, with many health problems in the world, it would be very difficult to provide home-based medical care services in the villages of Maharashtra. In this way, ASHA (Accredited Social Health Activist) workers are active in the village every time and its works to provide medical facilities at home. In this case, ASHA Workers have to go to every house and get information about the people in the house and register it. Due to documents take so many times. They report the total number of visits. The salary is calculated according to the number of households uploaded to the ASHA Workers website in the same way as the number of household members uploaded to the website. In this paper is explored that the ASHA workers have to face the problem and also the solution to it. ASHA Workers work in a given area. When they are working, they may encounter signature problems while uploading information. Also, it is becoming very difficult to handle all this information. So, considering all these problems, we are developed in this application system. We want to design some forms for ASHA workers so that the information of patients can be uploaded quickly by filling the forms. And so far, ASHA was getting a salary by submitting vouchers. We want to do that online. Similarly, if ASHA has visited a house for vaccination, you will see on the map whether she has reached any area of the village so far Information can be handled easily as paperwork is reduced. In this way, it will easily understand the salary of the workers and how much area they have visited with the help of a map. So, this system is important for ASHA workers in India.

ASHA workers are work in the government of India for the unavailability of doctors and nurses in rural areas. ASHA workers provide medical services at a home to home. The work of ASHA Workers is very important to go to a given specific area. Going from house to house giving medical advice to people as well as information about new schemes. ASHA Workers records them by asking them for his health information. These records are documented. So it was difficult to handle the information of the visitors. While uploading more information on the website, sometimes there is a problem with the signature. It was also difficult to understand where ASHA Worker had visited. So, ASHA workers required more time to complete their works. And the overall system is complicated to work and understand.

This system is being built keeping all these things in mind. In this application, different forms have been designed for ASHA workers. With the help of these forms, ASHA workers can fill up and upload people's health-related forms. This application has two sides, one is the user side and the other is the admin side. On the user side, ASHA Workers use ASHA's biometric figure print to fill in people's information and also easily understand which area they have visited. And ASHA gets a payment receipt from work. The information filled in by ASHA Workers is stored in the database. Similarly, the other side is the admin side. When new health schemes come into it, different forms are created. This daily report is generated from the work of ASHA Workers. Once the report is generated, their payment receipt is generated from this work. A Biometric system is provided for authentication purposes. Using the Google API and ML, they will know exactly where the vaccination has taken place, where they will be specified. In return, all this information is stored in the database. Admins and users will use their credentials to use the system. So, it is very useful for ASHA workers in India. Problem-related to the payments of ASHA's overcome. And easy to explore the information about the new scheme. If ASHA has visited a house for vaccination, you will see on the map whether she has reached any area of the village so far. So, this system is unique, effective, and affordable.

II.LITERATURE SURVEY

In [1], authors have mentioned Upasana measures following parameter ECG (ElectroCardiogram), SpO2 rate (Saturation of Peripheral Oxygen), Pulse Rate, Blood Pressure, Body Temperature, etc. The ASHA worker will visit all the villagers in her village one by one. She will connect the electrodes from UPASANA to the body of the patient. Then she will assign a unique ID to the patient using the numeric keypad provided in the device. After ensuring that the patient is not moving and is seated comfortably so that the medical artifacts are reduced, the ASHA worker will press the MEASURE button. With just one button

Shri Vile Parle Kelavani Mandal's
Institute of Technology, Dhule
Approved by AICTE & Affiliated to DBATU

Title of the Book	**Contemporary Research in Management Volume 2**
Title of the Chapter	Effect of COVID-19 on construction and Engineering Sector
Name of Author	Darshankumar Patel
Link for the published Book	https://www.google.co.in/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjn6Kip2qyEAxVqoGMGHehDDxIQFnoECBMQAQ&url=https%3A%2F%2Fwww.amazon.in%2FContemporary-Research-Management-Ramesh-Chaturvedi%2Fdp%2FB08G8RMNGW&usg=AOvVaw3L_hcTirisNJot8vd6MSuX&opi=89978449

Shri Vile Parle Kelavani Mandal's
Institute of Technology, Dhule
Approved by AICTE & Affiliated to DBATU

Title of the Book	**National Education Policy 2020: Vision for India's future Education**
Title of the Chapter	**Instructional Methods and Strategies**
Name of Author	Darshankumar Patel
Link for the published Book	https://www.google.co.in/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjX_JG056yEAxUwcGwGHWS7C7EQFnoECBIQAw&url=https%3A%2F%2Fwww.amazon.in%2FNew-Education-Policy-India-Vision%2Fdp%2F8195388477&usg=AOvVaw3jINFJzPhfFI9Q10EO2atl&cshid=1707981662562090&opi=89978449

Rizvi Education Society's
RIZVI COLLEGE
OF ARTS, SCIENCE & COMMERCE

International Journal of Research

Volume 10 (1) ❖ July – Dec 2020

ISSN 2231-6124
Peer Reviewed Journal
Multi Disciplinary
Impact Factor SJIF 2020 (7.551)

Dr. (Mrs.) Anjum Ara M. K. Ahmad
EDITOR-IN-CHIEF

ISSN 2231 - 6124

Rizvi Education Society's
RIZVI COLLEGE
OF ARTS, SCIENCE & COMMERCE

Darshankumar Patel
International Journal of Research
Vol. 10 (1) 2020 : pp 75 - 80

Digital and Online Education System in India

Darshankumar Patel
Assistant Professor, Department of Civil Engineering,
SVPKM's Institute of Technology Dhule, India.
Email: darshptl12354@gmail.com

