You Choose, We Do It

St. JOSEPH'S COLLEGE OF ENGINEERING

(An Autonomous Institution)

St. Joseph's Group of Institutions

OMR, Chennai - 119

FEBRUARY 2024

DEPARTMENT OF MECHANICAL ENGINEERING

Sl No	Name of the Activity	Remarks
1		➢ Third Year Students visited **SAI OLD AGE HOME, Kundrathur,Chennai** on Feb 03rd 2023,as a part of the NGO Activity and interacted with the old people at the home.

2		➢ Third Year Students visited **Little Flocks Children Home,Singaperumal** on Feb 03rd 2023,as a part of the NGO Activity and interacted with the old people at the home.
3		➢ Third Year Students visited **HOPE Residential Home & Vocational Training centre, Pattabiram** on Feb 03rd 2023,as a part of the NGO Activity and interacted with the old people at the home.

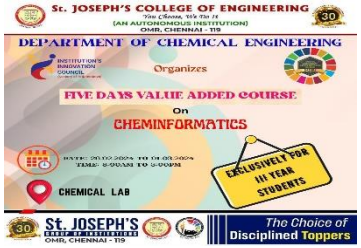
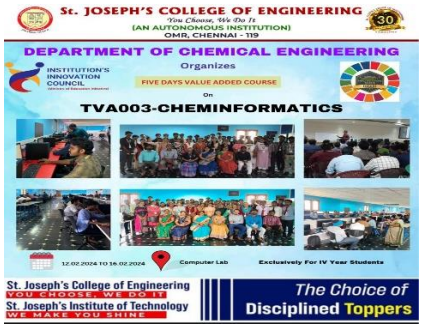
4		➢ Third year mech C Students visited **"IGP Engineers Pvt Ltd"**,Keelur,Thiruporur on Feb 08th 2024.
5		➢ Third year mech A & B Students visited **"RISHABA INDUSTRIES LLP",Kodur** on Feb 08th 2024.

DEPARTMENT OF ARTIFICAL INTELLIGENCE AND MACHINE LEARNING		
Sl. No.	**Photographs Captured During Event**	**Corresponding remarks in regarding the status of activity execution**
1	 **Dr. L. Sherly Puspha Annabel** received a design patent grant	**Patent Grant** Title of the invention : Portable AI Device For Intelligent Classroom Name Of the Inventors : 1.Dr.M.Anbarasan 2. Dr. N. Gobalakrishnan 3.Dr. L. Sherly Puspha Annabel 4.Dr.K.Regin Bose Patent Application Number: 402037-001 Date of filing of Application : 13/12/2023 Date of Issue: 09/02/2024

1.	 **Co-author:** Dr. C.J. Raman Published a paper in Scopus Indexed Conference Paper	**Staff Paper Publication** Raman, C. J., Janani, U., Dharani, P., & Balaji, V. (2024, January). Machine learning based university admit eligibility predictor. In AIP Conference Proceedings (Vol. 2802, No. 1). AIP Publishing. **Abstract.** There are a lot of students in the modern educational system who need to pursue further education after taking an undergraduate certification course. Advanced education in the sense that some groups having an undergraduate degree in Engineering must complete their Master's degree through either GATE or CAT or any other entrance examination conducted by the individual institutes either in national level or in the international level to get the admission. In educational institutions, the question of understudy confidentiality is crucial. In order to foresee the probability that a undergraduate would be conceded to a Master's program, we are working with AI models. This will enable students to plan ahead and determine if they will have the chance to be recognized. There are three significant Machine learning models particularly Linear regression, Decision tree regression and Random Forest regression. In this paper we will predict the admissions using Random Forest algorithm, a well- known supervising learning model.

DEPARTMENT OF CHEMICAL ENGINEERING		
S.No.	**Title of the Events and Photographs**	**Details of the Event**
3.	**INDUSTRIAL VISIT**	On **09.02.2024** – Department of Chemical Engineering has Organized a One day **Industrial Visit** to **Rajshree Sugars ,Gingee** for VI Semester III Year students
4.	**GUEST LECTURE**	**On 23.02.2024** Department of Chemical Engineering has Organised a **Guest Lecture** on **" Systematic Assessment of Probiotic Potentials Through A Computational Approch"** by **Dr.Meiyappan Lakshmanan**, Faculty of Chemical Engineering Department, IIT Madras. 
5.	**FDP/WORKSHOP/CONFERENCE**	**Dr.N.Venkatesh,** Professor, Department of Chemical Engineering has attended Five day Atal NPTEL on ***"Circular Product Development Strategies for Responsible Consumption, Production and End-Of-Life Disposal"*** at **Vellore Institute of Technoilogy** from **12.02.2024 – 17.02.2024.**

		 ATAL/2024/170504397 ALL INDIA COUNCIL FOR TECHNICAL EDUCATION Nelson Mandela Marg, Vasant Kunj, New Delhi – 110 070 AICTE Training and Learning (ATAL) Academy Certificate It is certified that Dr. Venkatesh N, Professor of St. joseph's College of Engineering has successfully participated & completed AICTE Training And Learning (ATAL) Academy Faculty Development Program on CIRCULAR PRODUCT DEVELOPMENT STRATEGIES FOR RESPONSIBLE CONSUMPTION, PRODUCTION AND END-OF-LIFE DISPOSAL at VELLORE INSTITUTE OF TECHNOLOGY from 12/02/2024 to 17/02/2024. Jayakrishna Coordinator, Professor VELLORE INSTITUTE OF TECHNOLOGY Dr Rimesh Unnikrishnan Advisor IT & Bureau Head Training and Learning Bureau, AICTE **Dr.S.Sujatha,** Assistant Professor, Department of Chemical Engineering has attended Five day NPTEL on ***"Modelling, AI/ML in Chemical Engineering and Bioengineering"*** at **Coimbatore Institute of Technoilogy** from **05.02.2024 – 09.02.2024.**  COIMBATORE INSTITUTE OF TECHNOLOGY Coimbatore- 641 014 (Government Aided Autonomous Institution Affiliated to Anna University) DEPARTMENT OF CHEMICAL ENGINEERING MODELLING, AI/ML IN CHEMICAL ENGINEERING AND BIOENGINEERING CERTIFICATE OF PARTICIPATION This certificate is presented to Dr./Mr./Ms. Sujatha Sadana of St.Josephs College of Engineering for active partic ipation in the 5-day Online Faculty Development Programme on "Modelling, AI/ ML in Chemical Engineering and Bioengineering" organised by the Department of Chemical Engineering, Coimbatore Institute of Technology, Coimbatore from 05-02-2024 to 09-02-2024. Ms.Nisha Subash Co-ordinator(s) Dr.T.Sivakumar Dr.M.Thirumarimurugan Head of the Department Dr.A.Rajeswari Principal
6.	**VALUE ADDED COURSES**	On **26.02.2024 – 01.03.2024** Department of Chemical Engineering has organised a Five day Value Added Course on for III Year VI Semester Students.

		 On **12.02.2024 – 16.02.2024** Department of Chemical Engineering has organised a Five day Value Added Course on ***"Chemnformatics"*** for IV Year VIII Semester Students. 

