JEPPIAAR INSTITUTE OF TECHNOLOGY

SELF BELIEF | SELF DISCIPLINE | SELF RESPECT

KUNNAM,SUNGUVARCHATRAM, SRIPERUMBUDUR
CHENNAI - 631604

On 30 & 31st July 2021

CONFERENCE PROCEEDINGS

INTERNATIONAL CONFERENCE ON RECENT INNOVATIONS IN SCIENCE, ENGINEERING AND TECHNOLOGY (ICRISET)

ORGANIZED BY:

CSE, IT, ECE, EEE, MECH, S&H

INTERNATIONAL CONFERENCE ON RECENT INNOVATIONS IN SCIENCE, ENGINEERING AND TECHNOLOGY

ICRISET 2021

ISBN No:

In Association with

IEEE ASME IQAC

INSTITUTION'S INNOVATION COUNCIL SAEINDIA

30th & 31th July

PROCEEDINGS

Organized by

JEPPIAAR INSTITUTE OF TECHNOLOGY

"Self-Belief | Self Discipline | Self Respect"

Kunnam Sunguvarchatram, Sriperumbudur, Tamil Nadu 631604

Email: office@jeppiaarinstitute.org

www.jeppiaarinstitute.org

JEPPIAAR INSTITUTE OF TECHNOLOGY

"Self - Belief | Self Discipline | Self Respect"

VISION

"Jeppiaar Institute of Technology aspires to provide technical education in futuristic technologies with the perspective of innovative, industrial and social application for the betterment of humanity."

MISSION

- **To produce competent and disciplined high-quality professionals with the practical skills necessary to excel as innovative professionals and entrepreneurs for the benefit of the society**
- **To improve the quality of education through excellence in teaching and learning, research, leadership and by promoting the principles of scientific analysis, and creative thinking.**
- **To provide excellent infrastructure, serene and stimulating environment that is most conducive to learning.**
- **To strive for productive partnership between the Industry and the Institute for research and development in the emerging fields and creating opportunities for employability.**
- **To serve the global community by instilling ethics, values and life skills among the students needed to enrich their lives.**

MESSAGE FROM THE MANAGING DIRECTOR

On behalf of Jeppiaar Institute of Technology I extent my warm and heartfelt welcome to the International Conference on Recent Innovations in Science, Engineering and Technology (ICRISET). I am excited to see the level of interest in the conference and I hope that you will enjoy your time with us and gain much from your engagement, participation and the researchers you will meet. I believe that this conference will guarantee a successful technical platform to enrich technical knowledge in various streams of Emerging Engineering Technologies.

ICRISET provides an opportunity for the meeting of International Researchers, Engineers, Scientists, and specialists in the various research and development fields of Engineering and Technology. The conference offers a premise for global experts to gather and interact intensively on the topics of Mechanical, Electrical and Electronics, Electronics and Communication, Computer Science and Information Technology. I hope eminent speakers will cover the theme on Science, Engineering and Technology from different perspectives. I am privileged to say that this conference will definitely offer suitable solutions to the global issues.

I hope that the conference serves as a locus for interdisciplinary, a space for discourse and collaboration. I would like to express my appreciation to the organizing committee for their dedicated efforts to materialize the conference. I hope all the participants will have a fruitful and beneficial experience. In a nutshell, the conference promises to transcend to a new and unprecedented level of excellence.

Dr.N.Marie Wilson. B.Tech., M.B.A.,
Managing Director
Jeppiaar Institute of Technology

MESSAGE FROM THE PRINCIPAL

Warm and Happy greetings to all. I am immensely happy that our Institution is organizing an International Conference on Recent Innovations in Science, Engineering and Technology – "ICRISET" on 24thand 25th, July 2020.The Conference aims to bring different ideologies under one roof and provide opportunities to exchange ideas, to establish research relations and to find global partners for future collaboration.

I am confident that the conference discussions and the publication of the conference proceeding will bring opportunities among the academicians, corporate delegates, Research scholars and students to present their innovative ideas, most up-to-date findings and technical proficiency in the various fields of Research trends in Science, Engineering and Technology. Sessions on different domains, keynote addresses from eminent professors and opportunity to network with the researchers will help the participants immensely in their research career. On behalf of Jeppiaar Institute of Technology, I welcome all the participants and convey my best wishes for "ICRISET".

Dr.L. M.Merlin Livingston ,M.E.., Ph.D.
Principal
Jeppiaar Institute of Technology

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ABOUT THE COLLEGE

Jeppiaar Institute of Technology(A Christian Minority Institution), establishes in the year 2011 with the primary objective of rendering futuristic technical education with the perspective of Innovative,Indutrial and Social application of for the betterment of humanity. Since its inception, Jeppiaar Institute of Technology propels relentlessly towards fulfilling its vision with the continuous support of our faculty and student community. AICTE approval and affiliation with Anna University had given access to the Institution for progressive intake of students for the continuous development during the years. Also, the Institution with extensive infrastructure stands out in Sriperumbudur for inculcating **Self-Belief, Self-Discipline and Self-respect.**

Jeppiaar Institute of technology is the first Institution in India to establish a laboratory with the incorporation of 'Innovative Cloud Computing Technology'. All the classrooms are CAI (computer Aided Instruction) enabled with wall mount Multimedia LCD Projectors, to make full use of the modern teaching aids. Presently, the college offers five professional under-graduate engineering programs namely B.E. Computer Science and Engineering, B.E. Electronics and Communication Engineering, B.E. Electrical and Electronics Engineering, B. Tech Information Technology and B.E. Mechanical Engineering

Apart from the Curriculum, extra-curricular syllabus is also framed to connect the industry close to the institute as they find the best talents by the Value Added programs that the institute offers. BEC certification helps a student develop their listening, speaking, reading and writing skills. Also, technical skills are made strong by giving an exclusive training programs like **JAVA, ROBOTICS, 3D PRINTING, DRONE, MACHINE LEARNING, ANDROID, INTERNET OF THINGS(IoT), EMBEDDED SYSTEM** which are approved by Anna University.

PROFESSIONAL BODIES like The Computer Society of India **(CSI)**, in the campus makes the most to share their knowledge and exchange their ideas in the progressive world of technology. **ASME, SAE, The IEEE students' Chapter, IEEE Women in Engineering, Robotics and Automation Society** in the campus are vibrant in connecting to break through technical information and put them in an open platform for regular updates.

Dr. Abdul Kalam's Centre of excellence is the primary center for the students to innovate and extrapolate their ideas in the form of mini and major projects. The intangible assets of our organization (both students and faculties) are identified and their research works are patented via **Intellectual Property Rights Cell**. This provides a conducive environment for performing research and to working on its development.

Another creative embodiment is the "**DESIGN THE THINKING WITH INTELLECT**"(approved by Anna University) which nurtures the culture of intellectual thinking in all aspects of life focusing on preparing the design mind based on a tool called **Empathy**.

On understanding the usage and development of Unmanned vehicles in military and civilian fields, an additional course which is also approved by Anna University, naming the title "**UNMANNED VEHICLE**" is been conducted inside the campus.

Robotic Process Automation (RPA) is another Exclusive program initiated towards student's community in association with **Automation Anywhere**. Which enables to develop the bots through configurable software set up and to create own software robots to automate any business process to perform the tasks you assign and control.

Students also volunteer themselves by associating with **NSS, NCC, YRC, Higher studies, Rotary Club** to develop significant skills and exhibit their non-academic abilities and complement the curricular activities by the "**Art of living and working together**".

To motivate the highly prepared students, extra efforts are taken by the management in sponsoring them to attend a week's program for having hands-on technical training (all disciplines) in **Advanced Technical Institute (ATI)** conducted by **Government of India.**

As a part of student upliftment, an initiative has been taken to offer scholarships for higher study preparation programs such as **CAT and GATE** in the name of the founder Col.Dr.Jeppiaar. Also to stimulate the Torch Bearers of the institution, students and faculties are given benefits worth of Rs. 60Lakhs.

In the field of sports and games, the college ranks among the top ten in the state and the college organizes Jeppiaar Trophy, a national level basketball tournament every year in which all the potential basketball teams in the country take part.

Along with well-equipped laboratories and workshops, the institution supports and provides opportunities for prospective students and staff to be associated with major industries to gain experience in respective field and to equip themselves as professional engineers. While aspiring to build sustainable partnerships with industries in India and making the students "**Industry Ready**", our institution cherishes its association with many Multinational companies and core Industries.

About **90%** of students of the **2011, 2012 ,2013, 2015** batch have been placed through campus recruitment process in the reputed Multi-National Companies like **Wipro,**

Infosys, CTS, Amazon, Solarities, Softura, Data Patterns, Info View, Mind tree, and Emphasis, One Globe, Zoho, Super Auto Forge, NTT DATA, etc.. Which are the premier recruiting partners of the institution. Also, the remaining students are equally motivated to pursue their higher education and becoming an entrepreneur.

We have created and clocked with **206*** Companies opportunities from all verticals (Service based, Product Based & Core Industry) for our 2015-19 batch Students and 181 + *(Still in progress) Companies for 2016-20 batch till date.

Currently 91%* (Still in progress) percent of our final students 2016 – 20 batch have got placed in different MNCs such as L& T **INFOTECH , FRESHWORKS, HYUNDAI POLYTECH, FOURKITES, ZOHO , AMAZON, WIPRO, BYJUS, JARO EDUCATION, CTS, TCS,IBM, INFOSYS ,DATA PATTERNS, FULL CREATIVE, SOPRA STERIA, MPHASIS,TVS SUNDHARAM FASTENERS, CODING MART,COVIAM TECHNOLOGIES, BRAKES INDIA** etc. and many more companies are to visit to us throughout this year for achieving placements to all the eligible students.

DEPARTMENTS IN JEPPIAAR INSTITUTE OF TECHNOLOGY

CSE (COMPUTER SCIENCE ENGINEERING)

The **Department of Computer Science and Engineering (CSE)** was established in the year **2011** with the sanctioned intake of **60 students** to produce Engineers with visionary knowledge in the field of **Computer Science and Engineering** through scientific and practical education in stance of inventive, modern and communal purpose for the benefit of society. The Department has well qualified, experienced and dedicated faculty team, the state –of-the-art Infrastructure for various laboratories, a well-equipped seminar hall, Wi-Fi enabled classrooms to support e-learning with Projectors and a department Library. The Department is currently in the process of **NBA and NAAC** Certification. The department is regularly organizing Conferences, Symposium, Workshops, Project Expo, Hackathon and Coding Competitions, various technical and non-technical events through Professional society, technical and non-technical clubs to update the practical knowledge of students. The Department of Computer Science and Engineering is associated with Computer Society of India – Chennai Chapter **(CSI)** and Indian Society for Technical Education **(ISTE).**

IT (INFORMATION TECHNOLOGY)

The **Department of Information Technology (IT)** was established in the year **2011**.The Department has the state-of-the-art facilities for various laboratories, a well-equipped seminar hall, Wi-Fi enabled class rooms to support e-learning with Projectors and a department Library. **The Department is currently in the process of NBA and NAAC.** The training programs focus on enhancing their soft skills and programming ability. The Department of Information Technology is associated with Computer Society of India – Chennai Chapter **(CSI).** We have a strong Alumni team who are placed in well reputed MNCs' across the globe from **Coding Mart, Amazon**, etc., they make themselves available on the campus to help the students during the placement training process by conducting mock interviews, group discussions, guest lectures, and motivational talks.

ECE (ELECTRICAL AND COMMUNICATION ENGINEERING)

Department of Electronics and Communication Engineering (ECE) were

established in the year **2011**. The Department has the state –of-the-art facilities for various laboratories, a well-equipped seminar hall, Wi- Fi enabled class rooms to support e-learning with Projectors and a department Library. The Department is currently in the process of National Board of Accreditation **(NBA)** and National Assessment and Accreditation Council **(NAAC).**The training programs focus on enhancing their soft skills and programming ability. The Department of Electronics and Communication Engineering is associated with Institute of Electrical and Electronics Engineers **(IEEE),** IEEE- Women in Engineering **(WIE),** Institution of Electronics and Telecommunication Engineers **(IETE)** and Indian Society for Technical Education **(ISTE).**We have a strong The Alumni team who are placed in well reputed MNCs' across the globe from Coding mart, Amazon, etc., they make themselves available on the campus to help the students during the placement training process by conducting mock interviews, group discussions, guest lectures, and motivational talk

EEE (ELECTRICAL & ELECTRONICS ENGINEERING)

Department of Electrical and Electronics started functioning in the year **2011** with a strive of establishing a Centre of excellence in technical education which in turn will bring out technocrats with superior skill and social commitment. Department is facilitated with well-equipped laboratories, high tech seminar hall, Wi-Fi enabled classrooms to support e-learning with Projectors and department Library. The Department is currently in the process of **NBA** and **NAAC**. Regular training programs are conducted to enhance the competence of our students. The training programs focus on enhancing their soft skills and programming ability. In addition to the co-curricular activities, a wide range of value-added courses are also available in order to improve and refine the overall potential of the students to the current trends in the Technology.

MECH (MECHANICAL ENGINEERING)

The **Department of Mechanical Engineering (ME)** was established in the year **2011** with the sanctioned intake of 60 students and increase in intake of 120 during The one of the ideal undergraduate program by the student community with a right intermingling theory and practical exposure in basics of mechanics, manufacturing, industrial, automation, energy, **CAD/CAM/CAE** and thermal spheres. The Department has the state-of-the-art facilities for various laboratories, a well-equipped seminar hall, Wi-Fi enabled classrooms to support e-learning with Projectors and a department Library. The Department is currently in the process of **NBA** and **NAAC**. The students are motivated to organize department symposium **(AGRONA)** and seminars to hone their organizing and leadership skills. The

Department of Mechanical Engineering is associated with American Society of Mechanical Engineers **(ASME)** and Society of Automotive Engineers **(SAE).**Students enjoys freedom to express their ideas through interaction with faculty and peers by participating in department technical clubs.

S&H (SCIENCE & HUMANITIES)

The **Department of Science& Humanities (S&H)** is established to support the undergraduate Programs of our institution. The department is **well equipped** with modern experimental setups and ample space for fledgling student's fraternity to achieve high standard of understanding and learning. The department has published many research papers in reputed international and national level science journal. The department is to broadly educate aspiring engineering students in the basics of **Mathematics, Physics, Chemistry and English** which serve as a platform for the growth of first year students in their further study of technical subjects.

ABOUT THE CONFERENCE

The conference **(ICRISET)** aims to provide a virtual platform for students**, researchers, academicians and Industry persons** to bring out and share their innovative ideas in various fields of **Science, Engineering and Technology**. A virtual conference provide flexibility and options that are not simply possible at an in-person event. The goals of **ICRISET** include broadening collaboration within the many fields of science, engineering and technology, creating higher-quality educational opportunities, building **professional skills and knowledge, strengthening professionalism and broadening networking opportunities.**

AREA OF FOCUS

- RPA-Next Frontier For Business
- Data Science in Health Care
- Machine Learning and Computational Intelligence
- Mobile and Ubiquitous Computing
- Information Reuse And Integration for Data Science
- Smart Grid
- Green Energy
- Power Electronics in Power Systems
- Biomedical Instrumentation and Its Applications
- Communication and Networking
- VLSI Design and Applied Electronics
- Thermal Engineering
- Energy Conversion and Management
- Advanced Manufacturing Technology
- Materials and Manufacturing Processes
- Automotive Engineering
- Industry 4.0 and IOT
- Green Chemistry
- Computational Chemistry
- Modern Materials &Opto -Electronics
- Optics & Spectroscopy
- Recent Trends in Pure and Applied Mathematics

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Dr.N.MARIE WILSON, B.Tech., M.B.A.,Ph.D.

MANAGING DIRECTOR,

JEPPIAAR INSTITUTE OF TECHNOLOGY

PATRON

Dr.L.M.MERLIN LIVINGSTON, M.E.,Ph.D.

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JEPPIAAR INSTITUTE OF TECHNOLOGY

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ASSISTANT PROFESSOR, DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
JEPPIAAR INSTITUTE OF TECHNOLOGY

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Ms. SARO P, 3RD YEAR, CSE, JIT
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Mr. GOWTHAM.P, 2ST YEAR ECE, JIT

Ms. GOWRI POOJA, 4TH YEAR, ECE
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Ms.ABINAYA.S,3RD YEAR,CSE,JIT

EMINENT SPEAKERS

Dr.MOHAMMAD KHALID,
Professor & Head,
Graphene and Advanced 2D Materials Research Group
Sunway University, Malasysia

Professor Mohammad Khalid completed his bachelor's degree in Chemical Engineering from Visvesvaraya Technological University, India and MSc in Chemical and Environmental Engineering from University Putra Malaysia. Later, he continued his PhD at the International Islamic University, Malaysia and worked on developing radiation crosslinked rubber nanocomposites. Prior to joining Sunway University, Professor Khalid was Associate Professor in the Department of Chemical & Environmental Engineering at the University of Nottingham Malaysia Campus.

His research focuses on nanomaterial synthesis, heat transfer fluids, phase change materials, and energy harvesting. More specifically, he is currently working on solar energy harvesting using deep eutectic salts (DES) and carbon nanoparticles based nanolubricants to improve engine performance. His research expertise covers many other important areas such as polymer recycling, radiation processing of polymer blends and biofuel. He has published more than 100 papers in international journals and refereed international conferences, five patents and seven chapters in books.

Professor Khalid has more than 10 years of research and teaching experience. He has supervised 11 PhD, eight MSc and one MPhil students, and 13 of these students (four PhD, eight MSc and one MPhil) have graduated. He is also a chartered member of the Institution of Chemical Engineers (MIChemE) and a Fellow of the Higher Education Academy (FHEA), UK.

Dr. N. VIJAYAN, FASCh., MNASc.,
Principal Scientist & Associate Professor(AcSIR)
Head, In- House, BND Group Indian Reference Materials (BND) Division
CSIR – National Physical Laboratory, New delhi

Dr.N.Vijayan completed his Bachelor degree in A.V.V.M Sri Pushpam College, Poondi, thanjavur and later he completed his Master degree in St.Josephs College(Bharathidasan Unversity). He completed his B.Ed in Government college of Engineering and Laster persued M.Phil (Pre-Doctoral) in Bharadhisasan University. He completed his Ph.D in Materials Science – Crystal Growth in Canna university.

His field of interest includes Materials Science – Crystal growth – growth of non-linear optical, piezoelectric, thermoelectric and other technographically important crystals. He is expert in Solution growth and melt growth techniques.

He has published more than 230 papers in National/international conferences and more than 190 research papers has been accepted in International journals.

He has received more than 24 awards . He has worked as JRF/SRF, Junior scientist, Scientist, senior scientist and currently working as Principal Scientis in Research & Development and Administration at National Physical Laboratory(Council of Scientific and Industrial research – Govt of India), New Delhi

Dr. ABDESSAMED FATIK
Professor and Head
Green Energy Technology
Mohammed VI Polytechnie University,
Morocco

Dr. Abdessamed Fatik is currently working as Professor , Material Science and Nanoengineering in Mohammed VI Polytechnic University, Ben Guerir , Morocco. He is also Scientific Director at Green energy Park, Morocco.

He has carried out various roles including Affiliated Professor, Group leader, Associate Researcher, Head of thermal systems department, researcher, Guest Scientist.etc.,

He is a doctorate in Physics, Material Science at University of Basque country, Spain.

He has been awarded Researcher Recognizing award , the Basque Government award for recognizing the research work and scientific-technological merit of scientists at basque country.

He has completed more than 17 successful projects. He has published more than 100 papers in national and international journals.