Abstract

India becoming a global leader in Information Communication and Technology along with domains like space. The Digital India Campaign is encouraging to transform the whole nation into a digitally empowered community. Quality education playing very important role in this transformation and technology itself playing an important role in the improvement of educational processes and outcomes. This paper examines the emergence of Digital and on-line Learning environments and along with the reasons for its appearance. The recent advancement of wireless net and mobile communications devices has provided exceptional opportunities for 21st century mixed learning models along with on-line and face-to-face learning. In response to those developments, several innovative learning environment has been trialed at various platform. The potential of technology enabled teaching, will facilitate us in establishing the knowledge society, which in turn will help us in improving our GDP and nation growth. Our educational institutions were built in line with industrial era rather than a digital era. Thus, teachers and students are faced with a massive challenge of change. Applicable integration of technology into all levels of education to support teacher preparation and development, improve teaching, learning and analysis processes, enhance instructional access to deprived groups and streamline educational planning, administration and management. Since technological changing very rapidly, it is essential to find out key technology trends in order to identify ways in which education can leverage not just current technologies but emerging technologies as well.

Keywords: Digital, Education, Online, Technology

Introduction

In the era of technological revolution, the entire mankind is encompassed, immersed and depend upon the technology. The rate at which the technological innovations is far ahead when compare to the knowledge/skill updating of the individual learners. The infusion of technology has revolutionized the various walks of life and everyone felt it is indispensable to live without technology. Technological innovations lead to massive changes in the economy, in providing network and communication to each other. The potential of technology enabled teaching, will facilitate us in establishing the knowledge society, which in turn will help us in improving our GDP and nation growth. The major challenge exists in equipping our educational institution with digital learning space or environment. Our educational institutions were built in line with industrial era rather than a digital era. Thus, teachers and students are faced with a massive challenge of change. There is a transition from chalk and talk to click and talk. Skill set required in the digital era for establishing the sound & healthy knowledge society communication skills , the ability to learn independently , ethics and responsibility , teamwork and flexibility , digital skills knowledge management. Quality education will play very important role in this transformation and technology itself is playing vital role in the improvement of educational processes and

e-Book

e-ISBN: 978-81-952843-9-9

Proceedings of Online International Conference on

SWARDAM-2021

8-9 March, 2021

Sustainable Water Resources Development and Management

Sponsored by

Technical Education Quality Improvement Programme (TEQIP Phase-III)

In Association with

Indian Society for Hydraulics
(Aurangabad Local Centre)

Indian Water Resources Society
(Aurangabad Local Centre)

Ujjain Engineering College, Ujjain, (M.P.)
(Under TEQIP-III-Twinning Activity)

Editors

Dr. D.G. Regulwar
Dr. U.J. Kahalekar
Dr. R.V. Shetkar
Dr. G.K. Patil

ORGANIZED BY

Department of Civil Engineering
GOVERNMENT COLLEGE OF ENGINEERING
Aurangabad – 431 005, Maharashtra, India
(An Autonomous Institute of Government of Maharashtra)

Contents

Green Roofs: A Review of Performance and Limitations

S.G. Taji[1], P.R. Ikhar[2], A.P. Keskar[3] and D.G. Regulwar[4]

[1]Assistant Professor, Civil Engineering Department,
SRES's Sanjivani College of Engineering, Kopargaon,
Savitribai Phule Pune University, Pune (Maharashtra, India)

[2]Assistant Professor, Civil Engineering Department,
SVKM's Institute of Technology, Dhule, Maharashtra, India

[3]Assistant Professor, Civil Engineering Department,
Terna Engineering College, Navi Mumbai, Maharashtra, India

[4]Professor, Department of Civil Engineering,
Government College of Engineering, Aurangabad–431005, Maharashtra, India