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Sl. No.	Event with Photo	Description

1	Guest Lecture – Beyond the Horizon Exploring frontiers in AI	**Date** **:** 03.02.2024 **Venue** **: Bazil hall** **Nature of Event :** Guest Lecture Participants : III year Students Organized by : Department of CSE Objective : • To develop systems that can analyze large datasets, identify patterns, and make data-driven decisions. • This ability to solve problems and make decisions efficiently is invaluable across various industries, from healthcare and finance to transportation and manufacturing . Outcome : • It include efficiency through task automation, data analysis for informed decisions, assistance in medical diagnosis, and the advancement of autonomous vehicles.

2	Industrial Visit- **Lenova , Puducherry**	
	 	**Date** : 05, 07,08-2-24 **Venue** : **Lenova , Puducherry** **Nature of Event :** Industrial Visit Participants : III A, B & C year Students Organized by : Department of CSE Objective : To Lead the industry with an ecosystem of devices, services, applications and content for people to seamlessly connect to people and web content. Outcome : To Increase networking opportunities while building good relationships with companies. For students, such trips open many doors for corporate training and internships, which in turn increase the student's employability.

3	Alumni Talk – Entrepreneur thought process Innovation and Disruption	**Date** : 9-2-24 **Venue** : Basil hall **Nature of Event** : Alumni meet **Participants** : Engineering III year Students **Organized by** : Department of CSE

		**Objective:** To balance both prediction and creation, so you can act even when you are faced with deep uncertainty. It also allows you to experiment and test quickly. **Outcome:** To serve as a platform for the institute to engage with their graduates and gain insights into their career progress and achievements

4	**Motivational Talk - Emonet**	

		**Date** : 14-2-24 **Venue** : Library AV hall **Nature of Event** : Motivational Talk **Participants** : Engineering II year Students **Organized by** : Department of CSE **Objective:** • To provide a plausible account of how visual information is linked to distinct types of emotional responses. **Outcome:** • To conveys a highly emotional message and its purpose is to invite action. • It is characteristic of very charismatic leaders and it's useful in dealing with difficult times or a great deal of uncertainty.

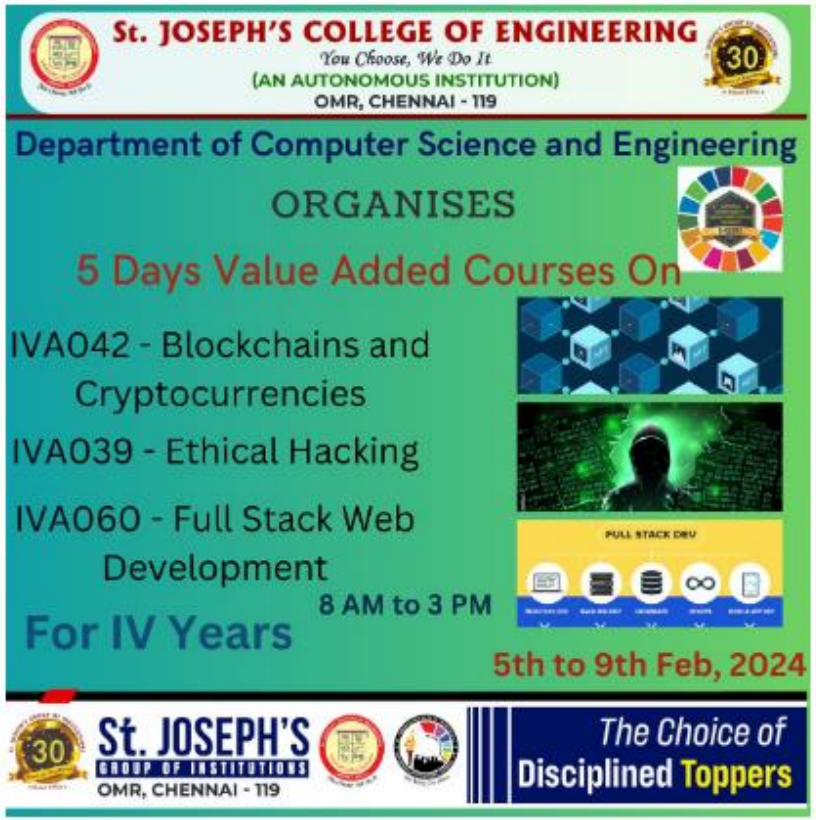
5	Guest Talk – Resume building	
		Date : 19-2-24 **Venue** : CSE Class room **Nature of Event** : Guest Talk **Participants** : Engineering III year Students **Organized by** : Department of CSE **Objective:** • To quickly convey to potential employers why you are a suitable candidate for the job

		and how your skills and experiences align with their needs. **Outcome:** • Participants gained the skills and knowledge needed to craft professional and attention-grabbing resumes. • Students learned effective job search strategies that will help them secure interviews and job opportunities in their chosen fields.

6		
	Workshop– Neuro Pulse -1	**Date** : 21 &22 -2-24 **Venue** : Basil Hall **Nature of Event** : Hands on Workshop **Participants** : Engineering III year Students **Organized by** : Department of CSE **Objective:** • To support children in developing their computational thinking skills; it helps

		children to engage in open ended problems which require the use of decomposition, modelling and algorithms. **Outcome:** • Designed for identifying exposed motor nerves while at the same time reducing the possibility of accidental nerve damage or severance. • These self powered units are portable and battery operated. Ideal for head, neck, hand, plastic, and facial applications.

7	**VALUE ADDED COURSE – IV years**	
		Date : 5th to 9th Feb 2024 **Venue** : CSE Lab **Nature of Event** : VAC



Participants : Engineering IV year Students
Organized by : Department of CSE

Objective:

- To provide students an understanding of the expectations of industry.
- To improve employability skills of students.
- To bridge the skill gaps and make students industry ready.

Outcome:

- To increase your chances of getting a job and a lucrative career. Along with improving your professional skills and knowledge, your confidence gets boosted and it reflects in your personality.
- The period of your life spent in college should be utilized for securing a promised career.

8	**VALUE ADDED COURSE – I11 years**	
		Date : 26th Feb to 1st March 2024 **Venue** : CSE Lab **Nature of Event** : VAC **Participants** : Engineering III year Students **Organized by** : Department of CSE **Objective:** • To provide students an understanding of the expectations of industry.

- To improve employability skills of students.
- To bridge the skill gaps and make students industry ready.

Outcome:

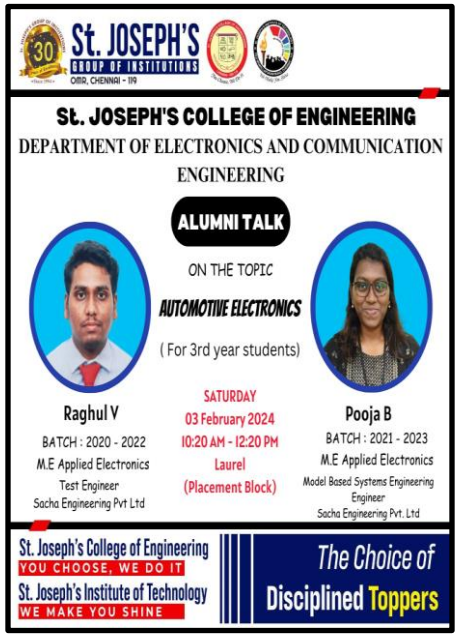
- To increase your chances of getting a job and a lucrative career. Along with improving your professional skills and knowledge, your confidence gets boosted and it reflects in your personality.