PROFESSOR MOHAMMED HADI HABAEBI
Head of Department and former Post Graduate,
Academic Advisor at the department of Electrical and Computer Engineering,
International Islamic University,
Malaysia

Professor. Dr. Mohamed Hadi Habaebi, a graduate (1991) of the Civil Aviation and Meteorology High Institute, Tripoli-Libya, started his career as a Radio Engineer pacing gradually through several positions of senior RF and Microwave Engineer, Technical Manager and finally CTO in several government and private companies working for the Telecom sector in Tripoli-Libya, and Kuala Lumpur, Malaysia, throughout 1991 -2003. He obtained the Master of Science (RF, Communications Engineering) from UTM in 1994 and Ph.D in Computer Communications Engineering from UPM in 2000. He was a visiting lecturer at UPM from 2000 to 2003 where he joined the Department of Computer Engineering, University of Tripoli-Libya, the same year and was an Associate Professor until 2011 heading the Students Affairs and Examination Unit for three consecutive years.

He joined the department of Electrical and Computer Engineering, IIUM, Gombak in 2011. He was the Post Graduate Academic Advisor of the department since then until December 2017. He has been the Head of Department since January 2018 until 30 June 2021. Throughout his academic career, he has consulted for the industry and often appointed as a technical consultant in several countries and holds several research grants.

Dr. MOHAMMAD TAHIR
Senior Lecturer
Department of Computing and Information Systems,
School of Engineering and Technology,
Sunway University, Malaysia

Dr.Mohammad Tahir received his PhD and MSc in Electrical and Computer Engineering from the Department of Electrical and Computer Engineering, International Islamic University Malaysia in the year 2016, 2011 repectively. He is currently a senior Lecturer and Programme Leader with the Department of Computing and Information systems at sunway university, Malaysia. Prior to joining academics, he worked in the R&D division of industry for seven years on several projects related to the internet of things and cognitive radio. He has more than 30 publications in leading journal and conference and serves as an active reviewer of many international journals. He is actively publishing in 5G, Internet of things, game theory, and machine learning for wireless networks , wireless security, blockchain and autonomic computing, cognitive radio. He is a senior member of IEEE and IET.

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(POST DOC. IN KOREA, DST YOUNG SCIENTIST FELLOW)
PROFESSOR/HEAD, DEPARTMENT OF PHYSICS
ERODE SENGUNTHAR ENGINEERING COLLEGE, THUDUPATHI, ERODE

INTERNATIONAL CONFERENCE ON RECENT INNOVATIONS INSCIENCE, ENGINEERING AND TECHNOLOGY - ICRISET-2021 AGENDA - (30-07-2021)

Inauguration & Keynote Address (9.30 AM – 11.30 AM)	**Welcome Address** Dr. L. M. Merlin Livingston, M.E., Ph.D. Principal, Jeppiaar Institute of Technology, Chennai	**Link :** **https://bit.ly/2WnDGal**
	Key Note Address-1 Title : "Machine learning for 5G and Beyond" by Dr. Mohammad Tahir Senior Lecturer Department of Computing and Information Systems, School of Engineering and Technology, Sunway University, Malaysia	
	Key Note Address-2 Title : "Role of Thermal Energy Storage in the context of energy transition from fossil fuels to renewables" by Dr. Abdessamad Faik Professor and Head Green Energy Technology Mohammed VI Polytechnic University, Morocco	
Oral Presentation (11.30 AM to 12.30 PM & 1.00 PM to 4.30 PM)	**Track – I - (CSE & IT) - Oral Presentation**	**Link :** **https://rb.gy/whxiq0**
	Track –II-(ECE & EEE) – Oral Presentation	**Link :** **https://bit.ly/3zBBvhO**
	Track – III - (MECH) - Oral Presentation	**Link :** **https://bit.ly/3l0Duby**
	Track – IV - (S & H) - Oral Presentation	**Link :** **https://bit.ly/2WnDGal**

INTERNATIONAL CONFERENCE ON RECENT INNOVATIONS INSCIENCE, ENGINEERING AND TECHNOLOGY - ICRISET-2021 AGENDA - (31-07-2021)

Keynote Address-3 (9.00 AM to 9.45 AM)	**Title:** "An Urgent Need for Societal Research" – By Dr. N. VIJAYAN, FASCh., MNASc., Principal Scientist & Associate Professor (AcSIR) Head, In-House, BND group Indian Reference Materials (BND) Division CSIR-National Physical Laboratory, New Delhi	Link : https://bit.ly/2WnDGal
Oral Presentation (10:00 AM to 12:30 PM)	Track–I-(CSE & IT)- Oral Presentation	Link https://rb.gy/whxiq0
	Track –II-(ECE & EEE) – Oral Presentation	Link : https://bit.ly/3zBBvhO
	Track – III - (MECH)- Oral Presentation	Link : https://bit.ly/3l0Duby
	Track – IV - (S & H) - Oral Presentation	Link : https://bit.ly/2WnDGal
Keynote Address &	Key Note Address-4 **Title:** "Superlubricity: Vanishing Friction Using Nanomaterials" - by Dr. Mohammad Khalid, Professor & Head, Graphene and Advanced 2D Materials Research Group, Sunway University, Malaysia	

Valedictory Ceremony (1.45 PM to 4.30 PM)	**Keynote Address-5** **Title: "Afiah: a Real-Time Online Early Breast Cancer Detection Service" - by** **Professor Mohamed Hadi Habaebi** **Head of Department and former Post Graduate Academic Advisor at the Department of Electrical and Computer Engineering,** **International Islamic University , Malaysia**	**Link : https://bit.ly/2WnDGal**

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ICRISET/T1001

E-COMMERCE PRODUCT COMPARISON PORTAL FOR CLASSIFICATION OF CUSTOMER DATA BASED ON DATA MINING USING RPA

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ABSTRACT:

In this project we scrape the data such as product name, product price, product reviews and ratings related to suggested products from Flipkart and Amazon using Robotic Process Automation tool and data is cleaned in order to remove noisy values and based on the user request the products from Flipkart and Amazon is suggested on our E-Commerce portal based on user preferences the user can purchase the product from any site which is completely dependent on user. The RPA tool i.e., UiPath is used to create software robot for both flipkart and amazon, this bot is used to scrape the data from flipkart and amazon and perform cleaning operation and dump the data to database which can be used for future use. And the bot can be triggered on daily basis for data collection for database updation. This E-Commerce portal helps to categorize and distinguish the product purchase behaviour and satisfy the end customer requirements.

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ICRISET/T1002

ASYNCHRONOUS VIDEO INTERVIEWS

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ABSTRACT:

In recent years, virtual meeting is increasing for interview, it has more benefits for both recruiter and candidate.
MCQ questions are predefined by recruiter and it is attended by candidate with or without camera, microphone, timing access.
We have surveyed some virtual interviews.
But they have the chance to search the question and answer like if each mcq have time with camera also, candidate can able to search answer.
Only face to face interview has able to understand the candidate's knowledge.
To overcome this, we have to get the real-time experience of face to face in virtual.
For virtual interview, we don't want any recruiter want to present.
They have to predefine the questions with time.
Then candidate can able to attend the interview with camera and microphone access.
Then recruiter can able to see that recorded interview at any time.

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ICRISET/T1003

IOT BASED LIVE WEATHER REPORT GENERATION AND FORECASTING SYSTEM

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ABSTRACT

A smart weather reporting system over the internet is proposed in this project. Our proposed system allows for weather parameter reporting over the internet. It allows the people to directly check the weather status online without the need of a weather forecasting agency. Moreover the system will forecast the weather based on the existing whether database. System uses temperature, humidity, and wind speed and rain sensor to monitor weather and provide live report and weather forecast statistics. The system constantly monitors temperature using temperature sensor, humidity using humidity sensor and also for rain. The system constantly transmits this data to the microcontroller, which now processes this data and keeps on transmitting it to the online web server over a wifi connection. This data is live updated to be viewed on the online server system. Also system allows user to forecast the weather condition based on the existing database by applying Data Mining Algorithm. For this purpose KNN algorithm is used to predict the weather status based on the live report delivered by the IOT. Thus the IOT based weather reporting and forecasting system provides an efficient internet based weather reporting and forecasting system for users.

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ICRISET/T1004

A NAÏVE & UNIFIED FRAMEWORK FOR COMMUNICATION CHANNEL ASSESSMENT BASED ON DEEP NEURAL NETWORK

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ABSTRACT

In quick-fading wireless communication systems, the Doppler Effect spread causes a significant drop in efficiency. The autocorrelation of the dissipating channel is restricted using a damped sinusoid in this paper's Doppler estimation scheme. This paper describes a channel estimator that uses previously asserted data about the sending and collect strainers as input. We see the communication and means of communication has expanded so much in today's era of networking and socializing. Sometimes it becomes important to determine the source and destination of the message or the information passed from one to another for various aspects. It
is where this project comes into use and helps in determining the above mentioned things. It works better and carries outs much better than the previous algorithms or proposed systems. The compound channel is shown to remain in a certain small distance based on the impulse responses of these strainers. The next move is to build a well-built linear channel model that is strictly parameterized by an unknown vector. The estimated well established channel is used in a multi sensor and more than one sampled most likelihood sequence estimation collector to reflect the positive aspects of such an outreach. On the well-constructed channel replica, we also present expressions for the pair wise error probability for the maximum likelihood sequence estimation receiver. Soft data decisions should be implemented into the channel rating process, as the feature frequently reveals. It is argued that a channel rate duplication be imposed, in which the current benefit of the channel is determined more by response to previous soft decisions and the promotion of recent soft decisions. This channel use would be remarkably similar to the expectation algorithm's design. The receiver using this periodic channel rating runs better than the versatile acceptance of pilot-symbol assisted modulation, where the channel rating is only applicable to the flight signal, and per the imitation findings.

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ICRISET/T1005

A SURVEY TO COMBAT FUTURE PANDEMICS USING COMPUTER AND DIGITAL COMMUNICATION TECHNOLOGIES

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ABSTRACT

This addresses how the pandemic has changed people's use of digital communication methods, and how inequalities in the use of these methods may arise. Whether people changed their digital media use to reach out to friends and family, looking into voice calls, video calls, text messaging, social media, and online games. Then, we show how age, gender, living alone, concerns about Internet access, and Internet skills relate to changes in social contact during the pandemic. We discuss how the use of digital media for social connection during a global public health crisis may be unequally distributed among citizens and may continue to shape inequalities even after the pandemic is over. Such insights are important considering the possible impact of the COVID-19 pandemic on people's social wellbeing.

In this troublesome time, telecommunication networks are known as a crucial service. Mobile and glued broadband networks have competed a key role to change speedy transition of labor from physical offices to digital platforms. The sensing capabilities of this good phones area unit being utilized to change mobile crowd-sensing for extracting, sharing and analyzing knowledge throughout the continued pandemic. New applications starting from self-reporting of symptoms to coordinating and following essential personnel or volunteers or patients area unit being developed and chop-chop deployed. Sensing capabilities are being exploited for contact tracing and early isolation of infected individuals or areas. Big selection of social and academic applications are being launched to alter mental and physical health connected problems beneath the imprisonment.

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ICRISET/T1006

MACHINE LEARNING ALGORITHM FOR ONLINE VOTING SYSTEM

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ABSTRACT

To overcome the problems faced by the traditional voting system.Online voting system is a web application which is much efficient than the traditional voting system. Manipulation of votes and delay of results can be avoided easily. A unique Aadhaar identity is the centre point of our proposed model. It leads to the easier verification of both voters and candidates. In the proposed framework, it is free from unauthorized access while casting votes by the voters. An E-Ballot paper with all the details of the candidate and Nota option will be provided to the voters to vote wisely. The server aspects of the proposed system have such distribution of authority that server does not enable to manipulate the votes. Machine learning concepts are used to interpret the input data and in grouping votes during counting. In this way, false votes can be prevented. It basically increases the voting percentage, saves money and time, also reduces the work in counting votes. It is expected that the proposed online voting system will increase the transparency and reliability of the existing electoral system.

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ICRISET/T1007

VENTRICLE AND MYOCARDIUM SEGMENTATION OF CARDIAC MRI USING TRADITIONAL AND DEEP LEARNING METHODS

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ABSTRACT

Segmentation is the process of distinguishing the representation of an image into various sections for better understanding and easy accessibility. For diagnosing cardiac diseases, various parameters such as stroke volume, ejection fraction, and myocardial wall thickness are required. Amidst of them, the Left Ventricle (LV), Right Ventricle (RV) and Myocardium segmentation of cardiac MRI are vital. Manual segmentation is a tiresome burden for physicians. Automatic segmentation of the ventricle region is consequential to detect the clinical parameters. Deep learning arose to surplus attention in computer vision as it is achieving the highest accuracy than traditional methods. It is being prominent in the field of medical science. This study experimented with the most widely used clustering methods(KMEANS, MEANSHIFT) and deep learning method (UNET). The results are determined according to the metrics accuracy, precision, recall, dice coefficient,f1 score, and Intersection over Union (IOU).

Keywords: Cardiac MRI, LV, RV, Segmentation, Deep learning

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ICRISET/T1008

BEHAVIORAL DATA BASED ACADEMIC PERFORMANCE PREDICTION

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Advanced information trails from divergent sources covering various parts of understudy life are put away day by day in most present college campus. It is challenging to consolidate this information to get a comprehensive perspective of a student and to use this information exactly to forecast scholastic performance. Traditional systems have considered their personality, activities at inside and outside class, and behaviours. They do not consider other activities such as drawing, yoga etc and ignore these talents which may suppress the student's excellence without exhibiting them. Now-a-days, world is evolving digitally, such that student's personality, personal status, lifestyle behaviour, learning behaviour may also be considered for improving the academic performance along with mobile phone and hobbies, as mobile also plays important role in academic performance. In this paper, novel approach of machine learning algorithm is devised to predict the academic performance of students which leads to the analysis of program outcome attainment.

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ICRISET/T1009

MISALIGNMENT DETECTING SYSTEM USING SENSORS

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ABSTRACT

We know that now a days accidents occurs due to lack of consciousness and improper car maintenance. Many accidents occur due to improper alignments of car parts like wheel, chassis, body parts etc. which greatly impact in the smoothness of driving. The greater the difficulty in driving the greater will the chances of accidents. So, our idea is to use sensors in different parts of car like wheels, chassis, engine etc. to detect the misalignments in cars. The major part to focus is wheel and chassis because if the alignment changes in these parts it will greatly change the driving experience. So, we use distance calculator sensors on different parts of the car. These sensors connect with each other like network and has a constant distance value between them. So, they relatively connect with each other. If any misalignment occurs in the car, the distance between the sensors changes which will be sent as the information to driver. From that the driver will be aware of the problem and he knows where is the location of problem. So, it will be easy for mechanics to detect the position of problem. From this idea, we can detect the problems in advance without making them worse. So, people will be benefited using this idea.

KEYWORDS: improper alignments, wheels, chassis, distance calculator sensors, relatively connect, location of problem, aware of the problem.

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ICRISET/T1010

MONITORING, IMPROVING SECURITY & PERFORMANCE OF CLOUD USING ARTIFICIAL INTELLIGENCE

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ABSTRACT

Cloud computing has become a major aspect of Computer Science and Information Technology. Almost everything is executed and deployed on cloud nowadays, from your web servers to training Deep-Learning models. On one hand this advancement is lucrative, on the other it questions the ability of cloud management. It is more important than ever to have the cloud system up and running, as millions if not billions of clients will be depending upon it. It is always equally important to have it running at its maximum efficiency possible.
Maintaining the efficiency of cloud relies on good cloud monitoring system which majorly looks upon processes such as task scheduling and resource allocation. None of these Quality-of-Service (QoS) tools use AI as a part of them but work by following obsolete instructions which will be updated by a cloud engineer over a period. Since these QoS systems and tools work highly based on the process the cloud server currently is doing, having a generic set of instruction will not prove any good. It will be hugely helpful if we are able to automate these QoS task's instruction set based on the task the cloud is currently doing and the type of data it is holding on. Achieving this will make cloud even more modular and autonomous.
That is exactly what this research is aiming to achieve. Our research proposes to improve task gathering, task scheduling, resource allocation and other QoS tools that help maintain and run a cloud infrastructure efficiently using the power of Artificial Intelligence. This research also aims to improve cloud security by preventing task injection, and modification of scheduling process using AI.

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ICRISET/T1011

PARKING SLOT RESERVATION USING IOT TECHNIQUE

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ABSTRACT:

The word network in the term 'neural network' refers to the inter–connections between the neurons in the different layers of each system. An example system has three layers. The first layer has its own input neurons which send data through the synapses to the second layer of neurons, then via more synapses to the third layer of output neurons. More complex systems have more layers of neurons with some having increased layers of input and output neurons. The synapses store parameters called "weights" that are used to manipulate the data in the calculations. An ANN is usually defined by three sorts of parameters The interconnection pattern between the various layers of neurons. The learning process for updating the weights of the interconnections. The activation function that converts a neuron's weighted input to its output activation. Looking for available parking slots has become a significant issue in contemporary urban mobility. Smart urban transportation management can be considered as a multifaceted big data challenge. It strongly relies on the information collected into multiple, widespread, and heterogeneous data sources as well as on the ability to extract actionable insights from them the selection of suitable car parks could be influenced by driving and waiting time, parking prices, availability, and accessibility—while the supply of unused parking slots might depend on parking location, events within the area, traffic flow, and weather. This project is focused on presenting the research results regarding a solution to predict the number of available parking slots

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ICRISET/T1012

BLOCKCHAIN BASED CAB HIRING USING PEER TO PEER NETWORK

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ABSTRACT:

Most car-hiring systems and radio cab centres come with a middle guy or the agency itself. So what if the corporation like Uber makes a decision to shut down business inside the metropolis? If journey-sharing and car lease are moved to the blockchain, without a middleman, each passenger and driver can get linked directly. If the challenge is finished successfully, it may construct a community that will provide safe, dependable transportation. In this paper, we propose a decentralized car-hiring service based on Blockchain. However, the majority of present ride-sharing services rely on a third party apps or agent which has a centralized network where the information of the passengers like address, mobile number etc get stored and so has the possibility of leaking of information. This system already has implemented in few countries, if this was implemented in India both the Cab drivers and the passengers get benefited. So that the data of the passenger is completely secured in turn the drivers can earn more because of this decentralized network. The proposed gadget allows drivers to offer trip-sharing services without depending on a third party. Both riders and drivers can know riders exact trip statistics, such as pick-up/drop-off location, departure/arrival date and journey rate. And those data are completely secured and it can only be seen by the drivers end by peer to peer network.

KEY WORDS: Decentralized network,Blockchain, Data privacy, No middleman.

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ICRISET/T1013

BLOCK CHAIN IN MOBLE AND CELLULAR NETWORK

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ABSTRACT:

In this today's technology, people in the world expect many developments in communication. This paper is about how Blockchain is used in telecommunication. The data of SIM card will be stored in Blockchain along with the customer profile and also third parties will be informed about any changes in device, so that we can say blockchain is decentralized which is major advantage of users. Third parties will able to see data but they can't able to change it. we will store information in multiple cryptographic ledgers and so chances of failure and hacking attacks are low. Cryptographic keys play major role in storing information. It can be very sure that information stored is valid and secure. Keys make the information secrete.
In this paper we are also going to say about multiple mobile devices that going to invert on Block chain.