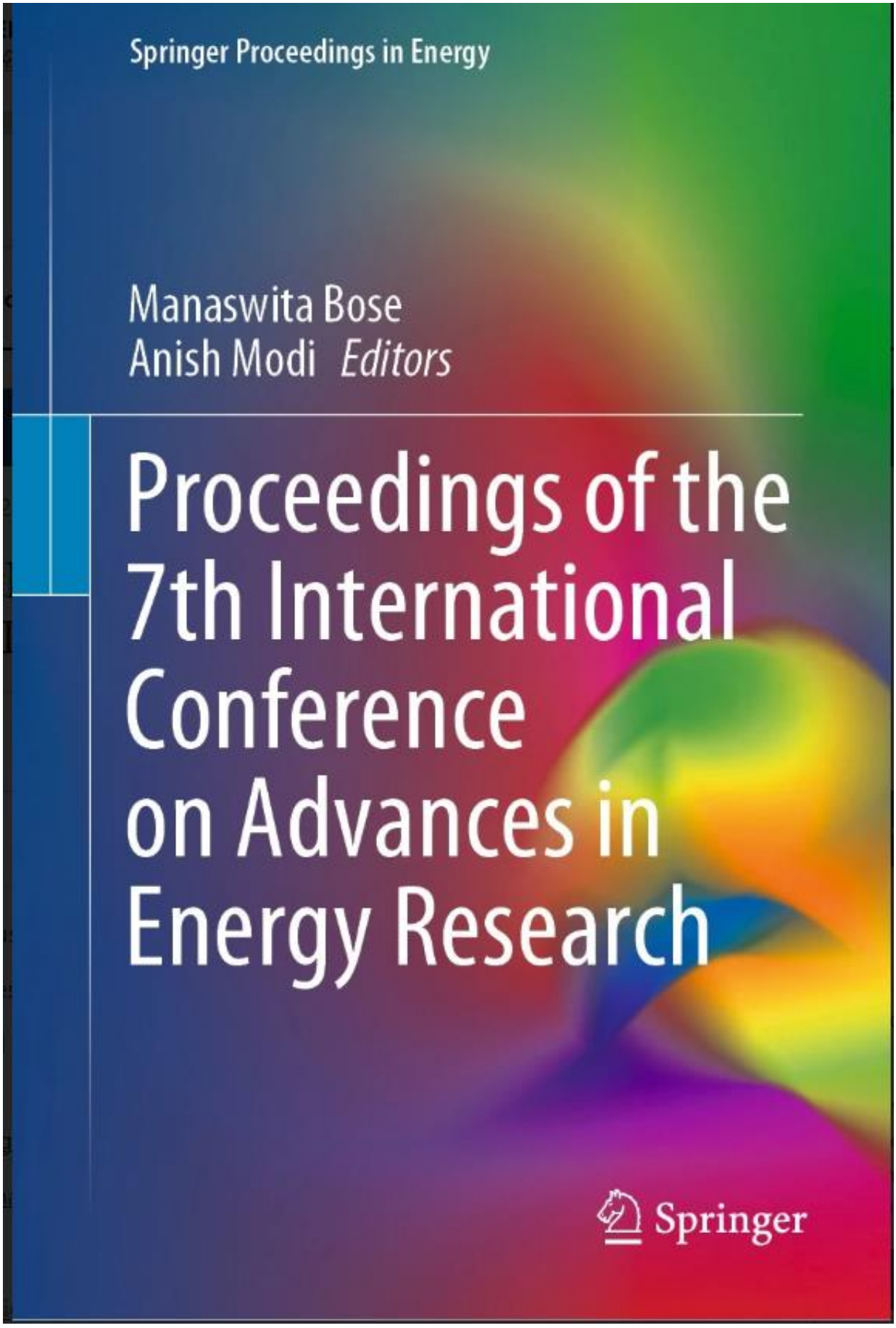
E-mail: [1]satishtaji777@gmail.com

Abstract—*Several countries have already shifted to low impact development (LIDs) techniques for the management of stormwater in urban areas. LID helps to restore pre-development conditions through accelerated infiltration and evapotranspiration processes in the urban areas. Bio-retention cells, permeable pavements, green roofs, rooftop rainwater harvesting, detention ponds, etc. are the most commonly used LID techniques. The capability to hold a portion of the rainfall and slowly release the rest of the portion with improved quality is one of the most important benefits of the green roof which distinguishes it from other LIDs. Many studies, so far, have validated the performance of green roofs for the management of urban stormwater. However, the performance of green roofs varies greatly with the structure of their construction which rather makes its prediction of the performance more difficult. The scientific literature on green roof hydrology is reviewed in this paper. This review mainly focuses on the multiple benefits and limitations of green roofs in urban areas. The results of this review conclude that such LID techniques are helpful to minimize the flood volume and peak flow of runoff with attenuation. However, further research is needed to understand the essential components of the green roof under variable climatic conditions.*

Keywords: *Green roofs, low impact development, pollution mitigation, hydrological performance,stormwater management*

INTRODUCTION

The rapid rate of growing urbanization has had a major effect on urban hydrology. In urban catchments, urban development continues to alter surface hydrology which generates peak flows in relatively small interval of time. Low impact development (LID) implementation is a new storm water management approach that aims to reduce the adverse effects of urbanization [1–3]. These solutions are developed to restore hydrological pre-development conditions, through increased storage, and accelerated infiltration as well as evapotranspiration (ET) processes [4, 5].Bio-retention cells, permeable pavements, green roofs, rooftop rainwater harvesting, detention ponds, etc. are the most commonly used LID techniques. Several researchers have analyzed the effectiveness of LID techniques and reported that the performance of LID increases with increasing surface area of the LID [4, 6]. However, in a complex urban environment, this required surface area may not available for the implementation of LID techniques and therefore, green roofs (also termed as vegetated or living roof) can be an effective solution that uses roof area of the building instead of using ground surface [5, 7]. Hence, green roofs have the potential to provide an smart green area in the urban catchments where there is minimal or simply non- existent green space on the field. The capability to hold a portion of the rainfall and slowly release the rest of the portion with improved quality is one of the most important benefits of the green roof [8] which distinguishes it from other LIDs. Making the roofs green by laying soil layer and vegetation on the top would lead to achieve multiple benefits such as management of stormwater (reduction of peak flow as well as


Springer Proceedings in Energy
Manaswita Bose
Anish Modi Editors
Proceedings of the 7th International Conference on Advances in Energy Research
Springer

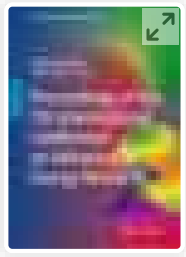
Manaswita Bose · Anish Modi
Editors

Proceedings of the 7th International Conference on Advances in Energy Research

Volume 2

Springer

Contents



Proceedings of the 7th International Conference on Advances in Energy Research pp 35–44

Decentralized Solid Waste Management for Educational-Cum-Residential Campus: A Pilot Study

Deepak Singh Baghel & Yogesh Bafna

Conference paper | First Online: 18 October 2020

Part of the Springer Proceedings in Energy book series (SPE)

Abstract

Growth of population and urbanization has given boost to municipal solid waste generation in India. The municipal corporations throughout the country are facing problems to improve collection efficiency of waste and subsequently, treat, and dispose the tonnes of waste generated daily. The decentralization of solid waste management could prove effective in managing such problems. The

PROCEEDINGS
of the
4th International Conference on
Electronics, Communication and
Aerospace Technology
(ICECA 2020)

5-7, November 2020

ICECA 2020

Organized by

RVS Technical Campus
Coimbatore, India.