The period of your life spent in college should be utilized for securing a promised career.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

1. Events conducted:

The following events have been conducted during February 2024 at College Level

1. ALUMNI TALK	Report
	TITLE : **AUTOMOTIVE ELECTRONICS** DATE : **3rd FEBRUARY 2024** The Alumni Talk was about "Automotive Electronics" briefing about the integration of electronic systems and components within vehicles to enhance functionality, safety, and efficiency. It encompasses a wide range of technologies, including engine management systems, navigation systems, entertainment systems, and advanced driver-assistance systems (ADAS). **Students Benefitted: 191** 

2. OPTICA Event

Report

The **OPTICA Student Chapter** of St. Joseph's College of Engineering along with the Department of Electronics and Communication Engineering organized an event **(PROJECT EXPO'24)** for the 2nd year ECE students on **February 06, 2024**.The day commenced with a warm welcome from the Event Manager, setting an encouraging tone for the event. Over 11 teams participated in the event, each comprising of 2 members. The event served as a platform for the participants to showcase their innovative projects.

A special thanks to our **new Student Chapter Advisor**, **Dr. Niruban R**, for his invaluable guidance and support throughout the event's planning and execution. His mentorship played a significant role in the success of "Project Expo'24."

Event Shots:

3. IIC Event	Report

Department of ECE in association with Institution's Innovation Council under National Intellectual Property Awareness Mission has organized a seminar on 'Awareness on IPR and Patent Protection in India' on 8th February 2024, 10.00AM-12.20PM at AV Hall, Central Library. The seminar presentation includes the IPR insights, emphasizes the need for patent filing and filing procedures. The feedback from the students was so good stating that the seminar contains useful information for young mind innovators.

Number of Faculty and Students Benefitted: 185

4. VALUE ADDED COURSE	**Report**

YEAR: IV YEAR

BATCH: 2020-2024

DATE and DURATION: 12.02.2024 to 16.02.2024(5 days)

1.IVA018- Advanced Python and Introduction to Machine Learning

2. IVA055 -Communication and Image Processing Using MATLAB

3. IVA067 – IoT using Arduino

4. IVA002 – PCB Design, Embedded System interfacing with Arduino and Robotics

Number of Students Benefitted:

IVA018-50
IVA055-46
IVA067-46
IVA002-47

YEAR: III YEAR

BATCH: 2021-2025

DATE and DURATION: 19.02.2024 to 23.02.2024(5 days)

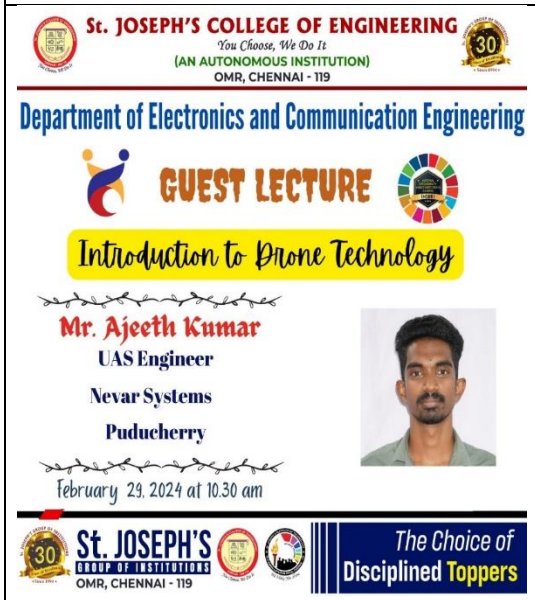
1. Artificial Intelligence and Deep Learning – 43 students

2. Image Processing and Machine Learning using Computer Vision – 52 students

3. Embedded systems and IOT using Node MCU - 55 students

4. PCB Design & Enclosure Design for High frequency Electronic Product Development – 42 students

Total Number of Students Benefitted: 191

5. **Guest Lecture**	**Report**
	**Department of ECE, has organized a Guest Lecture on the topic "Introduction to Drone Technology" on 29th of February 2024 at 10.30AM for our III years.** **Number of Students benefitted:191**

6. Faculty as Resource Person Outside the Institution:
The following staff member went as a resource person to the other insitution

S. No.	Name of the Staff	Course	Other Insitution Details	Date	Duration
1.	Mr. M. Lingeshwaran served as consultant to DADB-German Academy of Digital Education	APSSDC sponsored '5G Communication Technology'	Andhra Loyola Institute of Engineering and Technology,ITI Road, Vijayawada. Andhra Pradesh	30.01.2024 to 31.01.2024	2 days
2.	Mr. M. Lingeshwaran served as consultant to DADB-German Academy of Digital Education	APSSDC sponsored '5G Communication Technology'	Sri Venkateswara College of Engineering, RVS Nagar, Tirupati Road, Andhra Pradesh	23.02.24 to 24.02.24	2 days
3.	Mr. M. Lingeshwaran served as consultant to DADB-	APSSDC sponsored '5G Communication Technology'	Mother Therasa Institute of Engineering and	04.03.2024 to 05.03.2024	2 days

	German Academy of Digital Education		Technology,Melumoi Village, Chittoor.		

7. FDP/Workshop:

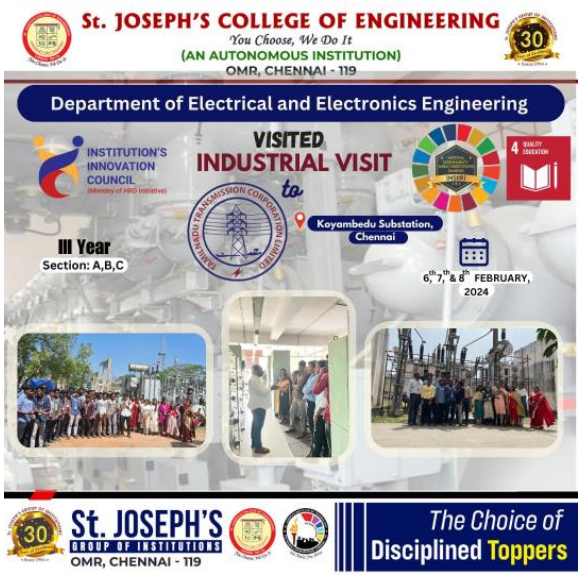
The following staff members have participated in various FDP/Workshop conducted by other institutions during the month of February at National/International level.

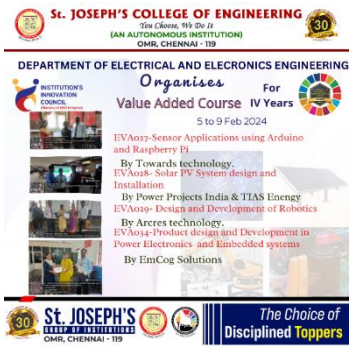
S. No.	Name of the Staff	FDP/ Workshop Program Title	Host Institution	Date	Duration
4.	Mr. M. Lingeshwaran	Exploring the Path to 6G: Unleashing the Potential Beyond 5G	THE NATIONAL INSTITUTE OF ENGINEERING	05/02/2024 to 10/02/2024	6 days
5.	Dr.S.Vinayagapriya	Integrating Artificial Intelligence into Healthcare : Empowering Professionals for the Future	SRM Institute of Science and Technology	19.02.24 to 24.02.24	6 days

8. Publications:

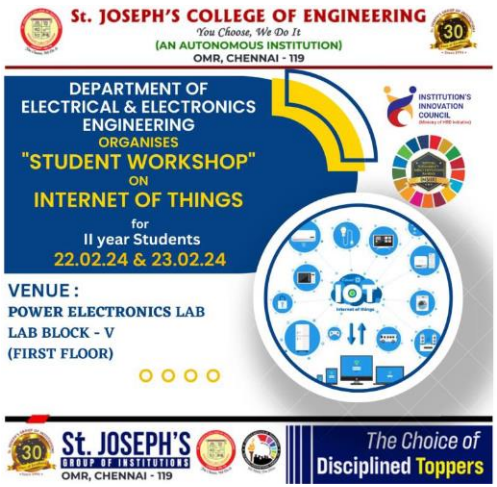
The following staff members have published the research papers in Journal/Conferences organized during the month of February at International/National Level.