Key words:
Telecommunication, data, information, cryptographic keys

ICRISET/T1014

CONGREGATION OF DATA AND TRACEABILITY SYSTEM OF BLOCKCHAIN IN COVID -19

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ABSTRACT:

The SARS-CoV-2 pandemic has impacted risk management globally. Blockchain applied to the health care sector can offer new and effective opportunities to improve several activities associated with the prevention and control of pathologies and, therefore, better clinical risk management in the context of pandemic emergencies such as the current one. Blockchain has been increasingly applied to healthcare management, as a strategic tool to strengthen operative protocols and to create the proper basis for an efficient and effective evidence-based decisional process. We aim to validate blockchain in healthcare and to suggest a trace route for a COVID19-safe clinical practice. In this paper , we review various applications and trace rout of data a patient and medical drug supplies to the hospitals and public sector through blockchain. The use of blockchain in combination with artificial intelligence systems allows the creation of a generalizable predictive system that could contribute to the containment of pandemic risk on national territory. A SWOT analysis of the adoption of a blockchain-based prediction model in healthcare and SARS-CoV-2 infection has been carried out to underline opportunities and limits to its adoption. Blockchain could play a strategic role in future digital healthcare: Specifically, it may work to improve COVID19-safe clinical practice. The main concepts, and particularly those related to clinical workflow, obtainable from different blockchain-based models have been reported here and critically discussed.

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ICRISET/T1015

HANDOFF CONNECTIVITY SYSTEM USING DIRECTIONAL HANDOFF FOR MOBILE COMMUNICATION

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ABSTRACT:

The explosive popularity of smart phones and tablets has ignited a surging traffic load demand for radio access and has been incurring massive energy consumption. The reason behind this is largely due to that the present BS deployment is based on peak traffic loads and generally stays active irrespective of the heavily dynamic traffic load variations. Recently, there has been a substantial body of works towards traffic load-aware BS adaptation and the authors have validated the possibility of improving energy efficiency from different perspectives. Our aim is to reduce the energy consumption with traffic load variations in radio access networks. In our base work, we have considered traffic load variation and energy saving. In this paper, we extend the research over BS Handoff operations, which should provide continuous connectivity while changing from one base station to other base station.

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ICRISET/T1016

IMPLEMENTATION OF BLOCK CHAIN TECHNOLOGY IN RATION SHOPS

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ABSTRACT

Ration shops are the one which is more beneficial to both the farmers and for people below poverty line. In the existing system it involves many stages before reaching the ration card holders. It lacks transparency. The farmers are also not benefited for their supplied commodity. To resolve this problem a block chain is used which is more transparent and immutable. This makes ration shops more efficient. Block chain stores all data from the date of issuing the food till it reaches the customer. We also implement a data analyzing tool to analyze whether all customers received their goods from the ration shops through the data stored in block chain. Farmers are able to get the money for their supplied commodity without the intervention of a middle man. This also helps the government to track whether the commodity has reached the consumers. All these become possible only through the block chain.

KEY WORDS –
Block chain, Ration shops, data analyze

ICRISET/T1017

ENHANCING DATA SECURITY FOR SENSITIVE DATA USING ENCRYPTION AND GEO-FENCING TECHNIQUE IN CLOUD ENVIRONMENT

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ABSTRACT

Security has consistently been a significant issue in cloud environment. Sensitive information need to be secured from intruders or attackers. Nowadays, data is intentionally or unintentionally access without authorization. In large medical organizations, end users trust cloud providers and store their medical records in the cloud. Data stored in public cloud are more vulnerable than private cloud. In this paper, COVID 19 real time dataset is stored securely using encryption and geo-fencing technique is used to alert the data owner in the cloud environment when data users try accessing sensitive data away from the defined location. Experimental results were shown to identify the hackers entering into the unauthorized location.

Keywords: Public Cloud, Encryption, Geo Fencing, Security, Service Providers, Consumers.

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ICRISET/T1018

AUTO CONFIG AND BOOTING SET USING RPA

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ABSTRACT

As a result of the project a conveyor line was designed, acquired and installed to increase the productivity and reduce labor costs on pre-production stage using industrial automation by using a Bot. A Bot is created to automate conveyors and it will be instructed by the admin for automation .The Bot will be created by using UI Path and integrated in application on computer. A Bot is created to automate conveyors and it will be instructed by the admin for automation

Keywords *:* Robotic Process Automation

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ICRISET/T1019

REGENERATION OF ENERGY IN E-VEHICLE

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ABSTRACT:

Nowadays due to a shortage of petroleum resources, we need petroleum products. Based on data from OPEC at the beginning of 2013 the highest proven oil reserves including non-conventional oil deposits are in Venezuela (20% of global reserves), Saudi Arabia (18% of global reserves), Canada (13% of global reserves), and Iran (9%). we are running out of low resources. This era is an urgent need to save resources for our future generation. Due to the scarcity of resources, there is a lightning increase in the rate of petroleum products though the E-vehicle competes its role in day-to-day life. We can't travel a long distance using it. And the usage of petrol is also increasing nowadays. And the main issue regarding E- Vehicle recharging stations is inconsequential. So, our main objective is to prepare an E- vehicle that regenerates its energy through Dynamo which is a device that is used to produce energy by simply moving the wheel. It is a device that converts mechanical energy into electrical energy. It builds low maintenance because of reduced operation. It saves the source and environment. Though this vehicle is environmentally protective and has compact space. Servicing is relatively easy, less frequent and overall cheaper than petrol. Maintenance cost is much lower than a normal electric vehicle which leads you to save time, resources and money. This vehicle travels a long distance due to the regeneration of energy.

Keywords: Petroleum resources, E-Vehicle, environmentally protective, Cheaper than petrol, regeneration of energy.

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ICRISET/T1020

MACHINE LEARNING BASED CROP YIELD PREDICTION USING MULTIPLE ATTRIBUTES

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ABSTRACT:

Smart agriculture is the way of conveying information from traditional farmers to the educ ated farmers. To obtain estimates of aggregate physical production functions for the yields of various crops in specified states, considering various technological factors and a newly developed weather index as inputs. Regression and coefficient of determination analysis al ong
with Average Error rate were carried out to make a decent comparison between our actual r esult which is called target and prediction model that is friendly interface for farmers, that uses Random Forest Classification, SVM, Random Forest Regression, Logistic Regression, and Back Propagation which gives the analysis of the crops production based on available data. Different Data mining techniques were used to predict the crop yield for maximizing the crop productivity Accuracy and timely monitoring of agricultural crop conditions and estimating potential crop yields are essential processes for operational programs Because of the importance of predicting crop yield, the purpose of this study is to apply several algorithms and compare the accuracy. Crop yield forecasting, which provides information for decision Makers.

Keywords: Smart Agriculture, Data Mining, Error rate, Target and prediction model, Random Forest Classification, SVM, Random Forest Regression, Logistic Regression, and Back Propagation.

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ICRISET/T1021

ROBOTIC PROCESS AUTOMATION: FIELD OF INDUSTRIAL SYSTEMATIC AND COMMERCIAL DEVELOPMENT

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ABSTRACT:

In this technological world, which is constantly advancing, Robotic Process Automation (RPA) is drawing a lot of corporate consideration. While RPA is furthermore a well-known interaction inside the corporate world, the instructional exercise research does not have a hypothetical and concise examination of RPA. Directing a writing audit and force examination, we propose during an extremely structured way and organized way four characteristics that portray RPA, giving direction also as a spotlight for additional exploration. Programming robots mechanize measures initially performed by human work. Along these lines, programming robots follow a movement of mechanical modules and control stream administrators while working inside IT environments and utilizing set up applications. Convenience and flexibility permit organizations to imagine and carry out programming robots through projects. Hierarchical and IT technique, administration constructions, and the board frameworks consequently should address both the immediate impacts of programming robots computerizing measures and their circuitous effects on firms. The lack of automation happened when the progress makes fall-out within the automation following protocols disturbed or glitch occurred. The progress which is meant to happened to be programmed full-fledged development and operation able. Finally, new more future purpose and challenges are presented.

Keywords*: RPA, Industrial, Examine, Administrate*

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ICRISET/T1022

RPA BASED HEALTHCARE APPICATION

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ABSTRACT

Developing an automation system for patient appointment scheduling , prescription suggestion and this project aims increasing the quality and efficiency of automation based appointment system inorder to reduce the waiting time of the patient

Keywords: RPA, appointment, healthcare, application

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ICRISET/T1023

SECURE INTRUSION-DETECTION SYSTEM

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ABSTRACT:

MANET does not need is a set network infrastructure; every single node works as application and routing device, and they trust their Neighbors to relay messages. But Air medium and remote distribution of mobile ad-hoc network creates it at risk of numerous kinds of hackings. In this paperwork, we proposed solid privacy requirements regarding hacking attackers in mobile ad-hoc network. So many existing research works proposed in implementation of new intrusion-detection schemes. Previous works shows the higher malicious-behaviour-detection rates in certain circumstances while does not greatly affect the network performances. We proposed the method to detect the malicious with hybrid security method.

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ICRISET/T1024

STATISTICAL TOOL TO ANALYSE PSORIASIS DISEASE

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ABSTRACT

The Computer-aided diagnosis (CAD) tools are largely in the need to address the human limitation on Assessment of psoriasis severity and classification. These kinds of system surly assist the dermatologists to produce high diagnosis results. This work deals with the automatic machine analysis based severity scoring of psoriasis skin disease. Given an input psoriasis image the task is to predict the psoriatic type and estimate the disease parameters namely, erythema, scaling, area and induration. Further these measures used to calculate the Severity Score (SS). A novel region segmentation technique is implemented; subsequently the feature descriptions are calculated for segmented psoriatic region. The extracted features determine the psoriasis type by a classifier. So the system has the ability to classify the given input image with disease as well as SS. The native collected data set is used for experimental analysis. The results shows that the proposed work has high contribute in terms of psoriasis classification and severity grading.

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ICRISET/T1025

TUMOR DETECTION USING MACHINE LEARNING TECHNIQUES

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ABSTRACT

The visual representations of the inner constituents of body at the side of the functions of either organs or tissues comprising its physiology area unit developed in medical imaging. These pictures are often obtained by numerous techniques like CAT (CT), Magnetic Resonant Imaging (MRI), and x-ray. the target of the system mentioned during this paper is to sight the presence of hemorrhage and to classify the sort of it once detected. CT pictures area unit thought about here to seek out the hemorrhage. Pre-processing techniques like grey scale conversion, image resizing, edge detection and sharpening area unit done to create the input image appropriate for any process. once pre-processing the pictures bear morphological operations to assist determine the form connected options in correspondence to the hemorrhage. Sobel and markers area unit utilized in the processed CT image to spotlight the interested region. Then watershed algorithmic program is utilized for the aim of segmentation. The presence of hemorrhage is often detected because of segmentation. Once hemorrhage is detected feature extraction is finished to classify its sort. Active contours area unit drawn, and options extracted area unit fed to the choice Tree. The classifier helps find the sort of hemorrhage with the detected options. the ultimate outcome is often viewed and understood with a medical help. the result of this analysis will increase the possibilities of predicting hemorrhage within the image so classifies its sort. The planned system classifies 3 sorts of hemorrhages. the typical accuracy of the system in classifying the 3 sorts of hemorrhage is found as ninety-eight. Keywords— brain; classification; detection; segmentation; tumor; hemorrhage

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ICRISET/T1026

UNIVERSAL HEALTH REGISTRY USING BLOCKCHAIN

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ABSTRACT:

When the whole world is facing a crisis, there are people making crores of hassle-free money from the blood of innocent people. The red market, the term used for illicit organ trafficking, is flooding with demand for organs from people who can pay huge amounts of money. When thinking of how they get the victim whose organ will match the buyer's need, we found out that the medical records of the patients from the hospitals provide all th ose details. The so called 'organ brokers' get access to the hospital's medical registry of patients either with or without their knowledge. In the world of healthcare today, two major focuses have to be addressed: data security and data ownership. Sensitive medical records currently lack a secure structure, resulting in data breaches with severe consequences. In the year 2018, the Department of 'Health and Human Services' Office for Civil Rights (OCR) received no tifications of many data breaches that resulted in the exposure of 13 million total healthcare records. By using Hyperledger Composer, a blockchain-based Data Preservation System (DPS) for medical data has to be engineered. A prototype of DPS has been created which is modelled after the Ethereum blockchain. The goal of our proposed framework is to first integrate blockchain technology for Electronic Health records and then to provide safe storage of electronic data for users of the framework by defining granular access controls. By establ ishing this system in multiple nations this health registry becomes Universal. Consequently this system of Universal Health Registry ensures security and ease of access for your medical records.

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A COMPARATIVE ANALYSIS OF BLOCKCHAIN TECHNOLOGY IN HEALTHCARE

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ABSTRACT –

The application of blockchain in healthcare comes with the need for security and records digitalization. Blockchain technology is tamper resistant and it enhances integrity of electronic health records. At present the patients do not have the ownership of their medical records. Millions of data is shared and it requires seamless data exchange as every data collected from the patients are sensitive, and yet the number increases in data leakage. The usage of blockchain in healthcare not only assures secure sharing but also privacy of each record's collected from the patient. Several healthcare providers have inclined to blockchain technology as it provides decentralization of health records and ensures security in healthcare systems. In this paper, we have conducted a literature survey to find the research gaps. The main focus of the review is to analyse the advantages and disadvantages in adopting the blockchain in healthcare system including the challenges in it.

Keywords : Blockchain, Healthcare, Decentralization, Security.

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ICRISET/T1028

GUI BASED COVID-19 PATIENTS PRECONDITION USING SMLT

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ABSTRACT:

The Coronavirus disease 2019 (COVID-19) pandemic, which originated in Wuhan China, has had disastrous effects on the global community and has overburdened advanced healthcare systems throughout the world, WHO is continuously monitoring and responding to this pandemic. the current rapid and exponential rise in the number of patients has necessitated efficient and quick prediction of the possible outcome of an infected patient for appropriate treatment using AI techniques. The aim is to predict machine learning based techniques for covid-19 recovery chances possible or not prediction results in best accuracy. The analysis of dataset is done by supervised machine learning technique(SMLT) to capture several information's like, variable identification, uni-variate analysis, bi-variate and multi-variate analysis, missing value treatments and analyze the data validation, data cleaning/preparing and data visualization will be done on the entire given dataset. To propose a machine learning-based method to accurately predict recovery chances by prediction results in the form of whether the covid-19 patient precondition.

Keywords: dataset, Machine learning-Classification method.

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ICRISET/T1029

IDENTIFICATION OF FAKE LINKS USING BCT

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ABSTRACT:

During the lockdown period, many people faced the financial problems by staying home. Many of the people lost their jobs and staved for money. Some of the people worked at their home and gained money by staying at home. There are also some people who earn online by some gaming application, some of the people doesn't go to the side of online income because of the doubt of insecurity. But there are some really good apps which afford money when we play games or when we do online trading. In this paper, using design science research methodology (DSRM) process model, we have developed a conceptual model of a blockchain-linked websites. This idea is for the people to identify the true earning website so that the people can utilize this platform and get benefit through it. Our conceptual model addresses the fraudulent activities through blockchain linked online websites.

KEYWORDS:

Lockdown period-financial problems-fraudulent activities-block chain linked online websites.

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ICRISET/T1030

CHATBOT FOR WEBSITE USING DILOGFLOW

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ABSTRACT:

The chatbot acts an intermediary between the user and the website. It makes the process of searching specific information or data in a website, much easier, by recommending information which is relevant to user's needs. Also, it rectifies the user's mistakes while searching using chatbot, and offers data or info relevant to what user typed in the search engine of the chatbot. In some cases, the user or the person accessing the website may not know how to search a particular item or topic on the website, the chatbot makes things easier by probing the requirements of the user and to present topics relevant to it. Our chatbot offer a better experience for the users and people who are new to the website and helps the users to find the data or information that they needed from the website without any hassle, thus improving the overall performance of the website.

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ICRISET/T1031

DESKTOP ASSISTANCE USING PYTHON

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ABSTRACT:

The project aims to develop a personal-assistant for Linux-based systems. Jarvis draws its inspiration from virtual assistants like Cortana for Windows, and Siri for iOS. It has been designed to provide a user-friendly interface for carrying out a variety of tasks by employing certain well-defined commands. Users can interact with the assistant either through voice commands or using keyboard input. As a personal assistant, Jarvis assists the end-user with day-to-day activities like general human conversation, searching queries in google, bing or yahoo, searching for videos, retrieving images, live weather conditions, word meanings, searching for medicine details, health recommendations based on symptoms and reminding the user about the scheduled events and tasks.

Keywords:
Python,PersonalAssistant,Automation,MachineLearning,Artificialintelligence.

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HEART DISEASE PREDECTION USING MACHINE LEARNING TECHNIQUE

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ABSTRACT:

The diagnosis of heart disease in most cases depends on a complex combination of clinical and pathological data. Because of this complexity, there exists a significant amount of interest among clinical professionals and researchers regarding the efficient and accurate prediction of heart disease. In this paper, we develop a heart disease predict system that can assist medical professionals in predicting heart disease status based on the clinical data of patients. Our approaches include three steps. Firstly, we select 13 important clinical features, i.e., age, sex, chest pain type, trestbps, cholesterol, fasting blood sugar, resting ecg, max heart rate, exercise induced angina, old peak, slope, number of vessels colored, and thal. Secondly, we develop an artificial neural network algorithm for classifying heart disease based on these clinical features. The accuracy of prediction is near 86%. Finally, we develop a user-friendly heart disease predict system (HDPS). The HDPS system will be consisted of multiple features, including input clinical data section, ROC curve display section, and prediction performance display section (execute time, accuracy, sensitivity, specificity, and predict result). Our approaches are effective in predicting the heart disease of a patient. The HDPS system developed in this study is a novel approach that can be used in the classification of heart disease.

Keywords:
dataset, Machine learning-Classification method, python, Prediction of Accuracy result.

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ICRISET/T1033

IDENTIFICATION OF FAKE LINKS USING BLOCKCHAIN TECHNOLOGY

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ABSTRACT-

During the lockdown period, many people faced the financial problems because of the jobless situation. Many of the people, lost their jobs and staved for money and some more worked at their home and gained money by staying at home. There are also some people who earn online by some gaming application, app and many more useful platforms to earn money. Some of the people don't go to the side of online income because of the doubt of insecurity. But there are some really good websites which afford money when we play games or when we do online trading. This idea is for the people to identify the true earning website. In this model, the true one is identified using fake link identifier (cloud security) and are entered through the smart contracts and distributed all over. We used Design science Research methodology (DSRM) process model, and developed blockchain linked website so that the people can identify the true link and get benefit through it.

KEYWORDS:
Fake links, Blockchain Technology, Cloud Security, Design science Research methodology.

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ICRISET/T1034

SECURE SIMILARITY SEARCH OVER ENCRYPTED NON-UNIFORM DATA

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ABSTRACT:

In cloud computing, resources are usually in cloud service provider's network and typically accessed remotely by the cloud users via public channels. Key agreement enables secure channel establishment over a public channel for the secure communications between a cloud user and a cloud service provider. Existing key agreement protocols for cloud computing suffer from some challenges, e.g., realizing low connection delay, eliminating certificate management problem, enhancing user privacy and avoiding bad randomness. To tackle these challenges, we propose a certificateless 0-RTT anonymous AKA protocol against bad randomness for secure channel establishment in cloud computing. As a 0-RTT protocol, it significantly speeds up the efficiency of the secure channel establishment process. Further, our protocol does not need for the certificates to bind a public key with an entity's identity and hence solves the certificate management problem. Finally, concrete security analysis of the protocol is also proposed. The protocol not only satisfies the traditional security attributes (e.g., known-key security, unknown key-share), but also strong security guarantees, i.e., user privacy and bad randomness resistance.

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SMART FOREST – AN IOT APPROACH

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ABSTRACT

In quasi parts of the country, governments in particular declare forest areas as the wildlife reserves for the purpose of inflating precipitation, reducing wind turbine and stopping the breaches of wilderness. Forest reserves thus enjoy judicial and/or statutory security under a judicial structure in India and many other countries. Following air and water, trees are the world's second biggest natural resource. It primarily promotes the survival of the earth, by the accumulation of carbon dioxide and the release of oxygen and thereby preserves equilibrium in the gas-based atmosphere. Forestry is food supplies, medicine, wood and many more. Their job is to protect them from soil erosion, drought, flood, extreme radiation, etc. Forest also carries out accessory roles including the role of forests in recreational activity, aesthetics and a rich wildlife environment.