Fourth International Conference on Electronics, Communication and Aerospace Technology (ICECA-2020)
IEEE Xplore Part Number: CFP20J88-ART; ISBN: 978-1-7281-6387-1

Analysis and Control of Wind Power Plant

Namra Joshi. Assistant Professor,
Department of Electrical Engineering
SVKM's Institute of Technology
Dhule, Maharashtra, India
er.nrjoshi@gmail.com

Jaya Sharma, Assistant Professor
Department of Electrical Engineering
Shri Vaishnav Vidyapeeth Vishwavidhyalaya
Indore, Madhyapradesh, India
jayasharmaee@gmail.com

***Abstract*—In the past 20 years' power demand has been increased drastically and it reqires significant research attention to find the alternative green and sustainable energy sources . Solar energy and wind energy is considered as one of the most crucial energy sources, which are available in abundant amount in nature. The government of India has taken initiative towards the development of renewable energy in India as the country has a very rich capacity for wind energy. In this paper, an attempt has been made to analyze the basic control strategies of wind power plants with the help of Matlab Software.**

Keywords— Wind Power; Yaw Control; Pitch Control

I. INTRODUCTION

Wind power plants are emerging as a good alternative for supplementing the lacking requirement of power of grids as compared to nonrenewable energy sources based on major generating units. Wind power generation capacity is raising continuously. It is the acute emerging source of power generation with a 20% yearly growth rate for the last 5 years. These types of power plants opt where high potential for wind energy is available irrespective of its distance from the load centers. Wind power [1] has an exceptionally good potential for providing electrical energy that is free & nonpolluting. [2] Its effectiveness as an electricity supply source has encouraged ambitious targets for wind power in many countries around the world. [3]

II. WIND TURBINE SYSTEM

The wind turbine system [5] comprises the turbine rotor, generator, gearbox, power electronics control circuitry, and a transformer for its link with the utility system. The turbines rotate through the wind through blades of the turbine and it is turned into mechanical power. Now, this is required to curb the obtained power, particularly when the speed of the wind is more. With the help of gear train and generator, the mechanical power has converted into electrical with the ideal required speed. To connect the low speed of the WT's to the high speed of the generator with gearbox. After this, the input power is transited into electrical power with the aid of the generator. Then power is processed through specialized electronic circuits and step-up transformers along with essential metering and protective equipment for connecting this system with the grid. [6]

When the shaft of Induction generators is revolving hastily than the fs of the induction motor, it produces produce electrical power. As these generators can produce power at the varying rotor, this makes it capable to use in wind turbines. Induction generators are simple in construction. They are also more rugged in construction; hence it doesn't require brushes or commutator. As these types of generators are not self-exciting, to produce an RMF, they require an additional supply. This additional supply can be extracted either from the grid or from the generator, as soon as power production is commenced. The magnetic field is generated due to currents induced in the rotor. In case rotor speed is slower as compared to RMF, the machine will behave like a motor & when speed is high, it behaves like a generator and at fs generates the electrical power. In this type of generators , capacitors are responsible for generating flux which is magnetizing in nature. It draws current from the utility system when operated in conjunction with the utility grid whereas when operating in the isolated mode it is linked with the machine. [7]

It is the best appropriate type of generator [4] for WEG systems wind generating stations as for such power plant speed is proven to be eternally a mutable factor. These machines are broadly employed in the application system as motors but are not broadly employed as generators. Although it is having simple construction, they will not recommend as other generators are preferred. It is basically because of the rapport between the extraction of active power and the compensation of reactive power. Despite having several benefits like supplying effective damping torque, it makes it proper compatible to use in WT's with constant speed. In general, SCIG based WEG's are employed and they are linked with the transmission system with the help of a transformer. WT's are operated at variable speeds, to match their s peed and make a constant rotation of a shaft of a generator that use a gear train and gearbox mechanism. The generator slips a little bit changes continuously with the generated power and hence it is not overall constant. Due to such changes in speed that's why these WT's are popular for fixed speed. At present these kinds of WT's are operated in conjunction with aerodynamic stall control. These machines deplete Q and that's why it is the current habit to connect special capacitors along with WT's to correct p.f. Usually, the rating of them is kept as thirty percent of the entire capacity of WT's. For obtaining the power from WEG's system, it is noted that the stator voltage is low. So, it becomes necessary to connect with the system through the transformer. This will have considered also while analyzing the electrical performance of WEG's system.[9]

PROCEEDINGS
of the
5th International Conference on Communication and Electronics Systems (ICCES 2020)

10-12, June 2020

Technical Sponsors

Proceedings of the Fifth International Conference on Communication and Electronics Systems (ICCES 2020)
IEEE Conference Record # 48766; IEEE Xplore ISBN: 978-1-7281-5371-1

Application of IoT in Indian Power System

Namra Joshi,
Assistant Professor
Department of Electrical Engineering
SVKM's Institute of Technology
Dhule,Maharashtra,India
er.nrjoshi@gmail.com

Dheeraj Nagar,
Assistant Professor
Department of Electrical Engineering
Ojaswini Institute of Management & Technology,Damoh
dheerajmnagar@gmail.com

Jaya Sharma,
Assistant Professor
Department of Electrical Engineering
Shri Vaishnav Vidyapeeth Vishwavidyalaya,Indore,
Madhyapradesh
jayasharmaee@gmail.com

***Abstract*— In de veloping countries like India power demand is increasing day by day. Power system infrastructure required proper control and monitoring. To fulfill the energy demand, a strengthened power system infrastructure is required. Internet of Things having the potential to improve this in a power system. This paper emphasizes the role of IoT in Indian Power S ystem Applications.**

Keywords*— *IoT, Renewable Energy, Smart Grid

I. INTRODUCTION

India is at 3rd position in power production and power consumption in the world. The total installed capacity of India is 368.79 GW as of 31.12.2019. The per capita electricity consumption is also getting increase day by day as illustrated in fig. 1. With such a large amount of consumption and production of electricity, it becomes very essential to have a competent infrastructure of the power system is required. In India, around 30 % of the electricity produced is waste in T & D losses.