S. No.	Name of the Author	Paper Title	Name of the Conference/Journal	Publication Details	Date of Indexing
1.	Umamaheswari, R., Lakshmi, D., Pandi, V.S., ...Sumithra, S., Ragini, P.Y.	An Advanced Deep Learning Approach for Primary Osteoporosis Prediction Using Radiographs with Clinical Covariates	*7th International Conference on Electronics, Communication and Aerospace Technology, ICECA 2023 - Proceedings*,	2023, pp. 788–793	2023

Sl. No.	Photographs Captured During Events	Corresponding remarks (Minimum 300 words)
1	**Industrial visit- 3rd year**  ***PIC: EVENT PHOTO***	Our department organized a visit to 230 kV Koyambedu substation on 06/02/2024, 07/02/2024, and 08/02/2024 for III year students. Gained knowledge on the operation of a substation
2	**Guest lecture**	Our department organized a guest lecture for third year students on the topic "**Machine Learning Based Battery Management System for EV Applications**" by **Dr. K. Udhyakumar, Professor, Department of EEE, Anna University, Chennai** at Library AV Hall on 9th February 2024. The guest lecture aims to provide information about the importance of AI and ML in the field of Electric Vehicle and application of these technologies for BMS of EV. He discussed about various ML algorithms for BMS. The lecture was informative and inspiring, and students found it to be a valuable learning experience.

	 ***PIC: EVENT POSTER***	
3	**Value added course- 4th year**  ***PIC: EVENT POSTER***	Our department organised value added course for 4th year students as part of regulation to gain recent trends with hands on experience on 4 courses as listed **EVA027- Sensor applications using Arduino and Raspberry Pi** **EVA028- Solar PV system design and installation** **EVA029- Design and development of Robotics** **EVA034- Product design and development in power electronics and embedded systems.** The courses helped the students to hands on experience on the trends.

4	**Value aded course- 3rd year**  *PIC: EVENT POSTER*	Our department organised value added course for 3rd year students as part of regulation to gain recent trends with hands on experience on 6 courses as listed **EVA101- Modelling and Simulation of Solar PV system** **EVA102- FPGA and its application to power convertors EVA103- Industrial Power System Analysis using ETAP EVA104- Design and Development of Real-time EV battery testing system.** **EVA105- Electronic circuits design for power electronics** **EVA106- Proteus design suite simulation software** The courses helped the students to hands on experience on the trends.
5	**Student workshop- 2nd year**  *PIC: EVENT POSTER*	Our department organized workshop for second year students on the topic "**Electric Vehicles**" on **22/2/24 & 23/2/24**. Our faculty **Dr. V. Krishnakumar & Dr.P.Velmurugan** gave an introduction about electric vehicle, different types of electric vehicle and converters about electric vehicle followed by demo on electric vehicle. The session was very helpful for the students
6	**Student workshop- 2nd year**	Our department organized workshop for second year students on the topic "**Internet of Things**" on **22/2/24 & 23/2/24.**

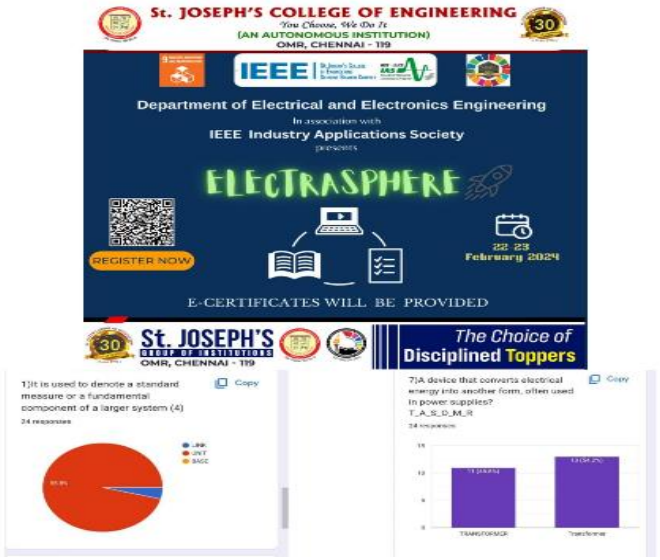
		Our faculty **Mr.H.Umesh Prabhu** and **Mr.R.Siddhardhan** gave an introduction about Internet of things. They gave hands on session for the students in IOT. The students enthusiastically participated in the workshop.
7	**Student workshop- 2nd year**  ***PIC: EVENT POSTER***	Our department organized workshop for second year students on the topic "**Internet of Things**" on **22/2/24 & 23/2/24**. Our faculty **Dr.M.Venmathi** and **Mr.A.Sadeesh Kumar** gave an introduction about Robotics. They gave hands on session for the students in robotics. The students enthusiastically participated in the workshop

8	**NGO visit- 3rd year**   	Our department organized NGO visit for the third year students on 3rd February 2024. III A Annai Baratha Madha Educational Trust Redhills III B DMI Home, Ottandhangal III C Love Care Centre, Arapakkam The visit was attended by the students accompanied by two faculty members. During the visit, the students and staff members arranged a special meal for the children, ensuring they enjoyed a delicious feast. Additionally, the students thoughtfully brought along snacks to share with the children at the orphanage.
9	**NGO visit- 2nd year**   ***PIC: EVENT PHOTO***	Our department organized NGO visit for the second year students on 17th February 2024. II A Love Care Centre, Arapakkam II B Faith Home Porur II C Leo Correya Home Utkottai. The visit was attended by the students accompanied by two faculty members. During the visit, the students and staff members arranged a special meal for the children, ensuring they enjoyed a delicious feast.

1	**IEEE activities**  	On February 12, 2024, the St. Joseph's College of Engineering witnessed a pivotal event as the IEEE Women in Engineering (WIE) Affinity Group gathered for a strategic planning session.This momentous meeting united essential figures from the executive committee, comprising the chairperson, vice chairperson, joint secretaries, and treasurer of the affinity group. The primary objective of this session was to meticulously outline a trajectory for the society's advancement and expansion throughout the entirety of 2024. During this strategic planning session, discussions delved into a comprehensive analysis of current challenges, potential opportunities, and targeted initiatives. The outcome of this gathering was not merely a plan; it symbolized a shared vision and dedication to empowering women in engineering, setting the stage for a year of substantial growth and accomplishment for the IEEE Women in Engineering Affinity Group at St. Joseph's College of Engineering.
1	**IEEE activities**  ***PIC: EVENT PHOTO***	IEEE Power Electronics Society Student Branch Chapter SJCE SB, PEL 35, (SBC60101C), organized an Office bearers meet with SB Counsellor Mr. R. Sreekanth and with IEEE SJCE PELS Past chair Ms. Pooja sri on February 14, 2024. The meeting discussion goes around completing tasks related to the magazine publication, focusing on content finalization, layout design, and printing arrangements. Plans for the February event were deliberated, covering venue selection, speaker invitations, agenda development, and promotional strategies. Responsibilities were assigned to ensure a successful and well-attended event. The meeting concluded with a commitment from all attendees to fulfill their assigned tasks diligently. Appreciation was expressed for the dedication and efforts of the office- bearers in advancing the chapter's objectives.