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ICRISET/T1036

TRUSTWORTHY LOANS USING BCT

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ABSTRACT

The main reason why people hesitate to take loans is because of the **deceptive messages** and information. During 2019, FTC got more than 3.2 million reports from the people who were affected by fraudulent messages. This is also the reason why poor students are not able to take **educational loans** and continue their studies; farmers are not able to take **agricultural loans** and they suicide due to debt trap. Many people become victims of **identity theft**, where personal data of people is collected by means of giving false assumptions on loans. Our work demonstrates a solution using blockchain technology which enables people to trust and take loans.

KEYWORDS:
Trust loans, deceptive messages, identity theft , blockchain technology

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ICRISET/T1037

HEART DISEASE PREDECTION USING MACHINE LEARNING TECHNIQUE

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ABSTRACT:

The diagnosis of heart disease in most cases depends on a complex combination of clinical and pathological data. Because of this complexity, there exists a significant amount of interest among clinical professionals and researchers regarding the efficient and accurate prediction of heart disease. In this paper, we develop a heart disease predict system that can assist medical professionals in predicting heart disease status based on the clinical data of patients. Our approaches include three steps. Firstly, we select 13 important clinical features, i.e., age, sex, chest pain type, trestbps, cholesterol, fasting blood sugar, resting ecg, max heart rate, exercise induced angina, old peak, slope, number of vessels colored, and thal. Secondly, we develop an artificial neural network algorithm for classifying heart disease based on these clinical features. The accuracy of prediction is near 86%. Finally, we develop a user-friendly heart disease predict system (HDPS). The HDPS system will be consisted of multiple features, including input clinical data section, ROC curve display section, and prediction performance display section (execute time, accuracy, sensitivity, specificity, and predict result). Our approaches are effective in predicting the heart disease of a patient. The HDPS system developed in this study is a novel approach that can be used in the classification of heart disease.

Keywords:

dataset, Machine learning-Classification method, python, Prediction of Accuracy result.

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SAN SIMULATOR

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ABSTRACT

FC (Fibre channel) is a predominant protocol. In this paper, we present modeling and analyzing of FC Storage Network using SAN Simulator. I/O performance of a FC RAM disk has been tested and compared with simulation results achieved from the SANSim model. The simulated results match the experimental readings within low error range. The FC arbitration schedules used in the current high-end storage system were also simulated and analyzed using SANSim. The results show that a new algorithm, "Command First", proposed in this paper has significant performance improvement compared with the conventional "Fairness Access" algorithm in read operation.

Keywords- FC , SANSim,

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E-BAZAAR - SCM IMPLEMENTATION FOR BENEFIT OF AGRICULTURAL STAKEHOLDERS

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ABSTRACT

Current agricultural development and reforms necessitate new strategies and innovations in order to make the agriculture industry more transparent and accountable. By creating Block chaining strategies imitating an online market as an e-Bazaar, this project connects traditional and rural artisans' items to worldwide purchasers, assuring a fair price for the agricultural community. Traditional Uzhavar Sandhai is the greatest area to get agricultural items at a lower cost, but it is almost impossible to do so in this pandemic condition. This project attempts to propose the use of e-Bazaar for effective trade finance in supply chain management, with the goal of benefiting agricultural stakeholders. Block chain technology and farmer's market supply chain management are the future.The study area for applying this application for the benefit of agricultural stakeholders is farmer's market supply chain management and Block chain technology. More innovations in Blockchain adoption are sought by regulation and governance in order to obtain improved data openness and accountability with adaptable, cost-effective, and long-term solutions. In Blockchain-based solutions, all players involved in agriculture production and transactions can ensure data integrity. As a result, people have a high level of trust in the products and services they provide.

Keywords: Block Chain Technology, Food Supply Chain Management, Agricultural applications, Web Application

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ICRISET/T1040

POTENTIAL BLOCKCHAIN EFFECT ON FINANCIAL RESEARCH IS THEREFORE A VERIFICATION TASK

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ABSTRACT:

The public expects CPA auditors to increase trust in the audited information of the companies they audit. We encourage Chartered Professional Accountants and Certified Public Accountants (collectively, CPA auditors) to learn more about this technology because it is critical for the audit and assurance profession to stay current on developments in this area. The goal of this paper is to explain Blockchain technology and how it might affect financial statement audits, as well as to introduce potential new assurance services and rules for CPA auditors in the blockchain ecosystem. Blockchain technology has the potential to significantly change audit and control activities by streamlining financial reporting and audit processes through the use of smart contracts and publicly held registers. With the widespread adoption of blockchain, central locations may be able to obtain audit data, and CPA auditors may develop procedures to obtain audit evidence directly from blockchain. Consideration of General Information Technology Controls (GITCs) related to blockchain technology may be part of this process. The features could not only reduce accounting, and compliance costs, but also transform and simplify auditor's work

Keywords:

Blockchain technology, audit, assurance, auditors, financial statement

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IMPLEMENTATION OF DISTRIBUTED LEDGER TECHNOLOGY , ARTIFICIAL INTELLIGENCE ,EXTENDED REALITY AND QUANTUM COMPUTING IN THE UNMANNED AERIAL VEHICLE FOR COVID– 19

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ABSTRACT

The year 2020 has witnessed the emergence of coronavirus disease (COVID-19)that has rapidly spread and adversely affected the global economy, health and human lives. The COVID-19 pandemic has exposed the limitations of existing health-care systems regarding its inadequacy to timely and effectively handle public health emergencies. The DARQ is going to make the new era of technology with the use of quantum computing for the treatment of people. Corona virus is pushing people to avoid contact. Usage of unmanned autonomous drones for spraying disinfectant, to warning people to wear masks when they go out ,delivering packages through drone and customers can pick up their packages at a fixed point ,so avoid direct contact with people and automatic tracking of temperature of the people using thermal sensor. Blockchain technology can assist to track and trace of aerial drones ,verify provisioned service level and calculate the reputation score of an aerial vehicle based on its performance in a trusted accountable and transparent manner. Through implementing "ACCESS CONTROLPROTOCOLS", blockchain technology minimizes the possibility attack the adversial vehicle .It immutably stores command that are issued theatrical vehicle to verify on compliance with issued commands.

KEYWORDS*: COVID – 19 , distributed ledger, artificial intelligence, reality, quantum computing, unmanned aerial vehicle.*

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ICRISET/T1042

UNTANGLING BLOCKCHAIN: AN OVERVIEW AND DATA PROCESSING VIEW OF BLOCKCHAIN SYSTEMS

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Abstract

Blockchain technologies are gaining massive momentum in the last few years. A blockchainis a digital, public ledger that records online transactions and enable parties to maintain a set of global states. As the technology landscape is expanding rapidly, it is both important and challenging to have a firm grasp of what the core technologies have to offer, especially with respect to their data processing capabilities. Bitcoin is one of theapplications of blockchains, namely a digital/crypto-currency application. Cryptocurrency is currently the most famous application of blockchains, but as the paper covers smartcontracts, you can see that those applications will dwarf anything we have seen so far. In public blockchains, any node can join/leave the system, thus the blockchainis fully decentralized, resembling a peer-to- peer system. In private blockchains, the blockchain enforces strict membership via access-control and authentication. Here we focus on private blockchains in which parties are authenticated in four dimensions: distributed ledger, cryptography, consensus protocol and smart contract. We have BLOCKBENCH, a framework for understanding performance of private blockchains against data processing workloads. As a result, it signifies a big performance gap between blockchain and database systems. This paper is an effort to make the overview of Blockchain systems; simple and easier to understand, especially for people who find it complicated to understand and most commonly toeveryone.

Keywords: Bitcoin, Peer to peer system, Blockbench

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E-BAZAAR – AN ONLINE FARMER'S MARKET

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ABSTRACT

Current agricultural development and reforms necessitate new strategies and innovations in order to make the agriculture industry more transparent and accountable. By creating Block chaining strategies imitating an online market as an e-Bazaar, this project connects traditional and rural artisans' items to worldwide purchasers, assuring a fair price for the agricultural community. Traditional Uzhavar Sandhai is the greatest area to get agricultural items at a lower cost, but it is almost impossible to do so in this pandemic condition. This project attempts to propose the use of e-Bazaar for effective trade finance in supply chain management, with the goal of benefiting agricultural stakeholders. Block chain technology and farmer's market supply chain management are the future.The study area for applying this application for the benefit of agricultural stakeholders is farmer's market supply chain management and Block chain technology. More innovations in Blockchain adoption are sought by regulation and governance in order to obtain improved data openness and accountability with adaptable, cost-effective, and long-term solutions. In Blockchain-based solutions, all players involved in agriculture production and transactions can ensure data integrity. As a result, people have a high level of trust in the products and services they provide.

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ICRISET/T1044

DEEP LEARNING ERA FOR COMPUTER VISION BASED EYE GAZE TRACKING - AN INTENSIVE MODEL

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ABSTRACT

Active theme for exploration is currently the potential for visual gaze tracking and visual human machine interactions in contemporary user devices. Eye views were used as an input tool to extract human behavioural knowledge and to achieve immersive user interactions in augmented and amplified reality systems. However, implementations of gaze on consumer devices operating under controlled circumstances face tough precision and reliability challenges. For evolving automotive electronic systems such as driver surveillance systems and new touch screens, accurate and successful gaze estimates are significant. Such systems have to work efficiently and at minimum cost in demanding, unregulated, low power conditions. Deep learning is omnipresent for most computer vision tasks, but it is still common to estimate the eye gaze. With the realistic account of all challenges and opportunities of eye gaze tracking, requires a complete study of available deep learning methods. In this chapter, huge potential efforts are made to study the background of eye gaze tracking with the detail of how deep learning made a contribution to computer vision based tracking. In the end, this chapter also highlights a generic system model and comparison of various algorithms for deep learning-driven eye gaze direction diagnosis.

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AN EMPIRICAL STUDY OF BLOCKCHAIN BASED THEORY AND APPLICATIONS FOR GREEN SOCIETY

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ABSTRACT

Blockchain is one of the most important developments that can aid in the development of solid and long-term solutions since it can provide accountability, transparency, tracking, and cyber resilience while also improving operational efficiency in global partnerships. The significant growth in electricity consumption caused by IoT technology has created a new problem, which has redirected our focus to a more environmentally sustainable IoT ecosystem. The Green IoT is a new field of research and industry that has gotten a lot of interest since it provides energy-efficient services and enables for the generation and use of renewable energy. In the meantime, blockchain technology has become a widely adopted IoT technology that has piqued the interest of energy supply companies, start-ups, commercial banks, policymakers, and investigators. As a result, the study has already incorporated blockchain technology efforts from both industry and academia. Blockchain has recently been proposed as a new paradigm for developing and optimising green societies. A thorough examination of all of blockchain's issues and opportunities from an engineering standpoint is required. In this chapter, significant effort is expended to examine the entire background of green society, as well as the specifics of how blockchain contributed to green society. Finally, this chapter discusses the applications and problems of a green society based on block chains.

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ANDROID CHATTING APPLICATION WITH ANTI-CYBERBULLYING FEATURES

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ABSTRACT

In today's world, many people especially students are cyber-bullied by the use of social media platforms. Cyber bullying is a relatively new medium through which bullying occurs (e.g., chat rooms, text messages). Cyber bullying execution is an unavoidable social conduct that can cause many negative mental, social, and well-being results for cyber bulling casualties mainly on teenagers. Exploration has shown that cyber bullying happens everywhere in the world, across the formative life expectancy. Understanding the factors and cycles that foresee cyber bullying execution is significant for mediations pointed toward diminishing on the web, reserved conduct. Cyber bullying can have critical mental impacts on the two targets and culprits. Young adult's focuses on cyber bullying have been found to have lower confidence and expanded burdensome side effects which give off an impression of being "portion subordinate." That is, the seriousness of gloom in targets additionally is by all accounts related with the seriousness of cyber bullying experience. Cyber bullying is likewise a danger factor for self-destructive ideation and self-destruction endeavor in the two targets and culprits of cyber bullying. This app is mainly designed for schools & colleges. This app blocks the inappropriate or improper words from the text and thus reduces cyber-bullying.

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VLSI BASED CARDIAC HEALTH CARE ANALYSER

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ABSTRACT:

Cardiovascular diseases (CVDs) are a group of disorders of the heart and blood vessels and they include: coronary heart disease of the blood vessels supplying the heart muscle. In order to reduce the death rate of cardiac vascular disease, faster and simple cardiac identification system is needed. In the existing system, LSTM (Long Short Term -Memory) model-based ECG monitoring system is evaluated using classification of cardiac abnormality through wearable device is planned. In our methodology, we use Machine learning based approach is evaluated in which the cardiac data and other physiological data are gathered from the patients and formulated using discrete wavelet transform. The DWT act as filter and decomposition module. The reconfigurable architecture which is Xilinx Spartan 6.3 Field Programmable Array was used for 100%utilization. In the final process we find the pattern correlation between the input test data and trained data. The abnormality is tested and evaluated.

Index Terms—CVD, DWT, LSTM, Xilinx spartan.

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DESIGN OF FAST PREFIX COMPUTATION CARRY LOOKAHEAD ADDER FOR FPGA USING QUARTUS II SOFTWARE

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ABSTRACT:

Carry lookahead adder is one of the fast adders which used in any many applications such as convolution, reconstruction of image processing and FIR filter design. In this work, a new fast prefix computation carry lookahead adder is proposed and implemented using Quartus II software. This proposed work is simulated using Quartus II FPGA software for the device Cyclone II (EP2C5F25618). The Proposed carry lookahead adder design methodology involves two stages of computation the former presents the generation of propagate and generate signal and the later presents the prefix computation of carry and sum logic. The proposed method is compared with the existing adders of ripple carry adder (RCA), Carry Skip Adder (CSA) and Carry Bypass Adder (CbyA). From the simulation result it is observed that the proposed prefix carry lookahead adder is superior in terms speed and power aspect.

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ENERGY EFFICIENT CLUSTER BASED ENDORSEMENT FOR HETEROGENEOUS WIRELESS SENSOR NETWORK

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ABSTRACT:

In Wireless Sensor Network is a network that communicates wirelessly to collect data about the surrounding environment and there is a tremendous growth in the development of real-time applications. There must be some balance between the network lifetime optimization and load distribution between sensor nodes. We propose an energy-efficient network model for prolonging the network lifetime in critical emergency network using bio-inspired modified cuckoo optimization and light weight authentication with SHA 256 protocol. This hybrid protocol utilizes four balance factors such as energy efficiency, average space among sensory nodes & clump head, space among clump head & sink station and cost function. There is a necessity for security enhancement, however, resource limitations of sensor network, which are the principal hassle in making use of any protection scheme. As a result, under this topological paradigm, a safe composite transaction efficient key strategy is provided. This method substantially minimizes the power depletion of sensory network and guarantees optimal sanctuary. Simulation results of modified protocol substantiate the conventional protocol such as ECTMRA, ICSCA, CSCA and DEEC. The proposed mechanism provides an enhanced efficiency by 60% and throughput is improved by 55%. This mends the lifespan of the entire network by providing more stability.

Keywords: Cluster head, Base station, Authentication, Wireless Sensor Network, Cluster Head.

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MARINE BOUNDARY ALERT AND SAFETY SYSTEM FOR FISHERMEN

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ABSTRACT:

During this contemporary, quick paced and insecure world, it's become a basic necessity to recollect of one's safety. This project consists of 2 units (boat unit, border unit). Here, a system is meant victimisation embedded system that protects the fishermen by notifying the country border to them, by victimisation international Positioning System (GPS), GSM and RF transceiver. A GPS receiver is employed to seek out the present location of the watercraft or vessel. Using GPS, the present latitude and line of longitude values may be realized and is shipped to the micro controller unit. Then the controller unit finds this location by scrutiny the current latitude and longitudinal prices with the predefined value. From these results of the comparison, this system alerts the fishermen of their reach to the shipping border and to trigger an alarm that consists of a Piezo- buzzer to discreet the fishermen. If the boat is in traditional space, then the LCD displays traditional zone. Thus, it may be created clear that the boat is in traditional space. In case, it moves additional and reaches the warning zone, the LCD displays warning zone and also the boat gets reversed by victimisation motor driver. additionally, here we tend to a victimisation supersonic sensing element that is employed to seek out obstacles within the method of boat and vibration sensing element that is to sense underground pressure. If any obstacles is detected the warning are going to be showed on the LCD and conjointly if the underground pressure is high there's a clear stage of wave and alert are going to be given through LCD display. A RF transceiver is employed to transmit the information. within the opening, the information is transmitted from the boat. By victimisation this, the GPS information is transmitted to the coast guards by victimisation GSM module and RF transceiver.

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LIBRARY MANAGEMENT SYSTEM USING SPEECH RECOGNITION

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ABSTRACT:

Library plays a crucial role in student's life it is very much helpful for research scholars Finding a book within the library could be a herculean task. Some folks even loose interest to find out their desired book. Finding out books in pc conjointly takes abundant time. This project proposes the design and implementation of smart library for digitalizing the library by using speech processing without any human interruption. The main intention of this project is to search book quickly. Here the reader just tells the name of the book using microphone with the help of Bluetooth device the user input is interfaced with ARDUINO and using coding based on certain condition it will display output i.e., the location of book using LCD display. By these the reader can find the book directly without any human intervention. Even the people without system knowledge can access this and find books in a neater way. Thus, this proposed methodology will result into smart library system using speech processing.

Keywords: Speech Processing, Arduino, LCD, Microphone, Bluetooth

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A NEW LOW-POWER AND HIGH-SPEED RECURSIVE MULTIPLIER CELL

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ABSTRACT:

Multiplication is the fundamental arithmetic operation like convolution, filtering, discrete cosine transforms and multiplier-accumulate unit. This multiplier circuit resides in the important part of the system which decides the speed of the overall performance of the device. This multiplier cell is not only deployed in Digital Signal Processing (DSP) application but they are deployed in many communication systems like orthogonal frequency division, wireless communication, and channel estimator and synthesizer circuits. Because of this intense application several researches have been carried out to design efficient multiplier cell in terms of speed-area-power. It is predicted that 43% percentage of any data computation in an integrated circuit is occupied by multiplier cell. Towards this objective, this research work focuses a new parallel hierarchy recursive multiplier algorithm which falls in the category of parallel multiplier to improve the performance with less delay when compared to array and Wallace structure. Traditionally a recursive process is defined as "divide-and-conquer" technique which is employed to reduce larger problems to smaller problems. The multiplier designed using this scheme will have regular structure and provide high speed and low power when compared to Array and Wallace structure. This proposed work is simulated using Quartus II FPGA software for the device Cyclone II (EP2C5F25618). The performance is compared with array and Wallace multiplier cell.

Keywords: Array Multiplier, Wallace, Partial product term, recursive multiplier, Booth Multiplier

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DESIGN OF LOW POWER AND HIGH SPEED RECURSIVE PARALLEL MULTIPLIER

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ABSTRACT:

The multiplier is an important part of any computer processor or machine. Generally, the performance of microcontrollers and digital signal processors is evaluated based on the number of multiplications performed in units of time. Therefore, a better multiplier architecture aims to increase the efficiency of the system. The goal is to use the recursive architecture in the FPGA to reduce the power consumption and increase the speed of different types of multipliers.

The word recursion means "divide and conquer." This method is used to reduce big problems to small ones. Recursive multipliers are a very promising solution. The combination of its simple architecture and its higher speed forms an incomparable combination that can be used for any complex multiplication calculation. Marked with these highlights, achieving it using reversible logic can further reduce power consumption. Power consumption is another important limitation that cannot be ignored in embedded systems, provides minimal delay for the multiplication of various numbers, whether they are decimal or large numbers. In addition, the Verilog HDL encoding of the recursive multiplier for 8x8 bit multiplication and its FPGA implementation have been performed using the Xilinx synthesis tool in the Spartan 3E kit.