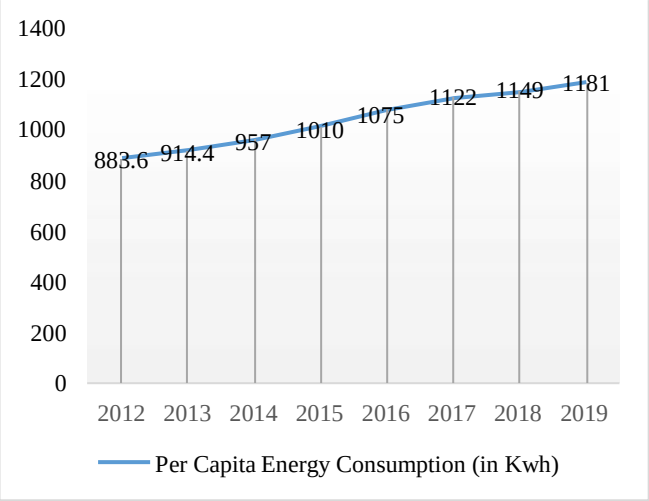


Fig. 1 Per Capita Electricity Consumption in India [12]

To compensate such losses in transmission and distribution network it is required to have some robust mechanism for the same. The Internet of things is a great available option for strengthening the control mechanism for the power system.

II. INTERNET OF THINGS

Internet of Things [11] is a kind of network to connect anything with the internet. It is also defined as an emerging technology utilizing the internet and targeted to give connectivity to physical things or devices. When anything, object machines are interacting with each other through the internet is known as the internet of things. [1]

Fig. 2 Internet of Things

Fig. 2 indicates the basic structure of the Internet of Things. Following are the main stages in the Internet of Things implementation and usage:-

Shri Vile Parle Kelavani Mandal's
Institute of Technology, Dhule
Approved by AICTE & Affiliated to DBATU

Title of the Chapter	**Design and construction of Green Highway in India considering the Sustainable Development**
Name of Conference	**International Conference on Green Highway Construction-A Sustainable Approach**
Name of Author	Darshankumar Patel
Link for the published Book	https://books.google.co.in/books/about/International_Conference_Green_Highway_C.html?id=Q5NfzgEACAAJ&redir_esc=y

Shri Vile Parle Kelavani Mandal's

Institute of Technology, Dhule

Approved by AICTE & Affiliated to DBATU

Title of the Book Published	**Engineering Geology: Theory and Concepts**
Name of the publisher	Notion Press
Name of Author	Shrikant Randhavane
Link for the published Book	https://notionpress.com/read/engineering-geology-theory-and-concepts

Lecture Notes on Multidisciplinary Industrial Engineering
Series Editor: J. Paulo Davim

Mohan Lal Kolhe
Pawan Kumar Labhasetwar
H. M. Suryawanshi *Editors*

Smart Technologies for Energy, Environment and Sustainable Development

Select Proceedings of ICSTEESD 2018

Springer

Editors
Mohan Lal Kolhe
Electrical Power Engineering
(Smart Grid and Renewable Energy)
Faculty of Engineering and Science
University of Agder
Kristiansand, Norway

H. M. Suryawanshi
Department of Electrical Engineering
Visvesvaraya National Institute
of Technology
Nagpur, Maharashtra, India

Pawan Kumar Labhasetwar
Water Technology and Management
National Environmental Engineering
Research Institute (NEERI)
Council of Scientific and Industrial Research
Nagpur, India

ISSN 2522-5022 ISSN 2522-5030 (electronic)
Lecture Notes on Multidisciplinary Industrial Engineering
ISBN 978-981-13-6147-0 ISBN 978-981-13-6148-7 (eBook)
https://doi.org/10.1007/978-981-13-6148-7

Library of Congress Control Number: 2018968104

This Springer imprint is published by the registered company Springer Nature Singapore Pte Ltd.
The registered company address is: 152 Beach Road, #21-01/04 Gateway East, Singapore 189721, Singapore

Development of Finned Tube Type Adsorber Bed for Adsorption Cooling System

Bhushan C. Behede and Uday S. Wankhede

Abstract Adsorption cooling system consists of the specifically designed heat exchanger which is filled with adsorbents (silica gel). The flow of refrigerant is regulated inside the heat exchanger by regulating valves. Heat exchanger filled with adsorbents called a 'Thermal compressor' is used to build the pressure in the system. It is a replacer for the mechanical compressor in a Vapor Compression Refrigeration System (VCRS). This heat exchanger is experimentally evaluated in the adsorption cooling system which is developed for air-conditioning of subcompact vehicle of 1 TR capacity. Coefficient of Performance (COP) and Specific Cooling Power (SCP) are the performance parameters evaluated from the experimentation. Temperature of hot source is varied from 45 to 60 °C and for 15 min of cycle time, maximum COP obtained is up to 0.55, whereas minimum obtained is 0.14. On another hand, SCP is observed up to 348 W/kg. Here, the design of thermal compressor plays an important role. SCP and COP of the system are to be maximized by increasing heat transfer and mass transfer rates. Poor design of heat exchanger leads to decrease in heat transfer and mass transfer rates which will reduce SCP and COP of the system. Heat transfer rate of the heat exchanger is enhanced by increasing heat transfer area, and mass transfer rate is enhanced by decreasing the thermal resistance between adsorbent–adsorbate particles.