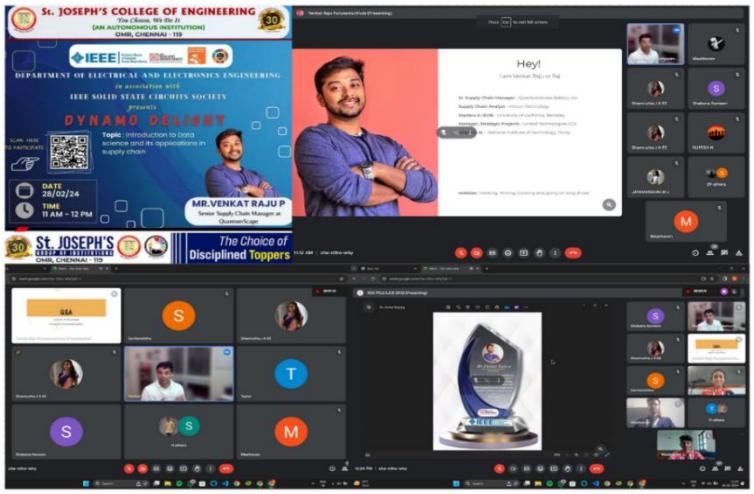
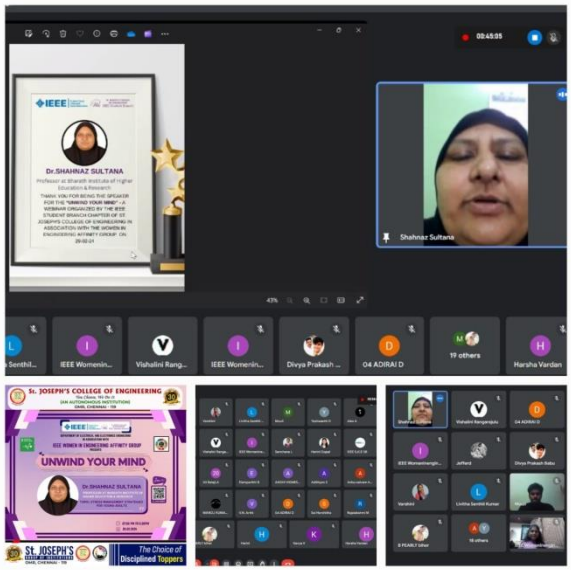
1	**IEEE activities**  ***PIC: EVENT PHOTO***	On February 18, 2024, a significant event unfolded at St. Joseph's College of Engineering as the IEEE Vehicular Technology Society convened for a pivotal strategic planning session. This gathering brought together key figures from the executive committee, including the chairperson, vice chairperson, joint secretaries, and treasurer of the Society. The primary aim of this session was to meticulously chart a course for the society's advancement and expansion throughout 2024. During the strategic planning session, discussions delved into a thorough analysis of current challenges, potential opportunities, and targeted initiatives. The outcome of this meeting went beyond a mere plan; it represented a shared vision and commitment to advancing Vehicular Technology. This event set the stage for a year of substantial growth and achievement for the IEEE Vehicular Technology Society, conducted via Google Meet.
1	**IEEE activities**  ***PIC: EVENT POSTER***	The IEEE Power And Energy Society of IEEE St. Joseph's College of Engineering Student Branch Chapter conducted 'TECHXSTREME', a technical online mode event on February 18th,2024. Through a series of engaging online activities including picture description, quizzes, riddles and jumbled words. The participants showcased their knowledge and problem-solving skills in the field of technology and energy. The event attracted 31 enthusiastic participants. A greater number of participants actively engaged in this event. The "TECHXSTREME" event fostered a sense of collaboration and learning among participants, with opportunities to test their ability to quickly decipher technical terms and concepts related to Electrical and Electronics. E-certificates were provided to all who participated in the event. Participate Count : 31 Members participated
1	**IEEE activities**	IEEE Power Electronics Society Student Branch Chapter SJCE SB (SBC60101C) in association with IEEE Power Electronics Society Madhya pradesh Section PEL 35(CH11004), IE015 and IEEE PELS Power Electronics Society Madras Section PEL 35(CH10352) organized a webinar session titled "VOLTVISTA"

	 ***PIC: EVENT POSTER and PHOTO***	on February 19, 2024. The topic for the session was "Design of AC-DC Hybrid Microgrid Using Renewable Energy," presented by Ms. Shravani Mathur. Students and staff from the final year, pre-final year, and second year of the Department of Electrical and Electronics Engineering, and other college students and staff, participated. The session aimed to explore emerging trends, innovations, and challenges in the field of Renewable Systems, providing a platform for knowledge exchange and networking among professionals, researchers, and enthusiasts. Approximately 40+ participants joined this event on Gmeet. The participants were rewarded with e-certificates as a token of appreciation. A memento was presented to the speaker at the conclusion of the session.
1	**IEEE activities**  ***PIC: EVENT POSTER and PHOTO***	The IEEE Power Electronics Society Student Branch Chapter SJCE SB, PEL 35, (SBC60101C) in collaboration with IEEE Power Electronics Society Madras Section PEL 35(CH10352), organized a webinar session on February 20, 2024, titled "ELECTRASPARK." The session focused on "Design Thinking" and was presented by Dr. Priyanka Veeramosu. Participants included students and staff from the final year, pre-final year, and second year of the Department of Electrical and Electronics Engineering, along with other college students and staff. The event introduced various design thinking methodologies, frameworks, and models applicable to specific projects or challenges. It emphasized the importance of defining problems before ideation. The session was conducted on Gmeet, with over 40+ participants. E-certificates were awarded to participants as a token of appreciation, and the speaker received a memento at the end of the session.

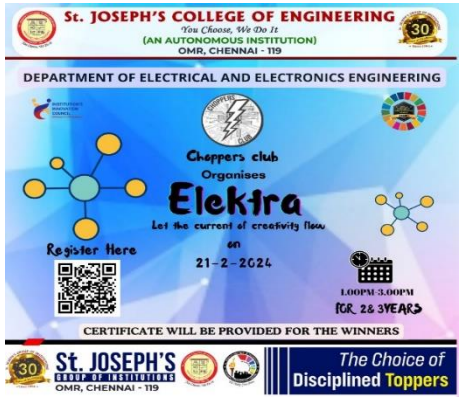
1	**IEEE activities**  *PIC: EVENT POSTER*	The IEEE Power And Energy Society of IEEE St. Joseph's College of Engineering Student Branch Chapter conducted 'TECHVOLT', a technical online mode event on February 22nd,2024. Through a series of engaging online activities including Quiz. The online quiz was conducted to assess the knowledge and understanding of the participants. The event proved to have an enthusiastic participant and promoting learning in the targeted subject areas. The event attracted 11 enthusiastic participants. A greater number of participants actively engaged in this event. The "TECHVOLT" event fostered a sense of collaboration and learning among participants, with opportunities to test their ability to quickly decipher technical terms and concepts related to Electrical and Electronics. E-certificates were provided to all who participated in the event. Participate Count:11 members participated
1	**IEEE activities**  *PIC: EVENt POSTER and PHOTO*	IEEE SJCE SB in association with IEEE Industry Application Society St. Joseph's College of Engineering student chapter conducted an questionnaire " ELECTRASPHERE" on 22-02-2024 to 23-02-2024.The students are invited to participate via Google form Students from the Final year, pre-final year, and Second year of the Department of Electrical and Electronics Engineering participated. The competition aimed to assess and enhance the technical knowledge of the participants in the field of Electrical and Electronics Engineering. The questions were carefully crafted to challenge the participants and evaluate their comprehension of both fundamental and advanced concepts. This Technical Quiz Competition stands as a testament to the commitment of the EEE department to nurturing and promoting academic excellence. Approximately 30+ students took part in this event and attended the questionnaire. The participants were rewarded with E-certificates. A sincere thanks are extended to the organizers, without whom this event would not have been possible.