Keywords: 802.11n, Fast Fourier transform (FFT), multiple- input multiple-output (MIMO), orthogonal frequency division multiplexing (OFDM).

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AN IOT BASED LANDSLIDE DETECTION AND ALERTING SYSTEM

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ABSTRACT:

Landslide appears to be most threatening disaster especially in hilly slopes. Due to landslide, India has been faced lot of humans and their properties which occurred in Kerala during monsoon. Monitoring of landslide is essential to predict the behaviour. The main thought of this system is to observe the change that leads to the occurrence of landslide and give an alert to them so that we can take necessary steps to reduce or save the loss of humans. The system consists of multiple sensors such as soil moisture sensor, vibration sensor, humidity sensor, ultrasonic sensor and rainfall sensor. Moisture Sensor is used to indicate the moisture content in the soil. Rainfall Sensor is used to find the rainfall levels. Vibration Sensor is used to check the movement of land since it may occur due to earthquake. When the readings from the sensor cross the defined thresholds, the system alerts the local citizens through alarm to safeguard them. The sensed data will be transmitted through to a cloud server via NodeMCU to analyse the data and alert the rescue team in case of danger zones with the help of an application. This system also provides the control over the devices through application that analysis all sensor performance.

Keywords: vibration, slope, landslide, humidity, monitoring

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REMOTE MONITORING OF ABNORMALITY IN HEART RATE USING MM-WAVES

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ABSTRACT:

Landslide appears to be most threatening disaster especially in hilly slopes. Due to landslide, India has been faced lot of humans and their properties which occurred in Kerala during monsoon. Monitoring of landslide is essential to predict the behaviour. The main thought of this system is to observe the change that leads to the occurrence of landslide and give an alert to them so that we can take necessary steps to reduce or save the loss of humans. The system consists of multiple sensors such as soil moisture sensor, vibration sensor, humidity sensor, ultrasonic sensor and rainfall sensor. Moisture Sensor is used to indicate the moisture content in the soil. Rainfall Sensor is used to find the rainfall levels. Vibration Sensor is used to check the movement of land since it may occur due to earthquake. When the readings from the sensor cross the defined thresholds, the system alerts the local citizens through alarm to safeguard them. The sensed data will be transmitted through to a cloud server via NodeMCU to analyse the data and alert the rescue team in case of danger zones with the help of an application. This system also provides the control over the devices through application that analysis all sensor performance.

Keywords: vibration, slope, landslide, humidity, monitoring

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DESIGN OF HIGH-SPEED PARALLEL PREFIX ADDER FOR FPGA USING QUARTUS II SOFTWARE

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ABSTRACT:

Adder is the one of the primary components that is deployed in various digital units such as multiply-accumulate unit, Digital Signal Processing (DSP) unit, Arithmetic Logic Unit (ALU), Multiplier circuit and filters. So, design of adder topology becomes imperative. In this work, a new parallel prefix fast adder is designed and its compared with the existing counter. The proposed method is implemented with a hybrid category of the first and second level of the prefix stage follows Han Carlson for faster computation of prefix output, therefore the number of black cells placed in first level is N/2 (N is the bits) and (N/2-1) for the second level. This proposed work is simulated using Quartus II FPGA software for the device Cyclone II (EP2C5F25618). All the existing prefix adders like Sklanshy, Brent Kung and Kogge stone were compared with the proposed parallel prefix adder for the same simulation setup and its performances are observed. From the simulation the proposed prefix is superior in terms of cost function, interconnect delay, power and logical depth.

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AN ANALYTICAL REVIEW ON RECTENNA SYSTEMS FOR RADIO FREQUENCY ENERGY HARVESTING AND WIRELESS POWER TRANSFER

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ABSTRACT:

Radiative wireless power transfer and Radio-frequency energy harvesting have attracted significant interest as methods of enabling battery-free sustainable wireless networks. Rectennas are the keystone of Wireless Power Transfer and Radio Frequency Energy Harvesting systems and they censorious affect the amount of dc power which is delivered to the load. Here, antenna designs employed in Wireless Power Transfer and ambient Radio Frequency Energy Harvesting applications are reviewed. Rectifying antennas are divided based on two criteria's, (i.e.) the antenna-rectifier impedance bandwidth and the antenna's radiation properties. Figure of merit is identified for each criterion, for different applications and reviewed comparatively.

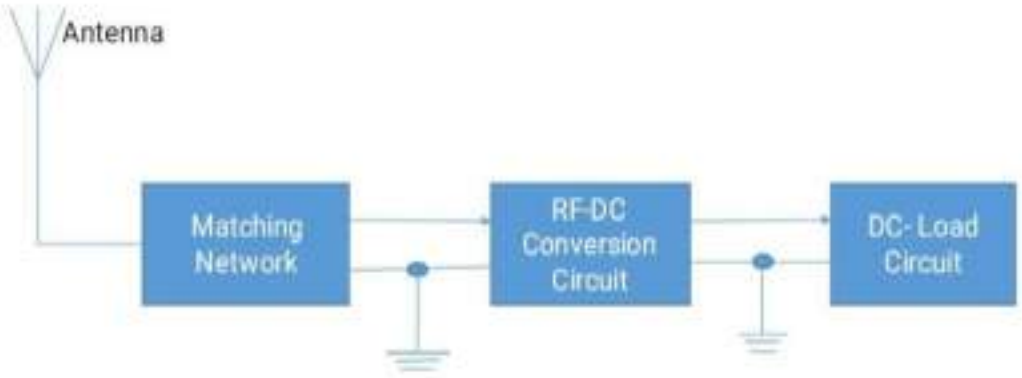

Figure 1: Concept of energy harvesting system is shown which consists of matching network, RF-DC conversion and load circuits. This circuit uses a 2.4 GHz operating frequency with an integrated zero bias detector circuit using Bic MOS technology which produced an output voltage of 1 V into a 1 MΩ load at an input power level of 0 dBm.

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AUTOMATIC SMART PARKING SYSTEM USING IOT WITH EV- CHARGING POINT IN CROWD SENSING AREA

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ABSTRACT:

Parking is a major problem, especially for big cities. The solution for this smart parking improvement suggests an IoT founded scheme that directs information about open and full parking spaces via mobile or web application. The IoT expedient, includes microcontroller and sensor devices with Electric Vehicle (EV)–charging point, is situated in respective car parks place. The customer obtains an a live apprise around the available all car parks spaces and selects the finest one. The main aim of this research is used to identify the available parking places using IoT and ultrasonic sensors. The HC-SR04 distance dimension instrument, ESP8266 microcontroller, MQTT grid rules, and AWS IoT, AWS Lambda cloud analytics are utilized for this project to implement the smart car parks system in smart metropolises. The application of smart car parks methods is shopping malls, Restaurants, Theatres, Crowd Sensing Area etc.

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A DESIGN PERSPECTIVE OF SINGLE BIT ADDER USING DUAL RAIL DOMINO LOGIC

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ABSTRACT:

This mini project comprises the Performance analysis of different types of Primitive Gates comparing with Full adder and its characteristics. Adder is used to do an arithmetic operation, like addition, multiplication, accumulation etc., Likewise, there is N number of adders are available with specific characteristics. Based on these adders are divided into three categories comparing to other adder, Full Adder gives a best performance in slicing, area consumption and delay. This can show a best result in simulation by occurs moderate power consumption and less delay of designing high speed applications, In upcoming sessions we are going to discuss about the different types of Primitive Gates and my new proposal along with simulation results of all Primitive Gates and Full Adder Circuit by Dual-Rail Domino Logic.

Key Words: Dual Rail Logic, Mask Layout Design, Primitive Gates, Full Adder

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DESIGN OF FULL ADDER USING SYMMETRIC CMOS TECHNOLOGY

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ABSTRACT:

This Paper/Project comprises the Performance analysis of different types of Primitive Gates comparing with Full adder and its characteristics using Ganged CMOS Technology. Ganged-CMOS logic is a technique employing CMOS inverters with their outputs shorted together, driving one or more encoding inverters. These encoding inverters, serving to quantize the nonbinary signal at the "ganged" hub, viably cushion it from outside hardware, in this way permitting locally more modest commotion edges. As exhibited by two novel adders, GCMOS accomplishes higher paces and lower input capacitances than static CMOS, to the detriment of higher static force scattering. Adder is used to do an arithmetic operation, like addition, multiplication, accumulation etc., Likewise, there is N number of adders are available with specific characteristics. Based on these adders are divided into three categories comparing to other adder, Full Adder gives a best performance in slicing, area consumption and delay. This can show a best result in simulation by occurs moderate power consumption and less delay of designing high speed applications, In upcoming sessions we are going to discuss about the different types of Primitive Gates and my new proposal along with simulation results of all Primitive Gates and Full Adder Circuit by Ganged CMOS.

Key Words: GMOS, Ganged CMOS, Mask Layout Design, Primitive Gates, Full Adder

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DETECTION OF BREAKAGE AND ALERTING IN HIGH VOLTAGE TRANSMISSION LINES

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ABSTRACT:

Now a Days we read in papers that People and Creatures pass on because of electrical shock in far off regions or in rural regions as contact with broken and hanging live inventory wires. Here we depict an adjustment to a current force dissemination framework for wire break location and an impact supply breaking instrument. Circuit breaker with shunt trip mechanism breaks the supply and avoids damages from electrical accidents due to overhead transmission lines conductor breakage problems using GSM and WSN technology. The Purposed system will have the PIC Microcontroller to control the entire process that detects the fault. Buzzers is to alert the public. GSM Module is to send the fault information to the concerned authority. In This Paper we can see the full review about the How to Detect the Breakage of Transmission Lines, also Alerting the Damage of Transmission Lines when they have High Voltage.

Keywords: GSM Module, WSN Technology, Circuit Breaker, Buzzer

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AN EFFECTIVE STEP TO REALTIME IMPLEMENTATION OF ACCIDENT DETECTION SYSTEM USING IMAGE PROCESSING

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ABSTRACT:

An emergency is a deviation from planned or expected behaviour or a course of event that endangers or adversely affects people, property, or the environment. This paper reports a complete research work in accident (automobile) emergency alert situation. The matlab program and with help of mobile application is used as a crash detector to report automatically via the mobile application giving the exact position of the point where the crash had occurred. This will allow early response and rescue of accident victims saving lives and properties. The paper reports its experimental results, gives appropriate conclusions and recommendations.

Keywords: Accident Detection, Image Processing.

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POWER QUALITY IMPROVEMENT IN A PV POWERED MICRO GRID CONNECTED LOADS

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ABSTRACT:

This paper deals with improving the power quality of a grid connected load when it is powered by a PV array. It is proposed to implement an advanced MPPT technique to improve the efficiency of the solar panel. The output from the solar panel is tracked to get maximum power and it will be given to DC-DC buck-boost converter. The pulse rate of the converter is controlled by suitable PWM algorithm. Depending on the load condition, the converter will act as buck or boost. The output of the converter is directly given to micro grid. The advantage of this proposal it eliminates the need for voltage source inverter. It also provides supply to residential remote areas, industrial site etc. It is used to increase the reliability of electric grid. The entire paper will be simulated on Matlab-Simulink software.

Keywords: Photo Voltaic, DC_DC converter, Maximum Power Point Tracker, Electric grid

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EARLY PREDICTION OF CARDIAC AUTONOMIC NEUROPATHY FROM ECG SIGNAL FEATURES

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ABSTRACT:

This study aims to design a method using convolution neural network (CNN) for synthesis and classification of attributes related to ECG for early diagnosis. Cardiac Autonomic Neuropathy (CAN) is a **serious medical condition that often creates instability in heart rate control** as well as **complications with central & peripheral vascular dynamics**. Signal attributes are studied to serve as diagnostic tool for early prediction of CAN, which is the need of the day. CNN helps in classification of ECG signal from individuals as normal or abnormal with signs of CAN from the ECG parameters. The input to CNN architecture is studied from the physiology of ECG signal.

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ICRISET/T2019

AN INTELLIGENT SELF – TUNING HYBRID POWER GENERATION SYSTEM

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ABSTRACT:

A hybrid power generation system is proposed in this paper. The system consists of solar power, wind power, and an intelligent power controller. An intelligent power controller can adapt to any situation and environmental factors. it can think on its own. Thus, the intelligent controllers are none other than NEURAL NETWORK and a FUZZY LOGIC CONTROLLER. MATLAB/Simulink was used to build the dynamic model and simulate the system. To achieve fast and stable response for the real power control the intelligent controller is used. It consists of a neural network controller – backpropagation theorem (BPT) and fuzzy logic controller (FLC) for maximum power point tracking (MPPT). The pitch angle of the wind turbine is controlled by the fuzzy logic controller, and the solar PV system uses a neural network controller – backpropagation theorem (BPT), where the output signal is used to control the dc/dc boost converters to achieve the MPPT. Then the boosted output voltage is given to a three-phase inverter, now the DC voltage is converted to AC voltage and then the produced AC voltage is given either to the grid or to a load. By the intelligent controllers like neural network controllers and fuzzy logic controllers, MPPT efficiency has been increased much. The other advantage of this system is that it reduces the total harmonic reduction, as it uses renewable energy sources such as wind and solar power, it's a non-polluting and eco-friendly generating system.

Keywords: intelligent controllers, hybrid power generation, grid-connected system, maximum power point tracking

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ICRISET/T2020

AUTO INTENSITY CONTROL OF LIGHTS USING AURDINO

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ABSTRACT:

The main aim of this project is to utilize the application of the Arduino board to control the intensity of street light and Vehicle head lights. As the traffic decreases slowly during late-night hours, the intensity gets reduced progressively (50% of light will glow) till morning to save energy and so, the street lights switch on at the dusk and then switch off at the dawn, automatically. The process repeats every day.

White Light Emitting Diodes (LED) replaces conventional HID lamps in street lighting system to include dimming feature. The intensity is not possible to be controlled by the high intensity discharge (HID) lamp which is generally used in urban street lights. LED lights are the future of lighting, because of their low energy consumption and long life. LED lights are fast replacing conventional lights because intensity control is possible by the pulse width modulation.

This proposed system uses an Arduino board and a rectified-power supply. String of LED are interfaced to the Arduino board. The intensity control of the LED light is possible by varying duty cycle from a DC source. A programmed Arduino board is engaged to provide different intensities at different times of the night. This project is also enhanced by integrating the LDR to follow the switching operation precisely.

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DEVELOPMENT OF EFFICIENT ENERGY MANAGEMENT SYSTEM IN MICROGRID

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ABSTRACT:

The selection of DC-DC converters plays a vital role in deciding the optimum performance of BLDC drives. Research in the field of renewable energy sources shows that general integration has been done with the DC-DC converter topology. From various literature reviews, it is shown that DC-DC converters have been used in speed drive regulation and the reduction of torque ripple by pulse width modulation (PWM) techniques. an enhanced DC-DC converter is proposed in this research, based on the combination of the Cuk and SEPIC converters, which is well-suited for solar photovoltaic (PV) applications. The converter uses only one switch (which is ground-referenced, so simple gate drive circuitry may be used), yet provides dual outputs in the form of a bipolar DC bus. The bipolar output from the DC-DC converter is able to send power to the grid via any inverter with a unipolar or bipolar DC input, and leakage currents can be eliminated if the latter type is used without using lossy DC capacitors in the load current loop.

The proposed converter uses grey wolf optimization (GWO) based PWM control, which significantly reduces the input current ripple and hence greatly improves the power extracted from the solar PV system. The GWO algorithm mimics the leadership hierarchy and hunting mechanism of grey wolves in nature. Four types of grey wolves such as alpha, beta, delta, and omega are employed for simulating the leadership hierarchy.

Keywords: Battery, PV panel, grey wolf optimization (GWO), DC – DC converter.

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SURVEY ON FAULT ANALYSIS FOR DC–DC CONVERTERS

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ABSTRACT:

The broad applications of DC-DC converters are aerospace applications, electric vehicles, consumer electronics, renewable energy systems, and energy storage solutions. The main consequence of DC-DC converters is reliability, but the research deeds in improving the reliability of the converters are very narrow and detached. Boundless topologies are available in DC-DC converters with different operating principles and functionalities due to the evolution in semiconductor technology. Enrichment of the reliability of entire types of DC-DC converters is a puzzling task. The most brittle components in the circuit of converters are its Power switches, which made the system fall prey to the occurrence of faults. Therefore, it is necessary to detect the occurrence of fault in converter components and these faults should be rectified immediately. Hence to spot the incidence of fault in the DC-DC converters a quick fault diagnosis and fault-tolerant strategies are mandatory and for the protection purpose, it has to be rooted in the converters. The overview of various researchers about the fault-tolerant strategies and the fault-diagnosis algorithms are fitted out in a single paper after conducting an extensive review.

Keywords: Reliability, Fault-Tolerant, Power switches.

ISBN : 978-93-9113-130-2

ENVIRONMENTAL SAT

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ABSTRACT:

Wireless communication has huge growth, specifically satellite-based communication is a major player. Satellites can cover a much larger geographical area than conventional ground-based systems can. Satellites have the unique ability to cover the Globe entirely. The Environmental Satellite breaks the barrier and can be used for detecting and measuring Environmental issues like Pollution and Contamination of the ozone layer. The Case is built to last by using advanced 3D printing and Compound Materials & internal circuits are well tested and graded to work well even on Uncertainty and Extreme Condition.

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OFF BOARD-ELECTRIC VEHICLE CHARGER USING MMC FOR GRID POWER CONTROL

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ABSTRACT:

To protect the environment from the green house emission, deployment and development of electric vehicle transportation is implementing over the traditional transportation. The fast growth of electric vehicle charging station in recent years will cause overloading of grid due to over extraction of power from the grid. In order to maintain the conditioning of power in the grid some active and passive filtering techniques are available. This paper proposes the various grid interference due to overload of various EV- charging station will be eliminated by the bidirectional converter. For this case the Modular Multilevel Converter is proposed in charging station instead of active and passive filters to improve the performance of the grid. This front-end AC-DC converter will regulate the voltage, circulating current and eliminate the high frequency harmonics created by the non-linear loading effects of EV. Besides the MATLAB/Simulation and experimental testing was performed on a 2KVA laboratory EV charger.

Keywords: Modular Multilevel Converter, Bidirectional AC- DC Converter, Power Conditioning.

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PURSUIT OF SMART RESTAURANT USING INTERNET OF THINGS

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ABSTRACT:

In the past, restaurant used pen and paper to place orders from customer. This method will take much time for taking and sending the order to the kitchen. Now, for billing also we have to pay special attention also. This proposed system aims in designing a fully automated ordering menu system in the restaurants. The menu will be displayed in lcd and the customers can order their food using that system. NodeMCU will transmit this to the computer then displays in the kitchen & also the bill counter. The aim of this project is automation to reduce the time delay and less hassle, cost too.