Keywords Adsorption · Adsorbent · Thermal compressor · Heat transfer rate · Mass transfer rate

B. C. Behede (✉)
G. H. Raisoni Institute of Engineering and Management, Jalgaon, Maharashtra, India
e-mail: bhushanbehede@gmail.com

U. S. Wankhede
Government College of Engineering, Chandrapur, Maharashtra, India

M. L. Kolhe et al. (eds.), *Smart Technologies for Energy, Environment and Sustainable Development*, Lecture Notes on Multidisciplinary Industrial Engineering,
https://doi.org/10.1007/978-981-13-6148-7_52

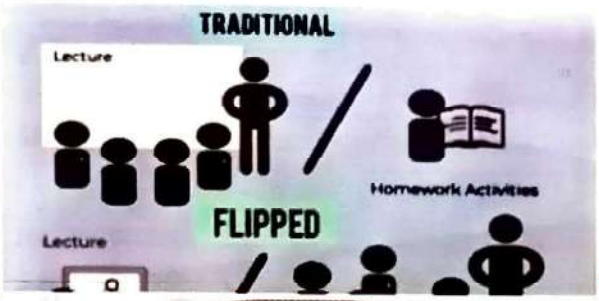
ISBN : 978-93-88441-93-3

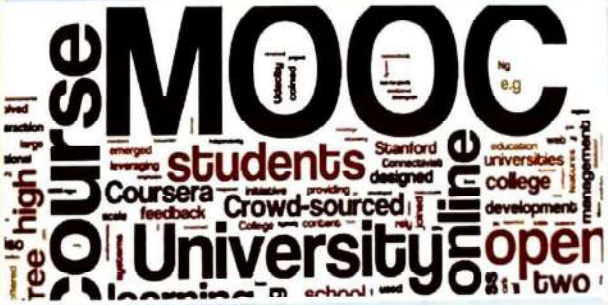
NATIONAL CONFERENCE ON

Exploring New Dimensions in Teaching-Learning for Quality Education

8th - 9th June, 2019

Under Aegis of
All India Council for Technical Education, New Delhi





In Association with
Engineering Education Foundation

Organized By
K. K. Wagh Institute of Engineering Education and Research, Nashik (Maharashtra)

Hirabai Haridas Vidyanagari, Amrutdham, Panchvati, Nashik - 422003
Website: https://engg.kkwagh.edu.in

Promoting Entrepreneurial Traits through the Development of Skills

Sara T. Patel[1], Manoj R. Sonawane[2]

[1,2]Applied Science and Engineering Department, SVKM's Institute of Technology,
Near Mumbai-Agra Highway, Dhule, Maharashtra, India 424001
sarapatel2000@gmail.com
manoj.sonawane@svkm.ac.in
Track No: 5
Track Name: Skill and Enterprenuership

Abstract: The technology startup sector is widening. The Global Entrepreneurship Monitor (GEM) has estimated that more than a million startups are created worldwide each year and that these contribute to the dynamic ~ $450 trillion ecosystem. In the developed countries, the digital sector has been growing more than three times the rate of the economy. There are two magnitudes of this. The first is an equalizing of the entrepreneurship field so that what comes out as smaller businesses can now compete unruly with larger rivals. The another magnitude, which in part develops from the first, is the arrival, within the past decade, of tech titans such as Facebook, Amazon, Apple, Netflix and Google referred universally as the FAANG's, whose economic and social power and influence is pervasive across the technologically advanced world. Moreover, research has shown that Science, Technology, Engineering and Mathematics (STEM) entrepreneurs in particular build some really pioneering fundamentals to create viable businesses.[1]This study orients to deliberate the ramification of entrepreneurship education and financial literacy on entrepreneurship skills. Study also applies the survey method with the workaday approach.

Keywords: Entrepreneurship, Skill development, Business, Knowledge, Employment, Female entrepreneurship.

Introduction: Entrepreneurship is a messy and complex process that is not linear. About 2% of populations should be entrepreneurs for a country to be prosperous. It means that out of~1.33 billion Indian population, 26.6 million should be entrepreneurs. But, currently there have been nearly 48 million businesses ranging from small cap to large cap (almost 3.6%) which is pretty good sensing the percentage increase but still can be considered as a negligible development because only a handful of entrepreneurs and their businesses can withstand the humongous market value. So, building a good entrepreneur is an issue in the developing India.[2]Artificial intelligence, cybernetics and high-tech infringements are transmuting the global economy. Inventiveness and independency are very imperative to an entrepreneur. There are two individualities of entrepreneur: as creator and as idealist. As a creator, entrepreneur creates an actually new business. As an innovator, entrepreneur initiates rectification in the terms of production, marketing, and management for the current business.[3]Through imagination, fearlessness, independency and adequate skills, the disaster in business can be curtailed. Regardless of failure, it will be able to analyse the factors triggering it, obstinate and get up immediately. The increased number of educated unemployed populations over years have ensued social problems such as poverty, thuggery, drug abuse, intolerance, trafficking, and many more.

The primary strategic business challenge that the businesses confront is the impact that unsettling change in economy is having on their businesses.[4] Second-most significant trial for these same companies is how they fascinate and absorb the most highly accomplished employees to meet these tasks. The effects of this global change are being felt across the country, predominantly by the youth, who are inflowing the work force at the precise time when enormous traditional jobs are becoming outdated, others are undergoing noteworthy change and new ones are being designed. How do we best prepare the youth for a future occupied with swift variation, experiments and breaks is the most valid question today. We assume the future opulence of our country and our youth is reliant on how we alter our performance today. Much has been written about the key skills needed to ensure we have the most fruitful work force possible. But one of the most important keystones of progression and wealth creation is creating a more tough culture of risk-taking. The youth, while often well educated, are missing the vibrant lessons of entrepreneurship and daring. Required methods of how to furnish the youth with entrepreneurial expertise and knowledge they so desperately need are studied and discussed.