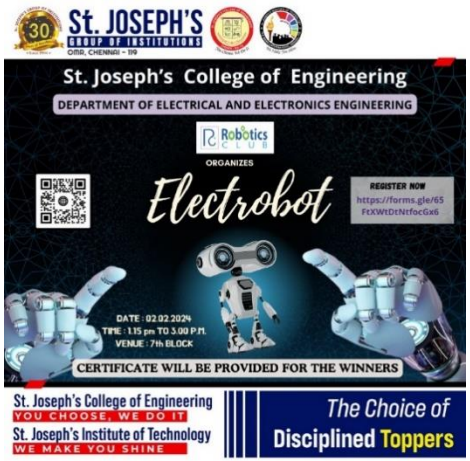
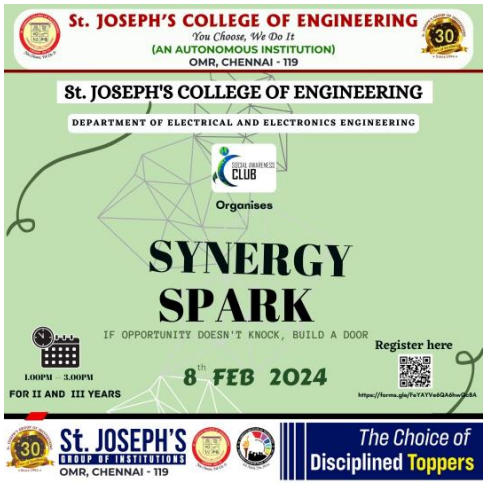
1	**IEEE activities**  ***PIC: EVENT POSTER and PHOTO***	The IEEE Photonics Society Of St. Joseph's College Of Engineering Conducted 'Photonics Panorama', a technical online mode webinar for 2nd and 3rd year EEE students, on February 24th, 2024. The event aimed to inspire and motivate students to explore the field of Optical communication networks among enthusiasts and featured a keynote address by Dr. Simranjit Singh, Associate Professor Department of ECE, Punjab Engineering College, Chandigarh, IEEE Photonics Society Delhi Section, and Dr. Gurpreet Kaur -Assistant Professor, Department of ECE, Chandigarh University. The event saw the cumulative participation of 36 students over the Gmeet. The session was generally well-received by the participants and was very informative. Participants were also allowed to interact with the speaker and get answers to their queries regarding the Use of optical sensors in civil structure and IEEE as a whole. E-certificates were provided to all who participated in the event.
1	**IEEE activities**  ***PIC: EVENT PHOTO and POSTER***	The IEEE SJCE SB MAANAVAR MANDRAM of St. Joseph's College of Engineering organized an engaging online webinar titled "KAALATHIRKU YERPA THANNAI PUDHUPITHUKOLLUM TAMIL" exploring the rich tapestry of Tamil literature. The event, conducted with finesse in a virtual setting on the date of 24th February, 2024 with a total of 25 participants. BANUPRIYA T S, a notable speaker, eloquently discussed the evolution of Tamil and its significant developments. The event's seamless execution was credited to the dedicated student coordinators, Jayavarshini M J, Oviya Varshini R, Saniya Benzer E, Nivetha B, Isha T, Hassan A, and Anas Javith A. The event concluded with a virtual photo session.

2	**IEEE activities** 	The IEEE Solid-State Circuits Society, in collaboration with IEEE SJCE SB, hosted a successful online live-based game challenge, "Puzzle Pursuit" on Feb 25 2024 From 6:00PM to 7:00PM. Immersing participants in a captivating quiz extravaganza focused on solid-state circuits. The event welcomed puzzle aficionados to an evening of knowledge, excitement, offering engaging quiz rounds that spanned fundamental and advanced topics in the domain of Solid State circuits. With a commitment to inculcating knowledge, the event encouraged participants to deepen their understanding of solid-state circuits. "Puzzle Pursuit" not only tested participants' knowledge but also served as a platform for building a vibrant community within the field. Also E-certificate have been provided for the winners of the event were Hariprasath S, Pooja V, and Aadhi Vigneswaran, from total 28 participants. The Student coordinators for this event were Senthamizh Selvan, Hemanath, Akashwar, Maathavan, Pragatheesh, Manoj Kumar, Karuppasamy.
2	**IEEE activities** 	The IEEE Vehicular Technology Society SJCE SB, orchestrated an electrifying webinar dubbed "DISTINGUISHED LECTURE" on 26 February, 2024. Mr. Vivek Joshi took center stage to explore the dynamic theme of "Building sustainable Ventures: strategies for long term success". Drawing an eclectic audience, including final year, pre-final year, and second-year students, as well as esteemed faculty members from the Department of Electrical and Electronics Engineering, alongside participants from various other institutions, the session aimed to unravel the intricate tapestry of emerging trends, revolutionary innovations, and pressing challenges in the realm of vehicular technology. With over 30 avid participants convening via Google meet, the virtual gathering buzzed with intellectual fervour, fostering invaluable connections and sparking thought-provoking discussions among seasoned professionals, avid researchers, and fervent enthusiasts. As a gesture of appreciation, attendees were bestowed with prestigious e-certificates, while the distinguished speaker received a token of gratitude in the form of a commemorative memento, symbolizing the enduring impact of knowledge sharing and collaborative learning.

2	**IEEE activities**  ***PIC: EVENT POSTER and PHOTO***	The IEEE Solid State Circuits Society, in collaboration with IEEE SJCE Student Branch, curated a compelling online webinar on "Introduction to Data Science and its Applications in Supply Chain" on February 28, 2024 From 11:00AM to 12:00PM. With an enthusiastic participation of 35 attendees, the event explored the integration of data science into supply chain dynamics, particularly emphasizing its role in advancing renewable energy systems through solar energy applications. Mr. Venkat Raju P, Senior Supply Chain Manager at QuantumScape, served as the distinguished resource person, infusing the session with profound insights and practical expertise. In recognition of Mr. Venkat Raju P's valuable contribution, an e-memento was presented as a token of appreciation. This gesture symbolizes gratitude for his role in elevating the discussion and underscores the IEEE community's commitment to collaborative knowledge-sharing in cutting-edge areas like data science and sustainable energy solutions.
2	**IEEE activities**  ***PIC: EVENT POSTER and PHOTO***	IEEE WIE SJCE SB -AG in association with IEEE St. Joseph's College of Engineering student chapter conducted a webinar session" UNWIND YOUR MIND" on 29-02-2024 . The topic for the session was "STRESS MANAGEMENT STRATEGIES FOR YOUNG ADULTS" presented by Dr.Shahnaz sultana,professor at bharath institute of higher education & research. Students from the Final year, pre-final year, and Second year of the Department of Electrical and Electronics Engineering participated. Certainly, she discussed aboutUnderstanding Stress, Common stressors for young adults, Effective stress management strategies and had a fruitful conversation throughout the session. Approximately 20+ students took part in this event over G-meet. The participants were rewarded with E-certificates as a token of appreciation -Memento was awarded to the speaker by the end of the session.