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ICRISET/T3002

NANO TURBINE

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ABSTRACT:

One of the common problems in adults and athletes and some children is bradycardia. Bradycardia is a condition typically defined wherein an individual has a resting heart rate of under 60 beats per minute (BPM) in adults, although some studies use a heart rate of less than 50 BPM. Bradycardia typically does not cause symptoms until the rate drops below 50 BPM. This abnormally low heart rate can cause the brain and other organs to become oxygen-deprived, which can lead to symptoms such as: Fainting. Dizziness and at last death too. Pacemaker is a device which is used to maintain heart rhythm, by sending tiny electrical signals to the heart to increase the heart rate, which relieves the symptoms of bradycardia. Pacemaker batteries, which are lithium iodide cells that typically have a lifespan of 7 to 8 years, now often weigh less than 30 g. They are usually implanted subcutaneously in the infraclavicular area. If battery dried in the pacemaker a surgery is done to replace it, this must be dangerous to the patient, repeating surgery regularly in such interval of time. To avoid several surgeries, we introduced a power source inside the body itself. The technology used here is hydroelectricity. Our body is filled maximum with fluids like: blood, lymph, water, etc. So, by using the flow of liquids in the transporting medium like; artery, veins and lymphatic vessels, etc. we can generate electricity. The fluid in every single artery, vein or lymphatic vessels flows in unidirectional only. So, by using the same technology used in dams, we can generate power inside our body. For this system a nano sized turbine is designed which is similar to turbine present in dams, only the size differs. As blood is more important fluid compared to other fluids, it must not be disturbed so instead of getting power from blood stream in arteries and veins, we can use lymphatic vessels. lymphatic system is present throughout our body so we can generate power in the vessel which is located near the pacemaker device. A lymphatic vessel varies 1 to 2 mm in diameter, in that we can place a nano turbine, due to the flow of lymph the turbine starts to rotate and generate power. the power generated is not very high a moderate amount of power only be generated by the turbine because the flow of lymph in the vessel is at normal rate, so moderate amount of energy that needed for pacemaker can be generated by using the hydroelectric technology.

JEPPIAAR INSTITUTE OF TECHNOLOGY
ISBN : 978-93-9113-130-2

SEPIC CONVERTER BASED HIGH EFFICIENT THERMOELECTRIC BATTERY- CHARGER FOR E-VEHICLE APPLICATIONS

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ABSTRACT:

Rapidly increasing demand for electricity has necessitated the implementation of renewable energy sources for maintaining the electric grid as well as providing isolated loads. In many forms renewable energy finds itself, such as heat, solar energy, wind energy and tidal energies. When using the TEG system, the main obstacles are low conversion efficiency. The TEG needs to operate at Maximum Power Point (MPP) to improve the energy efficiency, so the TEG uses the Maximum Power Point Tracking (MPPT) technique. The study's goal is to help the company outperform the competition. In these systems, the modified Maximum PowerPoint (MPPT) technology for disturbance and observe (P&O) is widely used. Convergence speed was increased in simulation studies that found simulation results were acceptable. Additionally, no external hardware components are required for the proposed TEG-MPPT system.

Keywords: Thermo Electric Generator **(**TEG), Single Ended Primary Inductor (SEPIC) Converter, Maximum Power Point Tracking (MPPT).

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ICRISET/T3004

ARTIFICIAL INTELLIGENCE MODEL FOR PQ ADVANCEMENT IN MICROGRIDS

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ABSTRACT:

Advancement in the Information and communication Technologies (ICT) has paved the way to the development of Smart Microgrid concept with emerging new Technologies. Microgrids are considered to be the building blocks of Smart Grids. This paper concentrates on the incorporation of the new artificial intelligence plant model of the Microgrid to the make it a smart model. The adoption of Microgrids to the main grid and the issues connected with the integrations are solved and improved by the proposed model.

The application of Artificial Intelligence framework provides a beneficial capture to the Microgrid scenario. The simulation of proposed framework and the data sources helps to build AI inside the utilities. Examination of deep learning in the data center and also the inference of AI at the edge of computation which benefits the Microgrid concept to make it a smarter model at Residential and community levels are also completed. The output of the proposed method is implemented in MATLAB/SIMULINK platform.

JEPPIAAR INSTITUTE OF TECHNOLOGY
ISBN : 978-93-9113-130-2

UNMANNED NUCLEAR POWER PLANT AREA FOR SAFETY AND REMOTE ACCESS USING WIFI AND INTERNET OF THINGS

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ABSTRACT:

This paper describes the design and implementation of an on-line operation monitoring and accident response support system to be used at the emergency. In the nuclear power industry, on-line monitoring techniques have been considered for instrument calibration verification as well as equipment and plant condition monitoring. This publication reviews the state of the art in on-line equipment monitoring for nuclear power plant (NPP) applications. Its focus is on instrument calibration verification and extension of calibration intervals of sensors, transmitters and channels.

ISBN : 978-93-9113-130-2

TRAFFIC SIGNAL CONTROL SYSTEM USING ARDUINO BASED SPIKE SHAFT

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ABSTRACT:

Everyday many accidents are being caused due to our negligence towards the traffic rules and regulations. The lack in our accountability leads to many premature deaths which has a major impact over many families. To avoid these kinds of accidents people should follow the rules without any violations. Traffic signal violation preventer using Arduino based spike shaft preventer is developed in order to reduce the accidents which happens nearer to the signal.

Spike shaft is controlled by Arduino and it rotates in accordance with the traffic signal, A Radio Frequency Identification tag is suggested to be used in specific cases like ambulances. GSM is used to send message to the concerned official in case of occurrence of any violations. This help in reducing the accidents to some extent.

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GROWTH AND CHARACTERIZATION OF 2-AMINO-6-METHYLPYRIDNIUM 4-HYDROXYBENZOATE

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ABSTRACT:

The organic nonlinear optical single crystals of 2-amino-6-methylpyridnium 4-hydroxybenzoate (2A6MP4HB) are grown using isothermal solvent evaporation technique. The title crystal is crystallized in monoclinic system with centrosymmetric space group $P2_1/c$. The micro analyses confirmed the stoichiometric compositions of 2A6MP4HB. The thermal stability and decomposition of novel 2A6MP4HB are analyzed by thermogravimetric/differential thermal analysis (TG-DTA) and differential scanning calorimetric (DSC) analysis. The temperature dependence specific heat capacity of 2A6MP4HB is analyzed through modulated differential calorimetric analysis (MDSC). The MDSC study suggested that 2A6MP4HB could possess high optical damage threshold, which is an essential requirements for optical devices. All these studies are performed for the first time and aimed to explore the useful and safe region of thermal properties to explore its usefulness for device fabrications.

Keywords: Crystal growth; CHN; NLO; TG-DTA; MDSC

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ANALYSIS OF SOLIDSTATE METHOD EFFECT OF ZnO NANOPARTICLES AT DIFFERENT TEMPERATURES

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ABSTRACT:

In this work, pure ZnO nanoparticles were prepared by the method of solid state reaction using zinc acetate as a precursor. The prepared ZnO nanoparticles were characterized and analyzed by the various spectrographic tools such as X Ray Diffraction (XRD) analysis, Fourier Transform Infrared Spectroscopy (FTIR), UV-Visible infrared spectroscopy (UV-Vis), Scanning Electron Microscopy (SEM), Photoluminescene (PL) and Vibrating Sample Magnetometry (VSM) studies. The crystallinity nature and lattice paramerters are studied through the XRD patterns and the average crystallite size is found to be 34.5 nm. The absorption peak in the FTIR spectra confirms the presence of functional group, whereas a UV-Vis spectrum is used to determine the optical properties of the sample. Furthermore, surface morphology, electronic structure and the magnetic properties of the ZnO nanoparticles were studied by using the SEM, Photoluminescence and VSM studies respectively. This particular method of synthesis is simple and easiest method to obtain the pure ZnO nanoparticles with high crystallinity in nature. The obtained ZnO, have potential, engineering applications as materials for UV filtering shields with high transparency, luminescent materials without any toxic nature.

Key words: Luminescence materials, UV filtering shields, ZnO nanoparticles and solid state reaction.

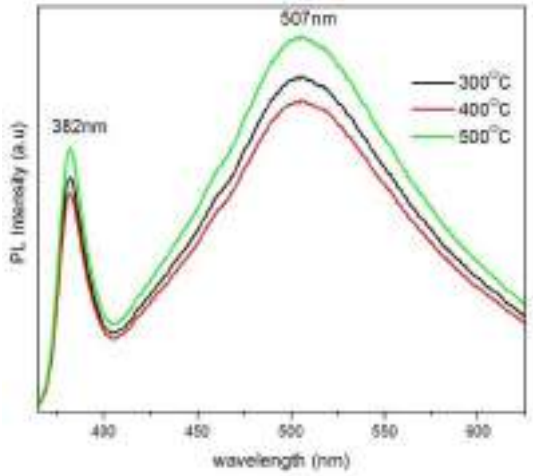

Figure 1: Photoluminescence spectra of pure ZnO nanoparticles at 300, 400 and 500ºC

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ICRISET/T3009

INVESTIGATION ON THE GROWTH, OPTICAL, THERMAL AND DIELECTRIC STUDIES OF L - ASPARAGINE MONOHYDRATE SINGLE CRYSTAL

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ABSTRACT:

Asparagine is an amino acid that plays an imperative role in the metabolic control of some cell functions in nerve and in brain tissue and is used by many plants as a nitrogen reserve substance [1]. L-asparagine Monohydrate (LAsM) is an interesting one such high efficient material to investigate because it crystallizes in a structure exhibiting a complex network of hydrogen bonds among asparagine molecules and between asparagine and water molecules [2]. The present investigation is focused on the growth and characterization of LAsM single crystal.

L-asparagine monohydrate (LAsM) crystal was grown by slow evaporation method at room temperature. The grown crystal was characterized using single crystal X-ray diffraction analysis, which shows that the crystal belongs to orthorhombic system with a space group of $P2_12_12_1$. The presence of functional groups has been confirmed by FTIR analysis. The optical absorption study revealed that the crystal has a low absorption with UV cut-off wavelength around 245 nm, which is an essential consideration for the NLO crystals and the band gap energy of LAsM is found to be 3.92 eV. The thermal stability of the crystal is determined by thermal analysis. The micro hardness study reveals the soft nature of the crystal. Dielectric studies imply that there is an increase of dielectric constant and dielectric loss with increase in temperature at all frequencies

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Keywords: Single crystal, XRD, FTIR

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ICRISET/T3010

NONLINEAR OPTICAL PROPERTIES OF 2A5CLP4AB: AN ORGANIC NONLINEAR OPTICAL MATERIAL

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ABSTRACT:

Single crystals of 2-amino-5-chloropyridinium-4-amino benzoate were grown by solution growth Technique using methanol as solvent. The third order nonlinear optical behaviour of the title compound such as Nonlinear Refractive Index (n_2), Nonlinear Absorption Coefficient (β), Third Order NLO Susceptibility ($\chi^{(3)}$), Variation in Refractive Index (Δn) were calculated using Z-Scan Technique and they are found to be (n_2)=1.6891x10^{-6} cm^2 /W, (β)=1.92x10^{-5} cm/W, ($\chi^{(3)}$) =2.11 x10^{-7} esu,and Δn =0.131586 respectively. Vickers micro hardness number of the title compound as a function of the applied load is estimated using Vicker's Microhardness Test. These studies are analysed to explore the third order nonlinear properties and also find the suitability of the title compound for NLO applications.

Keywords: Crystal growth; NLO; Z-Scan; Microhardness; Third order Nonlinear property

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ICRISET/T3011

GROWTH, STRUCTURE AND SPECTROSCOPIC STUDIES OF AN OPTICAL MATERIAL : L-GLUTAMINE OXALATE SINLGE (LGO) CRYSTAL

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ABSTRACT:

Organic nonlinear optical (NLO) crystals play an important role in optical device fabrication. Recently the use of oxalic acid for the production of crystalline salts with aromatic base are of considerable interest for the nonlinear optical applications. Single crystals of L-Glutamine Oxalate (LGO) were grown from aqueous solution by low-temperature solution growth technique using slow evoparation method. The obtained crystals were characterized by single crystal X-ray diffraction analysis, FTIR, FT-Raman spectral studies. The unit cell parameters and space group of LGO crystal were estimated by single crystal X-ray diffraction analysis. The presence of functional groups and their corresponding vibrations were studied through FTIR analysis. The chemical components present in the crystal were further confirmed by FT-Raman spectroscopy. The UV-vis-NIR spectrum will be recorded to study the optical transparency of the grown crystals

Keywords: Single crystal; Solution growth; FTIR; FT-Raman; UV-vis-NIR study.

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QUANTUM COMPUTATIONAL INVESTIGATION AND DOCKING MECHANISM OF 2, 5-DIBROMOTOLUENE WITH HUMAN SERUM ALBUMIN

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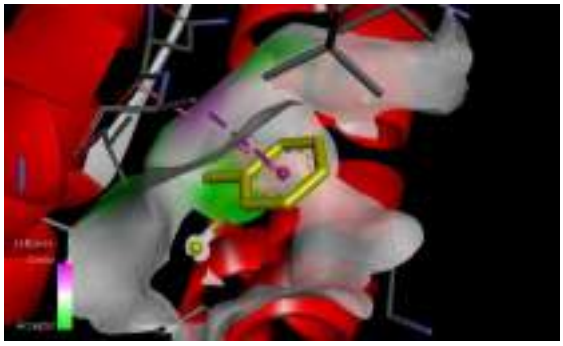
ABSTRACT:

The optimized structure, comparative theoretical and experimental vibrational assignments of 2,5-dibromotoluene (DBT) have been evaluated by density functional theory (DFT) with higher basis set calculations. The global reactivity determination such as energy gap, dipole moment has been explored. The locale reactive sites of the molecule are described by applying the electrostatic potential. The interactions between the bonds are assessed by the natural bond orbital (NBO) investigation. The resonance quality ^{1}H and ^{13}C (NMR) shifts of the molecule calculated by GIAO method. Optical transparency of the molecule has been analyzed by theoretical UV-Visible spectra. The binding of toluene with serum albumin protein utilizing in silicon has been validated and subsequently, the present work clears the method for scheming the drugs in the dealing of serum albumin.

Keywords: 2,5-dibromotoluene, Density functional theory, HOMO-LUMO, NMR, Molecular
docking.



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ICRISET/T3013

EFFECT OF NICKEL DOPING ON STRUCTURAL OPTICAL AND MAGNETIC PROPERTIES OF ALUMINUM FERRITE

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ABSTRACT:

Sol-gel technology offers efficient and high purity production of nano powders. In the present work $AlFe_2O_4$ and $AlNiFe_2O_4$ were successfully synthesized by sol-gel method. Characterization of the products carried out using XRD, FTIR, UV-Visible spectroscopy, SEM and VSM. Using XRD it is confirmed that the samples were Cubic structure in nature. The ferrite powders showed XRD line broadening peaks and the average particle size of the materials is calculated as 66.34 nm for $AlFe_2O_4$ & 55.69 nm for $AlNiFe_2O_4$ using Scherer formula. The dislocation density (δ) of the materials is also calculated from XRD data. The functional group of the sample can be conformed from Fourier Transform Infrared Spectroscopy (FTIR).The optical properties of the samples are investigated by measuring the UV-Vis absorption at room temperature. The surface morphology reveals that the grains were- distributed over the surface. Finally, the magnetic properties of the powders have been studied at room temperature from the hysteresis loop measurements using a vibrating sample magnetometer.

Keywords: Sol-Gel, XRD, nanoferrites, dislocation density, etc.

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ICRISET/T3014

CRYSTAL GROWTH, STRUCTURE, PHYSICAL AND COMPUTATIONAL STUDIES ON MORPHOLIN-4-IUM P-AMINOBENZOATE

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ABSTRACT:

In recent years much attention has been devoted to materials with high second order nonlinearities owing to their potential use in numerous modern research fields [1]. Morpholin-4-ium p-aminobenzoate (MPABA) was synthesized by the addition of morpholine (C4H9NO) (GR, Merck) with p-aminobenzoic acid (C7H7NO2) (GR, Aldrich) and the final product was purified by recrystallization process several times. A saturated solution of MPABA was used for the growth of MPABA single crystal by using the slow cooling technique, in a controlled temperature bath equipped with a Programmable Eurotherm Temperature Controller (Model:3216) having a controlled accuracy (±0.01°C). The structure was solved by Direct Methods using SHELXS97 and refinement was carried out by full-matrix least-squares technique using SHELXL97 [2]. The ORTEP diagram is shown in Fig. 1. The asymmetric unit of the MPABA contains one protanated morpholine ring and one benzoate ion as adduct. In this asymmetric unit, N2—H3N···O1 intramolecular hydrogen bond connects the two ions and this basis units are interconnected by another two N— H···O intermolecular hydrogen bonds and weak interactions, which stabilize the crystal structure [3].

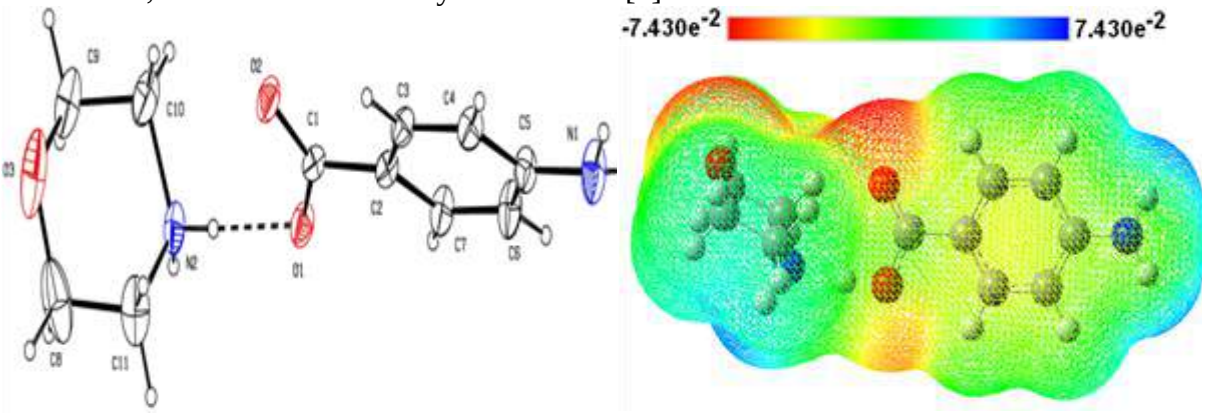

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Fig.1. ORTEP diagram of MPABA Fig.2. ESP surface of MPABA molecule

The density of MPABA crystal was determined experimentally by floatation technique. It was found to be 1.318 g/cm3 1.318 g/cm3 and compared well with theoretical density (ρ_t=1.313 g/cm3ρt=1.313 g/cm3). The cutoff wavelength of MPABA crystal was found to be 327 nm and this absorption was due to the promotion of an electron from a 'non-bonding' (lone-pair) *n* orbital to an 'antibonding' π orbital designated as π^* ($n \rightarrow \pi^*$) and no characteristic absorption was observed in the entire visible region. The indexed powder X-ray diffraction pattern was compared with the XRD pattern simulated by the Mercury software and was found to agree with each other. By employing the Kurtz powder technique, the obtained SHG efficiency of MPABA powder was calculated as 1.49 and 11.45 times greater than that of the urea and KDP respectively. Quantum chemical calculations of MPABA were carried out using the GAUSSIAN 03W program package with B3LYP/6-31G (d) basis set. The calculated values of dipole moment (m) and first order polarizability(b_o) were calculated as 1.209 D, and 9.214´ 10^{-30} cm^5 .esu^{-1} 10^{-30} cm^5 .esu^{-1}respectively while that for urea they were 1.9846 D,0.8461´ 10^{-30} cm^5 .esu$10^{-30}$$cm^5$ .esu^{-1} respectively. Thus the first hyperpolarizability of MPABA were comparatively 10.890 times greater than that of urea. The molecular electrostatic potential (ESP) (Fig.2) clearly shows that the negative and positive potential sites are around the electronegative (Oxygen & Nitrogen) atoms and the hydrogen atoms respectively, while the remaining species are surrounded by zero potential.