Methodology:

The study helps to review the concept of entrepreneurial development and its several backgrounds. Most of research articles on entrepreneurship were accessed from Journal of Innovation and Entrepreneurship (JIaE), HBR, Forbes Reviews, and Google. Some research articles, books were accessed from different digital libraries. The audiences of research were people fascinated by a business venture, people already into some startup and people learning to be entrepreneurs. This study engaged a qualitative method with case study approach. The informers of the study were servicemen and women, corporate job people, retired people, startup CEO's, business analysts, consultants, parents, students and also

Sri Venkateshwara Group of Institutions

Sri Venkateshwara College of Engineering

(Permanently Affiliated to VTU, Belagavi & Approved by AICTE, New Delhi), *Accredited by NBA,
Kempegowda International Airport Road, Vidyanagar, Bengaluru, Karnataka, India – 562 157

2019 4th IEEE International Conference on Recent Trends on Electronics, Information, Communication & Technology (RTEICT)

BENGALURU, KARNATAKA, INDIA, 17-18 MAY, 2019

Department of Electronics & Communication Engineering

2019 PROCEEDINGS

Welcome Message | Table of Contents | Papers

Technical Sponsors

IEEE | IEEE computer society | IEEE BANGALORE SECTION

RTEICT 2019

Sri Venkateshwara College of Engineering
Kempegowda International Airport Road, Vidyanagar, Bengaluru,
Karnataka, India – 562 157

+91-7022863634

hodece@svcengg.com
rteict2019@gmail.com

IEEE ISBN: 978-1-7281-0630-4
CATALOG NUMBER: CFP19F77-ART
IEEE Conference: 46194

Noise Analysis of RTD to study Degradation Pattern for Preventive Maintenance

Firdaus Naz nazhal2015@gmail.com
Farha Naz farhanaz2089@gmail.com
Dr. A N Cheeran ancheeran@ee.vjti.ac.in
Department of Electrical Engineering, Veermata Jeejabai Technological Institute
Mumbai, India

***Abstract*—Resistance temperature detector (RTD) installed in nuclear power plant is subjected to hostile environment which leads to degradation in its response. This paper discusses the different failure modes of RTD and aims to evolve a technique using noise analysis method in frequency domain to get an idea about how the response of RTD changes as the RTD is subjected to physical degradation in the process. And as the physical degradation of RTD continues, a pattern of degradation in the response is found. This in turn will give information about the health of RTD and thereby facilitate for in situ diagnostic of RTD, and also for its preventive maintenance. In this paper an electrical equivalent of RTD is modelled using passive elements R, L, and C, and transfer function is obtained which is having two time constants T1 and T2.Then analysis of response of RTD is made in frequency domain to find how physical degradation in RTD is affecting its time constants and thus relationship is established that how physical degradation is affecting the electrical parameters (R, L, and C).**

Keywords— Degradation, in situ, RTD, time Constant, thermowell, MATLAB, hamming window

I. INTRODUCTION

RTD provides important temperature data for control and safety of Nuclear Power Plant. Therefore it is necessary to ensure that response of RTD remains faithful over time as it degrades in the process under normal operating conditions. An RTD is installed inside a Nuclear power plant (NPP) where the process environment is hostile. There is noise, vibration, moisture in the thermowell etc, which causes physical degradation of RTD material. This leads to degradation of output signal through RTD. Under normal operating conditions, degradation in RTD means that the process temperature to be measured has already changed but there is a delay in reflecting so by the RTD output. This way the RTD is no longer faithful as it degrades further.

A. Paper Overview

In this paper, section I and II explains about RTD, its failure modes. Section III discusses various testing methods and why Noise analysis method is chosen in this paper. Section IV discusses the Lumped Parameter Model and transfer function of RTD which is hypothesis for this paper's work. In section V, Electrical equivalent of RTD is modelled and its transfer function is found and the relation between transfer function and components R, L, and C is established. Section VI deals with methodology , Section VII discusses the results obtained and section VIII concludes this work.

B. Resistance Temperature Detector (RTD)

Resistance temperature detectors (RTDs) are used for measuring temperature in Nuclear power plant. RTDs are made up of metals like copper, nickel and platinum [3]. It has positive temperature coefficient of resistance, which means that as the temperature increases, its resistance also increases. It can operate from: –200°C to 800°C. RTD is a passive device. To measure the temperature, current is passed through RTD. This causes voltage drop across the resistance. This voltage is measured and resistance is calculated and thus the temperature value.

II. FAILURE MODES OF SENSORS

A. Basic types of sensor failures are:

Sensor bias: It refers to a condition when the measured signal is zero, but the output signal is not zero [2].
Error due to drift: Here the output signal changes with some delay irrespective of the changes in measured signal [5].
Scaling error: Here the magnitude is scaled by some factor but the waveform appears to be the same [2][5].
Error due to Hysteresis: Here the sensor shows memory effect and the output signal depends on the past conditions. This leads to lag in sensor response.
Hard fault: This means that output of a sensor has got stuck at any value. There are two types of hard failures.
1) *Signal Loss :* Here no data is obtained from the sensor and the output is stuck to zero value [2] [5].
2) *Stuck Sensor:* Here the sensor output is stuck at some constant value [5].