2	**IEEE Activities**  ***PIC: EVENT POSTER and PHOTO***	The IEEE SJCE SB MAANAVAR MANDRAM of St. Joseph's College of Engineering organized an engaging offline event titled "தமிழோடு விளையாடு!" exploring the Thirukkural and the tamil equivalents of English words. The event, conducted with 2nd year students on the date of 29th February, 2024 with a total of 25 participants. Varshini S, sindhumedha M, harini V K Won 1st place. Suganthakrishna . S, Shreeram . S, Sidharth . S won 2nd place and Ramesh Kumar S, Santhosh Kumar V, Rahul R won 3rd place .The winners and runners were rewarded with E-certificates as a token of appreciation.
2	**IEEE Activities**  	IEEE Robotics and automation society in association with IEEE St. Joseph's College of Engineering organised a webinar "Robotalk" on the topic "Basic of IoT" by our guest Mr.G.S.Akshay, who is currently working on projects related to IoT. The motive of the webinar to learn about technological advances in the IoT realted fields. It was informative session and participants learnt a lot regarding IoT. More than 40 participants from EEE department took part in this webinar and were grateful for the valuable insights from our guest. Overall this webinar was a wonderful experience and it enlightened the torch of curiosity about IoT in the minds.

	PIC: EVENT POSTER	
2	**Club Activities**  *PIC: EVENT POSTER*	St. Joseph's College of Engineering, (Electrical & Electronics Engineering) "**CHOPPERS CLUB"** organized a technical event **"ELECTRICA EUPHORIA"** on **31/01/2024**. This exclusive event commenced at 1.40pm with all the members of our club. The event concluded at 3.00pm with the photo session. **NUMBER OF PARTICIPANTS:** 30 Members
2	**Club Activities**	The **"ROBOTICS CLUB"** at St. Joseph's College of Engineering, specializing in Electrical & Electronics Engineering, hosted a technical event **"ELECTROBOT"** on FEBRUARY 02, 2024. The event commenced at 1:40 pm with all the members of the club and concluded at 3:00 pm with a photo session. **NUMBER OF PARTICIPANTS:** 32 Members.

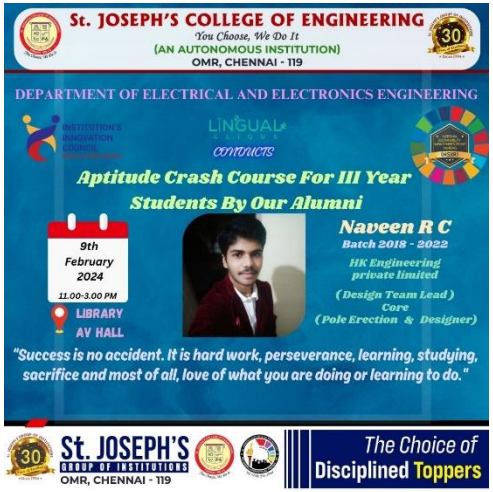
	 *PIC: EVENT POSTER*	
2	**Club Activities**  *PIC: EVENT POSTER*	The **SOCIAL AWARENESS CLUB** at St. Joseph's College of Engineering, specialising in Electrical & Electronics Engineering organized a technical event **"SYNERGY SPARK"** on **08/02/2024**. This exclusive event commenced at 1.40pm with all the members of our club. The event concluded at 3.00pm with the photo session. **NUMBER OF PARTICIPANTS:** 38 Members

2	**Club Activities**  *PIC: EVENT POSTER*	The **"ENSAV CLUB"** at St. Joseph's College of Engineering, specializing in Electrical & Electronics Engineering, hosted a technical event **"GREEN TIMBER"** on FEBRUARY 20 , 2024. The event commenced at 1:40 pm and concluded at 3:00 pm, with all the members of the club. **NUMBER OF PARTICIPANTS:** 31 Members.
3	**ISTE Activities**	The **ISTE STUDENT CHAPTER** at St. Joseph's College of Engineering, specializing in Electrical & Electronics Engineering, hosted a technical event **"ORBITRICS"** on FEBRUARY 22, 2024. The event commenced at 1:40 pm and concluded at 3:00 pm, with all the members of the student chapter. The event concluded with a photo session. **NUMBER OF PARTICIPANTS:** 30 Members

	 ***PIC: EVENT POSTER***	
3	**VOCABULARY TEST SERIES** 	Our department of Electrical and Electronics Engineering, Lingual Clique club has organized word power vocabulary test series for the students. The test series helped the students to improve their communication skills and competitive exam preparation. Test 20 - 09/02/24.

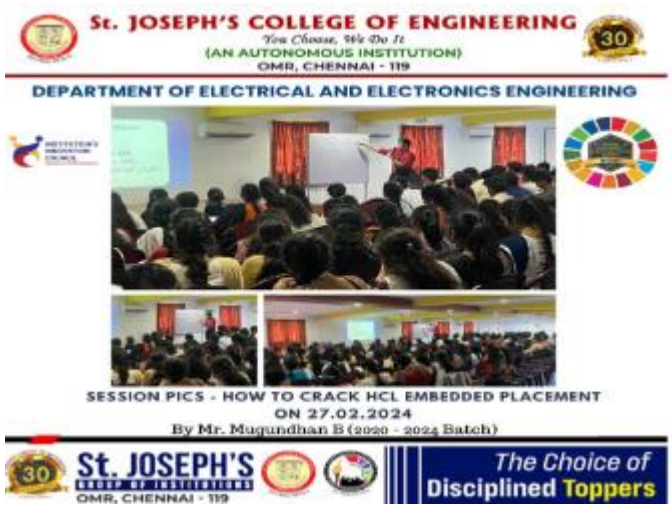
	PIC: EVENT POSTER	
3	**Alumini Interaction**  *PIC: EVENT POSTER*	**Date:** 06th FEB 24 Our department organized an alumni talk for students on the topic "**Need for Entrepreneurship in the 21st Century**" by our Alumni **Dr. Ignatius Louis Prashanth, (2000-2004 Batch) Managing Director, Oil & Gas, Luminous Energy Consultancy**, on **06-02-2024** between 1:40 P.M to 3:00 P.M. The session was very interactive and useful to the students to get insights about goal setting and methods to achieve it.
3	**Alumini Interaction**	**Date:** 26th FEB 24 Our department organized an alumni talk for students on the topic "**Introduction to ETAP and PSCAD**" by our Alumni **Mr. Rogith Vignesh D, (2018-2022 Batch) Senior Engineer, Hitachi Energy, on 26-02-2024** between 11:00 A.M to 1:00 P.M. The session was very interactive and useful to the students to get insights about simulation softwares.