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ICRISET/T3015

WET CHEMICAL PROCESSING OF PURE AND NICKEL SUBSTITUTED HYDROXYAPATITE AND ITS CHARACTERIZATION

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ABSTRACT:

Hydroxyapatite (HAp) is a calcium phosphate that resembles the hard tissues of humans. It is a kind of calcium apatite. It is the primary component of bone and enamel and can be produced artificially using a variety of techniques. Synthetic hydroxyapatite doped with metal ions might improve its properties. The current study describes a facile wet chemical technique for producing Ni substituted hydroxyapatite (HAp) nanoparticles. The processing conditions considered were, reaction temperature of 800c , heat treatment temperature of 4500c and PH 11.The influence of nickel on the structural, morphological and optical properties of the prepared samples was analyzed by XRD,SEM EDX,FTIR and UV characterization techniques. Anti-bacterial behavior of the samples was analyzed by disc diffusion method. The results revealed that the prepared Ni-HAp particles had a flake-like morphology with a mean size of 60 nm. The FTIR spectra exhibited the functional groups present in the samples. The UV studies showed the Ni incorporated HAp sample had enhanced optical properties.

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ICRISET/T3016

STRUCTURAL AND MORPHOLOGICAL AND OPTICAL STUDIES OF Zr DOPED ZnO THIN FILM

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ABSTRACT:

In the present work, influence of Zr doping on structural, morphological, optical and gas sensing properties of ZnO has been reported. X-ray diffraction study confirmed the formation of wurtzite structure of ZnO thin film (JCPDS 36-1451) fabricated by SILAR technique. SEM analysis of thin films has shown a completely different surface morphology. The 3 at % Zr-doped ZnO thin film exhibited the best properties with a good transmittance.

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ICRISET/T3017

GREEN SYNTHESIS OF SILVER NANO PARTICLAS AND PHYTO SCREENING EFFECT FOR VARIOUS SECONDARY METABOLITES OF PLANT EXTRACT

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ABSTRACT:

In this investigation, quick, basic methodology have been applied for union ofsilvernanoparticlesutilizing different plant essence. The plant essence demonstrations both as diminishing specialist just as covering specialist. To distinguish the mixtures answerable for decrease of silver particles, the useful gatherings present in plant separates were researched by FTIR. Different methods used to describe orchestrated nanoparticle isUV-Apparent spectrophotometer. UV-Apparent spectrophotometer showed absorbance top in scope of 436-446 nm. Therapeutic plants assume a dominating part in our biological system because of the huge dispersion of bioactive segments like alkaloids, phenols, tannins, flavonoids etc. Within them and each with a particular capacity. An examination on these bioactive accumulates and their advantageous job is of much interest and is of most extreme significance these days because of their wide remedial properties. The current work has been done to research the presence of significant bioactive segments in ethanolic dissolvable concentrates of Annona Muricata, Tagetes Minuta and Flautist betel. The concentrates were exposed to both subjective and quantitative examination to decide the presence and measure of bioactive compound in the example. In view of the outcomes acquired ethanolic separate was discovered to be wealthy in larger part of phytocomponents with expanded bioactivity contrasted with different concentrates. This further proposes that ethanolic concentrate of these examples could be utilized in future for seclusion of different novel mixtures for various pharmacological applications.

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SYNTHESIS AND CHARACTERIZATION OF CD(1-X)YB(X)S/RGO COMPOSITES BY COPRECIPITATION METHOD AND ITS PHOTOCATALYTIC ACTIVITY

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ABSTRACT:

Cd(1-x)Yb(x)S/rGO composites were synthesized by Coprecipitation method. The composites were characterized by using X-ray diffractometer (XRD), Fourier transform infrared (FTIR), Raman spectroscopy, Thermogravimetric Analysis (TGA). The presence of elements was confirmed by X-ray photoelectron spectroscopy. The morphological studies FE-SEM and TEM shows that the Cd(1-x)Yb(x)S nanoparticles were deposited on the surface of reduced graphene oxide sheets. Yb doped CdS/rGO degraded about 100% of MO within 100 min. Yb doped CdS/rGO has great potential for application in photocatalytic detoxification from organic pollutants. This material could be useful for optoelectronic applications.

Keywords: Cd(1-x)Yb(x)S/rGO, composites, Coprecipitation method, Photocatalytic activity, Thermal analysis, Optical properties.

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ICRISET/T3019

APPLICATION OF POLYMERIC BEADS FOR IMPROVED LOADING AND SUSTAINED RELEASE OF DOXYCYCLINE DRUG

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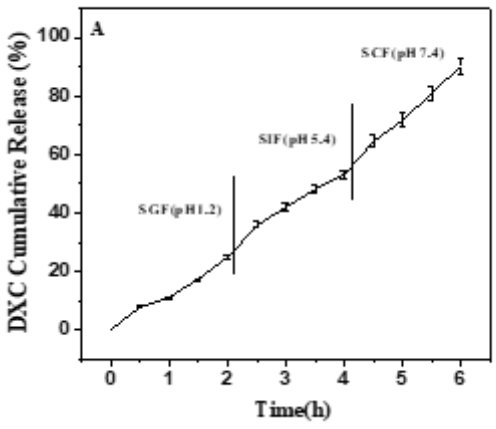
ABSTRACT:

The aim of the present study was to design a biodegradable core-shell structure where in reduced graphene oxide (rGO) and doxycycline drug (DXC) comprise the core while polymers, chitosan and alginate acts as shell for attaining high loading efficiency and sustained release of drug.The structural, morphological properties of as synthesized drug delivery system was characterized by XRD, SEM and TEM etc. Drug encapsulation efficiency and the studies on the in vitro release of the drug from these nanocarriers at different concentrations of rGO were carried out. Across all batches of rGO-polymeric beads, the highest loading capacity of 85% was noted for rGO of wt 5 mg/mL. Further, for the formulations of only rGO, highest LE of 90% was noticed in 1h and 100% loading was noticed in 3h. The release of the drug from the nanocarriers (rGO-polymeric beads) was carried out at several pH. At pH 1.2, the DXC release was found to be 27.4 % after 2 and at pH 5.4, the same beads liberated 57% of the drug after 4 h; and at pH 7.4, 90% of DXC was released in to the medium after 8 h. The unique properties exhibited by rGO encapsulated biodegradable polymer offers an excellent application in biomedical field.



Keywords: Doxycycline, Targeted therapy, Reduced graphene oxide, Polymeric beads.

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ICRISET/T3020

ANTICANCER DRUG LOADED GRAPHENE-OXIDE BASED NANOCARRIER FOR IMPROVED CYTOTOXICITY

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ABSTRACT:

The present study aims at designing a biodegradable and biocompatible nanocarrier using gelatin and reduced graphene oxide nanosheets functionalized with folic acid, for release of chlorambucil drug in controlled manner and achieving high loading efficiency. From scanning electron microscopic studies small pore like structure with rough and thick morphology on the plane of graphene oxide is clearly visible indicating high loading of drug. Further, Drug loading and encapsulation efficiency, in vitro release studies of the drug from the nanocarrier at different concentrations of reduced graphene oxide, different pH were studied. The release studies it is clear that, after 24h the release rate of the drug was found to be higher at acidic conditions compared to neutral conditions. It was found that 62.1% and 82% of the total bound drug was released from the nanocarrier at pH 5.4 and pH 1.2 respectively. Besides, under neutral conditions (pH 7.4), 43.7% of the total bound drug was released from the nanocarrier in the first 24 h. The % cell viability of free drug, drug loaded nanocomposites against human cervical adenocarcinoma cell line was found to be 11.7% and 28% respectively at the dose of 500 μg mL^{-1} after 24 h. The unique properties exhibited by biodegradable polymer like gelatin and carbon based materials such as graphene offers an excellent applications in biomedical field.

Keywords: Chlorambucil, Graphene-oxide, Folic acid, Targeted drug delivery.

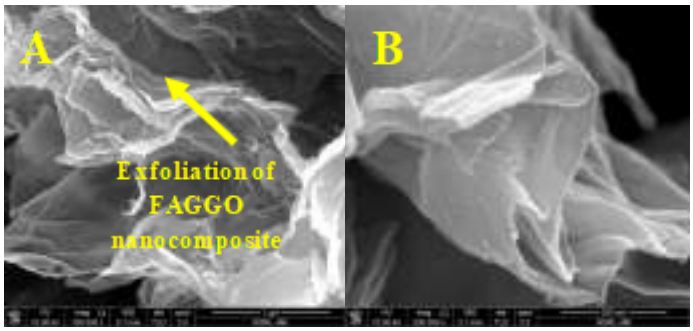

Fig.1. A) and B) SEM images of FA-GGO nanocomposite showing flakes like exfoliation of graphee sheets

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ICRISET/T3021

CORROSION RESISTANCE OF MILD STEEL IN HYDROCHLORIC ACID SOLUTION BY BIS(2-ACETYLPYRIDINE)DITHIOSEMICARBAZONE (DTSC):ELECTROCHEMICAL, SURFACE AND SPECTROSCOPIC STUDIES

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ABSTRACT:

A novel corrosion inhibitor, Bis(2-acetylpyridine)dithiosemicarbazone (DTSc) has been synthesized and its inhibiting efficiency on the corrosion of mild steel in HCl has been investigated by various corrosion monitoring techniques such as weight loss method, potentiodynamic polarization and electrochemical impedance spectroscopy. The electrochemical study reveals that the compound acts as an efficient mixed type inhibitor. Adsorption equilibrium constant (K_{ads}) and standard free energy of adsorption (DG°_{ads}) were calculated. Nature of inhibition was studied by various spectroscopic techniques like UV-visible spectroscopy, FT-IR.

Key words: Mild steel corrosion; IR Spectroscopy; UV-visible Spectroscopy; EIS.

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ICRISET/T3022

BIOSYNTHESIS AND CHARACTERISATION OF IRON OXIDE NANOPARTICLES USING *Phallusia nigra*

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ABSTRACT:

Phallusia nigra was effectively used for the synthesis of iron oxide nanoparticles as a natural ligation agent. We used an environmentally friendly biosynthetic methodology for the preparation of the iron oxide nanoparticles. Iron oxide nanoparticles were monitored by UV and IR studies.The XRD, SEM revealed the crystallinity and spherical morphology of the biosynthesized nanoparticles. EDAX studies reported the percentage of FeO in the sample. This result revealed that the crystalline spherical behaviour of iron oxide nanoparticles present in effective manner.

Keywords: FeO,UV, IR, SEM

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ICRISET/T3023

EXPERIMENTAL INVESTIGATION ON COMPRESSIVE STRENGTH OF CONCRETE USING PUMICE AND ALGAE

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ABSTRACT:

The light weight concrete is a special type of concrete which has lighter weight and low density with respect to the conventional concrete. Thus, it is used in areas where the load requirements are less and it is also used to reduce the weight of the structure. The light weight concrete is made either by replacing the Fine /coarse aggregate with light weight material or by inducing air voids. This reduces the strength of the concrete.In this project the compressive strength of light weight concrete with pumice and sea algae was studied. Light weight concrete was casted by replacing 50% of coarse aggregate with pumice aggregates. Since the strength will reduce by adding pumice so algae has been added to increase the strength. Algae increase the strength of the concrete by occupying the pores in the cement and also in concrete structure. When added at 8% to cement weight in conventional concrete were found to increase the strength of concrete by 15%. Marine algae were used (Chaetomorpha), which is a type of green algae in different proportions to cement weight. Algae have been added in 6%, 8% and 10% to that of cement weight in light weight concrete. So four different types of cube samples have been prepared.50% pumice 50% Coarse aggregates have been used for all the samples and 6% ,8% and 10% of algae is added for each of the other three sample and is compared with the conventional light weight concrete in this case 50% pumice and 50% Coarse aggregates.The need of this project is to increase the strength of the light weight concrete so that it can carry heavy loads as well.The strength of the concrete is identified by compression strength test, which is done in compression testing machine.

Keywords: Light Weight Concrete, Algae, Pumice, Compressive Strength, Replacement, Course Aggregate

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SEDIMENTOLOGY OF KORTALAIYAR RIVER BASIN, TAMILNADU, INDIA

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ABSTRACT:

Kortalaiyar river is one of the three rivers that flow through the Chennai metropolitan. The present work involves the study of Calcium carbonate and Organic matter present in river sediments. For this work, thirty samples of air dries and powdered sediments were analyzed using the standard methods. The concentration of $CaCO_3$ in the river can be used to investigate the sedimentary lining of the aquatic system. This also gives an idea regarding the extent of dryness of the river especially during non-monsoon seasons. The metal ions are strongly adsorbed by solid organic matter. The structure and composition of humic matter can vary considerably depending upon its origin and can be expected to influence the results of sorption experiments. This is the essence of the evaluation of Organic matter in the water samples. The organic matter vary from 0.3% to 5.2% and the $CaCO_3$ content varies from 0.3 % to 5.2 % in the sediments of river Kortalaiyar.

Keywords: Kortalaiyar River, sediments, Calcium carbonate, Organic matter, aquatic system, Toxicology

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ICRISET/T3025

SYNTHESIS, CRYSTAL STRUCTURE AND DNA BINDING STUDIES OF NICKEL(II) AND IRON(III) COMPLEXES OF 2-ACETYLPYRZINEN(4)-CYCLOHEXYLTHIOSEMICARBAZONE

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ABSTRACT:

2-acetylpyrzine N-(4)-cyclohexylthiosemicarbazide (H_2L) and its Ni(II) and Fe(III) complexes have been synthesized. Structure of the ligand H_2L and corresponding metal complex are proposed based on the elemental analysis, UV-Visible, FT-IR spectroscopy and Far IR. To explore the potential medicinal value of the new complex, binding interaction of complex with CT- DNA was studied at normal physiological conditions using UV–Visible spectral and fluorescence techniques. The experimental results indicated that Ni(II) complex bound to CT-DNA by intercalative mode. Binding constant (K_a) was calculated by using UV–Visible titration from which it is inferred that Ni (II) has more affinity toward CT-DNA compared to Fe (III) complex.

Keywords: Thiosemicarbazone, DNA binding, FT-IR, EPR

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ICRISET/T3026

FUZZY SIR MATHEMATICAL MODEL FOR CANCER

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ABSTRACT:

Cancer is an uncontrolled growth of abnormal cells in the body. Cancer is the second – leading cause of death in the world. Cancer kills nearly 10 million people a year around the world. In this paper we propose and analyze a fuzzy epidemic SIR mathematical model with an transmission rate for cancer is formulated. Specifically the fuzziness is due to the consideration of the transmission rate, rate of susceptible after recovery due to the disease and rate of recovery from Infection as a fuzzy sets. We obtain the equilibrium points for stability analysis and We have analyzed the fuzzy basic reproduction number.

Keywords:
Fuzzy SIR mathematical model - equilibrium points- stability analysis - fuzzy basic reproduction number.

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ICRISET/T3027

PERCEPTIONING THE PROPERTIESOF STRONGLY CLOSED SETS IN FUZZY BI TOPOLOGICAL SPACE

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ABSTRACT:

In this paper, we defined the strongly (i, j)(fgsp)* closed sets in fuzzy bi-topological space(X, μ$\mathcal{T}$ i, μ$\mathcal{T}$ j) comparing with the (gsp)* closed sets in bi-topological space(X, $\mathcal{T}$ i, $\mathcal{T}$ j). The defined sets are proved with their properties by examples. Finally the application of Stongly (i,j) fuzzy closed sets in fuzzy bitopologicalspaces are overviewed. Throughout this paper, we took X=[0, 1]as the universal space and the member value set as the subset of fuzzy bi-topological space.

Key Words:
Bi-topological space,Fuzzy pre-open, Fuzzy pre- closed, fs-open and closed set, fg-closed set, fgs-closed set, fgsp-closed set.

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ICRISET/T3028

AN OVERVIEW OF METRIC DIMENSION OF SPECIAL GRAPHS

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ABSTRACT:

Graph Theory is extraordinary compared to other known, well known and widely investigated subject, having numerous applications and guesses, which are as yet open and considered by different mathematicians and terminal researchers along the world. Now a days the job of Graph Theory in different recorded is expanding, as of now it give more prominent usefulness, blend, and ease framework into certifiable planned frameworks. An overview of metric dimension of special graphs of the Cartesian result of finite and infinite graph, and give metric dimension of the Cartesian result of a few set of graphs. This paper presents a study on metric dimension of special graphs in the Graph Theory provokes pertinent to their approaches and methods. We broaden this survey and investigate the field of metric dimension of special graphs in Graph Theory further, recitation different outcomes got by different creators.

Keywords: Graph Theory, Minimum metric dimension, resolving set, land mark, Graphs, Application.

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ICRISET/T3029

SECRET CONVERSATIONVIA FUZZY MODULO AND CIPHERS

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ABSTRACT:

Facebook is a social networking site that allow users to contact with friends and strangers without sharing their phone numbers. It allows users to exchange free messages as well as videos, pictures, voice messages, audio and video calls, store updates, etc. The primary aim of this paper is to use secret chat on Facebook using fuzzy modulo and ciphers.

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ICRISET/T3030

AN ITERATIVE SCHEME FOR THE OSCILLATION CRITERIA OF NEUTRAL TYPE THIRD ORDER DIFFERENCE EQUATIONS WITH SEVERAL DEVIATING ARGUMENTS

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ABSTRACT:

In this paper, the authors present an iterative scheme for the Oscillatory Criteria for solutions of Neutral type third order differenceEquations $\Delta(a_n(\Delta(b_n\Delta_x n))\alpha)+p_n x\alpha_n - k=0$, $n\geq n0>0$with several deviating arguments by employing an iterative process. Established results extend unify and improve some of the results reported in the literature. The importance of the results is illustrated by using one example.

2010 Mathematics Subject Classification: 39A10

Keywords and Phrases: Oscillatory behaviour, difference equation, third –order, deviating arguments.

ICRISET/T3031

EXISTENCE OF SOLUTIONS FOR THE DUFFING EQUATION BY USING VARIOUS TECHNIQUES

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ABSTRACT:

Duffing equation plays a major role in Science and Engineering. This equation is a second order non-linear differential equation, and it is described by the combination of velocity and acceleration. This paper seeks to present a Solution of Duffing Equation by using the various techniques, namely Modified Simple Equation and Jacobi elliptic function Method. Also analysing the solution in damped and undamped conditions.

Keywords: Nonlinear differential equation, exact solutions, Duffing equation, Jacobi elliptic functions, cubic Duffing oscillator equation.

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ICRISET/T3032

STATISTICAL HYPOTHESIS TEST UNDER FUZZY OBSERVATIONS BY EULER CENTROID METHOD

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ABSTRACT:

A statistical hypothesis test is an indispensable and powerful tool for making better decisions in various fields. When it comes to tasks involving large populations, it is not always possible to make accurate sample observations.That is, real-time observations may be accurate or imprecise by their nature. If the observed samples are imprecise, the corresponding samples can be manipulated with fuzzy numbers; more generally trapezoidal fuzzynumbers.Moreover,using a new ranking method derived from the lifespan of Euler centroid these fuzzy samples are fuzzy and a relevant statistical procedure was followed to test the hypothesis and obtain better results.

Keywords: Test of hypothesis, trapezoidal fuzzy numbers, Euler's line, ranking method, expected interval, value of fuzzy numbers.

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ICRISET/T3033

A STUDY ON SOME CONTRIBUTIONS IN GRAPH THEORY

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ABSTRACT :

Graph theory is the one of the most important concept which takes the great roll in the electronic devices IC's. These components are known as chips and include complicated, layered microcircuits that can be described by lines or arcs as sets of points. By utilising graph theory, mathematicians create integrated chips with maximum part density and minimum total interconnecting conductor length.

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ICRISET/T3034

CONTEXT-FREE EDGE REPLACEMENT GRAPH P SYSTEM

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ABSTRACT:

Graph grammars were introduced in 1969 by Pfaltz and Rozenberg [4] for finding solutions for picture recognition problems. Graph grammars serves as a suitable tool for generating and parsing pictures. Pictures are represented as graphs with labelled vertices and labelled edges connecting the vertices. Graph grammars are also extensively used in incremental compilers, concurrent systems, neural networks and many others[5].