B. RTD failure Modes:

An RTD can fail in following ways: Long time exposure to high temperature causes several degrees drift in RTD output [3][5] , self heating of element due to current flow through RTD gives high resistance value [3][4], shock and vibration causes drift due to change in characteristic of resistive wire [3][5], degradation of Insulation causes shorting between the coils giving lower resistance reading [3].These degradations are due to physical or environmental conditions.

III. RTD TESTING METHODS

Various methods to test the response of RTD are: Conventional plunge test, Loop current step response test (LCSR), Self heating index test and Noise analysis method.
A brief comparison of these methods is made in Table 1.

978-1-7281-0630-4/19/$31.00 ©2019 IEEE

Shri Vile Parle Kelavani Mandal's
Institute of Technology, Dhule
Approved by AICTE & Affiliated to DBATU

Remaining Conference papers are from inhouse conferences conducted by different departments.

Proceedings of the same are available in in the printed format at the Institute.

Cover pages of the conference Proceedings are attached below,

Published By:

Shri Sai Enterprises,Dhule

Publisher's Address:

171, Vidyanagar, Deopur, Dhule, Maharashtra-424005

ssenterprisesdhule@gmail.com

PROCEEDINGS OF INTERNATIONAL CONFERENCE ON RESEARCH & DEVELOPMENT IN CIVIL ENGINEERING

RDCE'21 (VIRTUAL)

DISCLAIMER

The authors are solely responsible for the contents of the papers compiled in this volume. The publishers or editors do not take any responsibility for the same in any manner. Errors, if any, are purely unintentional and readers are requested to communicate such errors to the editors or publishers to avoid discrepancies in future.

Shri Vile Parle Kelavani Mandal's

INSTITUTE OF TECHNOLOGY

Dhule, Maharashtra, India

International Conference on Research & Development in Civil Engineering

(RDCE'21)

December 23rd - 24th, 2021

■ Organized by: ■

Department of Civil Engineering

ISBN - 978-93-5636-226-0

■ Coordinators ■

Prof. Deepak Singh Baghel | Prof. Achal Agrawal

Dr. Shrikant Randhavane | Dr. Narayan Chandak

■ Organizing Chair ■

Dr. Nilesh Salunke

Principal, SVKM's IoT, Dhule

■ Convener ■

Dr. Sharikant Randhavane | Dr. Narayan Chandak

Published By:

Shri Sai Enterprises,Dhule

Publisher's Address:

171, Vidyanagar, Deopur, Dhule, Maharashtra-424005

ssenterprisesdhule@gmail.com

PROCEEDINGS OF

INTERNATIONAL CONFERENCE ON FUTURISTIC DEVELOPMENTS IN MECHANICAL SCIENCES AND TECHNOLOGY (ICFDMST-2021)

DISCLAIMER

The authors are solely responsible for the contents of the papers compiled in this volume. The publishers or editors do not take any responsibility for the same in any manner. Errors, if any, are purely unintentional and readers are requested to communicate such errors to the editors or publishers to avoid discrepancies in future.

Shri Vile Parle Kelavani Mandal's

INSTITUTE OF TECHNOLOGY

Dhule, Maharashtra, India

PROCEEDINGS OF

INTERNATIONAL CONFERENCE ON FUTURISTIC DEVELOPMENTS IN MECHANICAL SCIENCES AND TECHNOLOGY

(ICFDMST-2021)

ISBN - 978-93-5627-741-0

23rd – 24th December 2021

Edited by

Dr. Amol Badgujar | Dr. Hitesh Thakare | Dr. Nilesh Salunke

Published By:

Shri Sai Enterprises,Dhule

Publisher's Address:

171, Vidyanagar, Deopur, Dhule, Maharashtra-424005

ssenterprisesdhule@gmail.com

DISCLAIMER

The authors are solely responsible for the contents of the papers compiled in this volume. The publishers or editors do not take any responsibility for the same in any manner. Errors, if any, are purely unintentional and readers are requested to communicate such errors to the editors or publishers to avoid discrepancies in future.

Shri Vile Parle Kelavani Mandal's

INSTITUTE OF TECHNOLOGY

Dhule, Maharashtra, India

PROCEEDINGS OF INTERNATIONAL CONFERENCE ON EMERGING TRENDS IN INTELLIGENT COMPUTERING (ICETIC'22)

Volume 2

DEPARTMENT OF COMPUTER ENGINEERING AND DEPARTMENT OF INFORMATION TECHNOLOGY

ISBN - 978-93-5620-423-2

EDITOR IN-CHIEF

DR. NILESH SALUNKE

Principal, SVKM's IoT, Dhule

EDITORS

DR. BHUSHAN CHAUDHARI | DR. MAKARAND SHAHADE

Published By:

Shri Sai Enterprises,Dhule

Publisher's Address:

171, Vidyanagar, Deopur, Dhule, Maharashtra-424005

ssenterprisesdhule@gmail.com

Proceedings of Virtualinternational conference

on recent trends on electrical and electronics engineering

(ictreee'23)

DISCLAIMER

The authors are solely responsible for the contents of the papers compiled in this volume. The publishers or editors do not take any responsibility for the same in any manner. Errors, if any, are purely unintentional and readers are requested to communicate such errors to the editors or publishers to avoid discrepancies in future.

Virtual International Conference On

Recent Trend in Electrical and Electronics Engineering

(ICERTEEE'23)

Technically Sponsored by

Organized By

Department Of Electrical Engineering

Shri Vile Parle Kelavani Mandal's Institute Of Technology, Dhule, Maharashtra, India

ISBN - 978-81-969992-5-4

Convener

Dr.Vishal Moyal

General Chair

Dr. Nilesh Salunke

Principal, SVKM's IoT, Dhule