The main aim of membrane computing is to define a computing model which is inspired by cell biology. P system is universal, since most of the classes of P system are Turing complete. There are various types of P systems namely cell like P system, tissue like P system, neural like P system, spiking neural P system and many others. In a P system the computations are done in parallel. P systems have applications in Biology, Bio-medicine, Optimization, Economics and Computer science [1] [3].

The complicated networks in the nature are the recursive patterns which overlap with each other. These patterns can be captured by edge replacement graph grammars[2]. In this paper, making use of edge replacement recursive graph grammar, we define context free edge replacement graph P system. The two variants of P system namely rewriting P system and P system with conditional communication are used with edge replacement recursive graph grammar. We exhibit the generation of some special kind of graphs such as shell graph, double shell graph, shell butterfly graph and banana trees graph using context free edge replacement graph P system, besides establishing some comparison results.

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ICRISET/T3035

ANALYSIS OF MX/MY/C QUEUE WITH WORKING VACATION AND VARIANT VACATION POLICY

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ABSTRACT:

This paper treats MX/MY/C queue with working vacation and variant vacation policy. Whenever a system becomes empty, the server takes a vacation. In the working vacation, a customer served at a lower speed, and if there are customers in the queue at the instant of service completion, the server is busy period. We derive the probability generating functions of the steady state probabilities and obtain the system size when the server is in different states. The probability generating function (PGF) of queue size and the some important performance measures are derived. Finally, some numerical results are presented.

Key words: Working vacation, Variant vacation, Queue size, system size, PGF.

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ICRISET/T3036

NONEXISTENCE OF KNESER'S TYPE SOLUTIONS OF THIRD ORDER NEUTRAL DELAY DIFFERENCE EQUATIONS

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ABSTRACT:

Some new sufficient conditions are obtained for the nonexistence of Kneser's type solutions for the third order neutral type difference equation .

where $v_n = u_n + p_n u_{\tau(n)}$, α is a ratio of odd positive integers, and $\sigma(n) < n$. Combining newly obtained results with existing ones, we attain oscillation of all solutions of the studied equations.An example is presented to show the significance of the main results obtained in this paper.

Keywords and Phrases: Neutral difference equation, third order, Kneser type solution, oscillation.

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ICRISET/T3037

A FUZZY SUSCEPTIBLE-INFECTED-REMOVED MODEL FOR THE TRANSMISSION OF COVID-19

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ABSTRACT:

Corona is a threatening infectious disease that has affected a large number of individuals everywhere on the world. The main aim of the paper is to construct an SIR model by considering transmission rate, additional death rate and recovery rate as fuzzy numbers. Reproduction number is obtained using next generation matrix method which is followed by stability analysis. The fuzzy basic reproduction number is calculated using Sugeno integral for different virus loads. We concluded by analysing the control strategies for 3 cases of virus loads such as low, medium and high.

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ICRISET/T4001

EFFICIENCY AND LIFE IMPROVEMENT OF CYLINDER AND PISTON BY THERMAL BARRIER

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Department of Mechanical Engineering

ABSTRACT

Various recent developments has been progressing in the field of Automotive domain to have improved efficiency, better fatigue life, reduced weight using advanced materials and reduced emissions.

Thermal Barrier Coating, hereafter called as TBC is a recent development made in this effort by using coated materials which has very less thermal conductivity properties compared to conventional materials used in automotive engines like Grey Cast Iron, Aluminum etc.

These material coating is applied over the piston and cylinder surface as a thin layer to reduce metal to metal contact between the piston and the cylinder. Due to its lower thermal conductance properties, it reduces the temperature delta between the cylinder head and the piston there by reducing the thermal induced stresses and have a better efficiency and improved life

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ICRISET/T4002

ANALYSIS OF THE WELD BEAD HARDNESS OF Al-6061 BY TIG WELDING OPERATIONS

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ABSTRACT

Quality and productivity are two important significant role in today's manufacturing market. From customers' viewpoint quality is very important because the extent of quality of the procured item (or product) influences the degree of satisfaction of the consumers during usage of the procured goods.Therefore, every manufacturing or production unit should concern about the quality of the product. Aluminium alloys one of the most used metal alloys has wider application in that includes welded assemblies, marine frames, aircraft and truck frames, chemical equipment, electronics parts, fasteners, heat exchangers, and heat sinks. In the present work welding operation is done AL-6061 alloy by Tungsten arc welding (TIG welding) and the inspection of mechanical property such as hardness test has been carried out to find the hardness on the weld bead. The outcome is the experimental investigation on hardness on weld bead of Al-6061 by Tig welding operation.

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ICRISET/T4003

DESIGN AND IMPLEMENTATION OF AUTOMATIC HEADLIGHT DIMMER FOR VEHICLES

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ABSTRACT

Headlights of vehicles pose a great danger during night driving. The drivers of most vehicles use high, bright beam while driving at night. This causes a discomfort to the person travelling from the opposite direction and therefore experiences a sudden glare for a short period of time. This is caused due to the high intense headlight beam from the other vehicle coming towards the one from the opposite direction. In this project, an automatic headlight dimmer which uses a Light Dependent Resistor (LDR) sensor has been designed to dim the headlight of on-coming vehicles to avoid human eye effects. This automatically switched the high beam into low beam, therefore reducing the glare effect by sensing the light intensity value of approaching vehicle and also eliminated the requirement of manual switching by the driver which was not done at all times. The system device was able to automatically switch the headlight to low beam when it sensed a vehicle approaching from the opposite side using LDR sensor. It was observed that the maximum spread angle of the headlight was 135º. At the time the spread light from other sources reached the sensor, its intensity would be very much reduced below the triggering threshold level. The sensitivity of a photo detector determined the relationship between the light falling on the device and the resulting output signal. A server module could be included to this system for receiving and storing headlight trays parameters information in a database application.

Keywords: Headlights Dimmer, Light Dependent Resistor (LDR), Troxler Effects, Human Eye

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ICRISET/T4004

STUDY OF DEFORMATION EFFECT ON SANDWICH PIPES FOR ULTRA-DEEP WATER APPLICATION

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ABSTRACT

The sandwich pipe is a new pipeline concept and consists of two concentric steel pipes separated by and affixed to a polymeric annulus, which provides sufficient structural strength. Design of sandwich pipe is a very complex problem in the current scenario. The usage of sandwich pipes is increased for water depth beyond 1500 m. Modelling of pipes is done using CATIA V5 software. Static analysis is done in ANSYS to determine the deformation by applying pressures on both the inner and outer pipe. In this paper, the static analysis is done in ANSYS to determine the deformation by applying pressures on both the inner and outer pipe. Deformation capacity is one of the essential criteria for a deepwater pipeline. The objective of this paper is to determine the optimum combination of input parameters using Taguchi analysis.

Keywords— Sandwich pipe, Taguchi analysis, Signal noise ratio.

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ICRISET/T4005

BUMPING AND VIBRATIONAL ANALYSIS OF AIRLESS TYRE

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Department of Mechanical Engineering

ABSTRACT

The conventional pneumatic tyres are made up of an inner core that holds pressurized air which is then covered with the layer of rubber that comes in contact with the road, called Tread. The Problem with the tread is it will get torn and may get wear during usage. Without the tread it is not easy for a vehicle to avoid slip and skid. Once the conventional tyres are torn out the material of the tyre becomes wastage and over years so much of wastage may produce due to the automobile tyres. A survey says 2M tons of solid waste is produced due to the tyres. Recycling is hard for the pneumatic tyres which we use today.

Non-pneumatic tyres are introduced in which the core has a rim and the outer cylindrical section is completely made up of the Solid Rubber or the plastic. No air inside the tyres makes it to stick to the surface and gives more grip for the vehicle. The main elements is the rubber or the material and the profile of the rubber arranged in the tyres .The profile adds stiffness which needs to be designed accordingly to maintain the weight distribution over the vehicle.

In this study, a tyre model is taken and it will be designed with three different profiles and the design is validated under suitable

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ICRISET/T4006

CHARACTERIZATION OF HYBRID POLYMER MATRIX COMPOSITE IN AUTOMOBILE APPLICATION

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ABSTRACT

The minimal wastage, short span and high accuracy are the inevitable need for the products to fulfill the current technology development. World is currently focusing on alternate material sources that are environment friendly and biodegradable in nature. Due to the increasing environmental concerns, composite made from natural fibers and polymeric resin, is one of the recent developments in the industry and constitutes the present scope of experimental work. This work presents elaborate explanation on advantages, mechanical and physical behavior of jute fiber – epoxy composites, one of the renewable alternatives. The composite is experimentally investigated in case of low velocity impact loading. The experimental observations in term of damage mechanism, maximum force and maximum energy absorption are studied to understand the effect of fiber orientation. A comparative study with typical synthetic fibers like treated jute is also conducted. The characterization tests on jute-epoxy show that the tensile behavior is nonlinear as found for treated jute glass-epoxy or untreated jute glass-epoxy plate. This helps to develop a composite for automobile application

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DESIGN AND OPTIMIZATION OF WAREHOUSE LAYOUT FOR EFFECTIVE MATERIAL MOVEMENT

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ABSTRACT

Traditionally, the objective of a facility layout problem has been to minimize the material handling cost of the manufacturing system. While it is important to reduce the amount of material handling, the traditional methods do not address the actual time at which the material is transported. In today's short cycle time production environments, the timing of material movement may have a bigger impact on the productivity of the system than its cost. The continuous global crisis is an ideal time for companies to raise their efficiency, flexibility and transparency of their operations and competitiveness in the global market. In this project work the new plant must shift to new location to satisfy the customer and management requirements with respect to production, cost and time. The existing plant layout is studied with respect to the usage of the machines, no of machines and sectors inside the plant and space occupied by each sector. The new layout has been derived from the method named Automated Layout Design Program (ALDEP), four iterations have been derived and the best of the four has been suggested for the new plant layout. And the factors such as transportation cost, near to market, nearer to dealer, availability of skilled labour and availability of raw material are considered and locations such as Oragadum, Maraimalai Nagar, Poonthamalli, Thiruvatriyour, and Avadi are compared with the help of Analytical Hierarchy Process (AHP) to identify the best suitable place erecting the new plant.

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ICRISET/T4008

INFLUENCE OF PROCESS PARAMETERS ON SURFACE CHARACTERIZATION OF COBALT CHROMIUM

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ABSTRACT

The need of technology development has a more impact now a day for the development of a product with minimal wastages, short span and with high dimensional accuracy. Additive manufacturing process has been letting its foot on all domains for the product development. In this project work a biocompatible material Co-Cr alloy has been developed by Direct Metal Laser Sintering (DMLS) by varying the process parameters such as laser power, scan speed, hatch spacing and investigating the optimal combination of parameters that influence the surface roughness in the sample. Three ranges of input parameters such as laser power (170, 270, 370 watts), scan speed (250, 350, 450 mm/s) and hatch spacing (0.15, 0.25, 0.35 mm) has been identified from the literature and L9 orthogonal array has been selected for developing the samples in DMLS. Experiments such as investigation of surface roughness, Fourier filter, power spectrum density and topography are obtained from the developed sample. The results from the experiments are optimized using a taguchi technique and regression analysis are carried out with the aid of Minitab tool and the optimized range of process parameter has been identified for the better mechanical properties of the samples. This investigation helps to develop the human anatomy structures with good mechanical properties and geometrical features

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ICRISET/T4009

EXPERIMENTAL INVESTIGATION OF DIESEL – BIODIESEL – ACETONE TERNARY UEK MIXTURE ON THE IGNITION DELAY OF DI-CI ENGINE

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ABSTRACT

Greenhouse gas emission and exhaustion of oil reserves are the primary driving force in researchers towards alternate fuels and their optimization. In this research acetone is employed as an oxygenated additive along with transesterified waste cooking oil biodiesel-diesel blend. Acetone is mixed with B20 in volume proportion of 5%, 10% and 15% as recent studies on biodiesel suggest that 20% blending of biodiesel along with diesel has better performance and reduced emissions. The blends were tested in four stroke, single cylinder, water cooled, DI diesel engine, showed that there is an increase in ignition delay when the quantity of acetone in the blend increases. This is due to lower cetane number of acetone. Ignition Delay of A5, A10 and A15 were 22.3%, 22.3% and 26.5% higher than diesel at full load condition.

Keywords: waste cooking oil, Trans-esterification, Magnetic Stirrer, Lower Cetane number.

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ELECRICAL DISCHARGE COATING OF ALUMINIUM ALLOY USING WS2/Cu GREEN COMPACT ELECTRODE

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ABSTRACT

Aluminium (Al) alloys have been one of the most employed materials in defence applications like torpedoes, manufacture of Missile bodies and parts of automobile such as engine cylinders and pistons, due to their lightweight, high mechanical resistance, good corrosion properties and low cost. Poor wear resistance of the alloys is major constraint for their use particularly when aluminum is in contact with other parts. Keeping in view, improving the antifriction properties of Al-7075 alloy, electrical discharge coating (EDC) was attempted to modify the surface of Al alloy with solid lubricant tungsten disulfide (WS2). Tungsten disulfide (WS2) and copper (Cu) powder powders were mixed in the ratio of 50:50 and compacted in the hydraulic press to obtain green compact electrodes. Further it has been used as electrode for EDC technique. In the present work, Response surface methodology (RSM) is used to perform the experiment with different parameter combinations such as discharge current, pulse-on time and pulse-off time on the alloyed characteristics of deposition rate (DR) and electrode wear rate (EWR) were studied. It was found that current has significant parameter on DR and pulse on time was found to be predominant in obtaining higher EWR. Micro structural changes during EDC and composition of materials present on the surface were analyzed through SEM and EDS.

Keywords EDC; Powder metallurgy; DR, EWR.

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PNEUMATIC POWERED VEHICLE

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ABSTRACT

Air Powered Engine is an alternative technology which uses compressed air to run the engine and thus eliminates the use of fossil fuels. Exhaust temperature of it will be slightly less than atmospheric temperature (i.e. 20-25°C) and thus helps in controlling global warming and reducing temperature rise caused due to other means.

In pneumatic vehicle, the energy of compressed air filled inside the tank mounted on the vehicle is utilized. After a drive the compressed air inside tank will be used up and need to be refill. In this project we have designed & manufactured a pneumatic vehicle that uses compressed air initially and after that the auxiliary cylinders recharges the air tank connected to the rear wheel of vehicle be refilled.

The laws of physics dictate thatuncontained gases will fill any given space. The easiest way to see this in action is to inflate a balloon. The elastic skin of the balloon holds the air tightly inside, but the moment you use a pin to create a hole in the balloon's surface, the air expands outward with so much energy that the balloon explodes. Compressing a gas into a small space is a way to store energy. When the gas expands again, that energy is released to do work. That's the basic principle behind what makes a pneumatic engine run.

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POROSITY ANALYSIS OF COBALT CHROMIUM DEVELOPED BY ADDITIVE MANUFACTURING

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ABSTRACT

The need of technology development has a more impact now a day for the development of a product with minimal wastages, short span and with high dimensional accuracy. Additive manufacturing process has been letting its foot on all domains for the product development. In this project work a biocompatible material Co-Cr alloy has been developed by Direct Metal Laser Sintering (DMLS) by varying the process parameters such as laser power, scan speed, hatch spacing and investigating the optimal combination of parameters that influence the mechanical properties in the sample. Three ranges of input parameters such as laser power (170, 270, 370 watts), scan speed (250, 350, 450 mm/s) and hatch spacing (0.15, 0.25, 0.35 mm) has been identified from the literature and L9 orthogonal array has been selected for developing the samples in DMLS. Experiments such as investigation of scan traces of laser in two dimensions (width & length) and porosity are obtained from the developed sample. The results from the experiments are optimized using a Taguchi technique and regression analysis are carried out with the aid of Minitab tool and the optimized range of process parameter has been identified for the better mechanical properties of the samples. An experimental investigation is carried out to find the percentage of porosity of Co-Cr through Direct metal Laser Sintering process. The significant parameters and their levels are identified for achieving less pore volume with the help of Taguchi technique. By properly selecting the laser power, scan speed and hatch space one can achieve better results. This investigation helps to develop the human anatomy structures with good mechanical properties and geometrical features

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REGENERATION OF ENERGY IN E-VEHICLE

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ABSTRACT

Nowadays due to a shortage of petroleum resources, we need petroleum products. Based on data from OPEC at the beginning of 2013 the highest proven oil reserves including non-conventional oil deposits are in Venezuela (20% of global reserves), Saudi Arabia (18% of global reserves), Canada (13% of global reserves), and Iran (9%). we are running out of low resources. This era is an urgent need to save resources for our future generation. Due to the scarcity of resources, there is a lightning increase in the rate of petroleum products though the E-vehicle competes its role in day-to-day life. We can't travel a long distance using it. And the usage of petrol is also increasing nowadays. And the main issue regarding E- Vehicle recharging stations is inconsequential. So, our main objective is to prepare an E- vehicle that regenerates its energy through Dynamo which is a device that is used to produce energy by simply moving the wheel. It is a device that converts mechanical energy into electrical energy. It builds low maintenance because of reduced operation. It saves the source and environment. Though this vehicle is environmentally protective and has compact space. Servicing is relatively easy, less frequent and overall cheaper than petrol. Maintenance cost is much lower than a normal electric vehicle which leads you to save time, resources and money. This vehicle travels a long distance due to the regeneration of energy.

Keywords: Petroleum resources, E-Vehicle, environmentally protective, Cheaper than petrol, regeneration of energy

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WORKING MODEL OF CONVEYOR BELT WITH PICK AND PLACE ROBOTIC ARM

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ABSTRACT

The goal of our research is to study, analyze and fabricate a Robotic Arm with Conveyer Belt which performs the operation of picking and placing the object from one place to another place. As we know, the production is increasing day by day as the time is passing and it has become a priority of every company to speed up their production rate along with profit. When production occurs on a large scale then problem arrives in the material handling system because of so many factors like counting of products, removing the defective piece etc. due to these reasons manufacturing units are found to be more interested towards automation via robots for their work. The pick and place robot is one of the automation technology in manufacturing zone which is planned and designed in a way that it removes the faults and intervention by human to get more accurate work, it accelerates the operation of picking up and placing the stuff to their required locations and automating this procedure helps to escalate the production rates and profit. It has sensors which sort the products according to its color and one of the sensor counts the product on the conveyer belt. Thes type of robots are installed in various fields where some repetitive process occurs such as in bottle filling industry, packing industry, brick manufacturing plant, different construction sites etc

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DESIGN AND ANALYSIS OF VEHICLE METAL DETECTION SYSTEM USING RADIO FREQUENCY

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ABSTRACT

The project is intended to cultivate a robotic vehicle that can sense metals ahead of it on its path similar to detecting land mines. The robot is controlled by a remote using RF technology. It consists of a metal detector circuit interfaced to the control unit that alarms the user behind it about a doubted land mine ahead. An 8051 series of microcontroller is used for the preferred operation. For controlling the movement of robot either to forward, backward & right or left commands are sent to the receiver by using push buttons of the transmitter. At the receiving end two motors are interfaced to the microcontroller where they are used for the movement of the vehicle. The RF transmitter acts as a RF remote control that has the advantage of sufficient range (up to 200 meters) with proper antenna, while the receiver decodes before serving it to another microcontroller to drive DC motors via motor driver IC for necessary work. A metal detector circuit is attached on the robot body and its operation is carried out automatically on sensing any metal underneath. The instant the robot senses this metal it produces an alarm sound through buzzer. This is to aware the operator of a probable metal (eg: land mine) ahead on its path. Further the project can be enhanced by mounting a wireless camera on the robot so that the operator can govern the movement of the robot remotely by observing it on a screen.

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