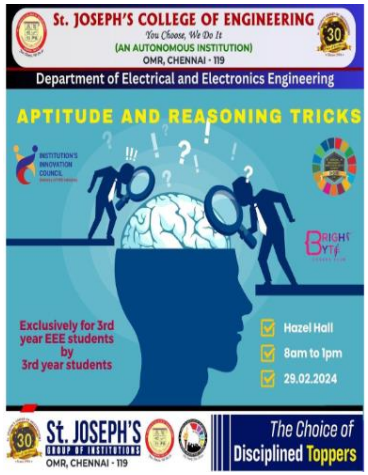
	 ***PIC: EVENT POSTER***	
3	**Alumini Interaction**  ***PIC: EVENT POSTER***	**Date:** 28th FEB 24 Our department organized an alumni talk for students on the topic "**Let's talk Sustainability- Special focus on Carbon Management**" by our Alumni **Mr. Viond Ramanarayanan, (2006-2010 Batch) Entrepreneur and Consultant, Climate Change and Sustainability Professional**, on **28-02-2024** between 10:00 A.M to 12:00 P.M. The session was very interactive and useful to the students to get insights about simulation softwares.

3	**Placement club activities-Alumini Interaction**  ***PIC: EVENT POSTER***	On 7th & 8th Feb 2024, **Market Yourself - Presentation** for III Year EEE Students conducted by our alumni with the aim of improving their future presentation skills. **Mr. Amudhan Selvaraj (2012-2016 Batch) Tech Lead, Infosys Ltd., Chennai** interviewed our third-year students. The event focused on key aspects such as effective communication, and gesture & posture, programming skills etc. Students were encouraged to practice clear articulation and maintain eye contact with the interviewer. Feedback was provided to help them refine their delivery and improve confidence. This initiative aimed to prepare the students for placement interview, equipping them with valuable skills for professional communication.
3	**Placement club activities-Alumini Interaction**  ***PIC: EVENT POSTER***	**Aptitude Crash Course** for III Year EEE Students conducted by **our Alumni Mr. Naveen RC (2012-2016 Batch) Design team lead, HK engineering pvt. Ltd**. on **09/02/24** 9:40 AM to 3PM. The session focused on Quantitative Aptitude required for cracking Placement Papers of various IT and Core Companies.

3	**Placement club activities**  ***PIC: EVENT PHOTO***	**Lingual club** On February 14, 2024, a **Group Discussion** was organized for second-year EEE students with the aim of improving their presentation skills. Students were encouraged to practice clear articulation and maintain eye contact with the audience. Feedback was provided to help them refine their delivery and improve confidence. Additionally, the importance of understanding the target audience and adapting the presentation to their needs was emphasized
3	**Placement club activities**  ***PIC: EVENT PHOTO***	On 16th February 2024 **Bright Byte Coders Club** hosted a comprehensive session for second-year Electrical and Electronic Engineering (EEE) students, on the topic "**Fundamentals of C programming"**. The primary goal was to boost problem-solving skills and augment their proficiency in C programming. The session covered essential concepts, ranging from basic syntax to advanced problem-solving techniques. By providing a solid foundation in C programming, participants were better equipped to tackle challenges in their academic coursework and future professional pursuits. The emphasis on problem-solving aimed to cultivate a mindset geared towards practical application and critical thinking. Overall, the session served as a valuable resource for students seeking to excel in the dynamic field of Electrical and Electronic Engineering.

3	**Placement club activities**  *PIC: EVENT POSTER*	On 21st February 2024, **Bright Byte Coders Club** hosted a comprehensive session for third year Electrical and Electronic Engineering (EEE) students, on the topic **"Enhancing the Soft skills**". The session was given by our final year students Ms.Dharani ,Ms.Lekhasri, Mr.Sivaharish . The focus of the session is to develop a wide variety of soft skills starting from communication, to working in different environments, developing emotional sensitivity, learning creative and teamwork.
4	**Placement club activities**  *PIC: EVENT POSTER*	On 23rd February 2024, **Bright Byte Coders Club and Lingual club** hosted a comprehensive session for second year Electrical and Electronic Engineering (EEE) students, on the topic "**Aptitude Enhancement Program**". The session was given by our third year students Ms. Shamrutha J A ,Ms.Shabana Asmeen, Mr.Saran P . In this session students solved quantitative aptitude and logical reasoning type questions.

4	**Placement club activities**  ***PIC: EVENT PHOTO***	On 27th February 2024, **Bright Byte Coders Club** hosted a session for Third year Electrical and Electronic Engineering (EEE) students, on the topic "**How to Crack HCL Embedded Placement**" in HAZEL Hall. Our final year student **Mr.B.Mugundhan** who got placement in HCL Embedded gave guidance to our third year students. He discussed about the question patterns and gave insights about few technical area were students need to strengthen their knowledge
4	**Placement club activities**  ***PIC: EVENT POSTER***	On 28th February 2024, **Bright Byte Coders Club and Lingual club** hosted a comprehensive session for Third year Electrical and Electronic Engineering (EEE) students, on the topic "**Aptitude Enhancement Program"**. The session was presented by our students Mr.Akash G. Ms.Pooja V, Mr.Pradeepa G . In this session students solved quantitative aptitude and logical reasoning type questions.

4	**Placement club activities**  ***PIC: EVENT POSTER***	On 29th February 2024, **Bright Byte Coders Club** hosted a comprehensive session for third year Electrical and Electronic Engineering (EEE) students, on the topic "**Aptitude& reasoning tricks**". In this session students solved quantitative aptitude and logical reasoning type questions.
4	**Alumni Achievement**  ***PIC: POSTER***	**Mr. Jaffery Irudayasamy** **(Batch : 2015-2019)** **Position:** Applications Developer in High performance computing **Institution:** EPCC, The University of Edinburgh, Scotland, United Kingdom. **(This is the UK's national supercomputing center)** He also won an international competition and class medal for the course

4	**Faculty awards and recognitions**	Dr.M.Venmathi has reviewed 2 papers in Electric Power Components and Systems Journal Our faculty **Mr. R. Sreekanth**, IEEE SJCE SB Counsellor, was awarded a Certificate of Appreciation for "PROFESSIONAL ACHIEVEMENT IN IEEE" during the year 2023 by IEEE Madras Section. The recognition was bestowed at the annual meet held on February 23, 2024. Our faculty **Mr. R. Sreekanth**, received a CERTIFICATE OF APPRECIATION FROM THE NCC DIRECTORATE (TN, P &AN).This recognition acknowledges his outstanding contribution, active participation, and excellence in various NCC events, training sessions, and community social service throughout the year 2023-2024. The award was presented on February 29, 2024, by the Deputy Director General
4	PLACEMENT DETAILS FOR THE MONTH OF FEBRUARY 2024	**2020-2024 Batch** Total No of students placed = 51 Students Total No of Offers = 57 Offers No of students having single offers = 46 No of students having Double offers = 4 No of students having Triple offers = 1 No of students having Quadruple offers = 0

DEPARTMENT OF MBA

FACULTY PUBLICATIONS:	Dr. K. Sampath has published a paper on " Deciphering the Indian Start-up Landscape: A Spot-light on Chennai's Ecosystem, M. Rani Nimmagadda et al. (eds.), Proceedings of the 3rd International Conference on Reinventing Business Practices, Start-ups and Sustainability (ICRBSS 2023), Advances in Economics, Business and Management Research 277, https://doi.org/10.2991/978-94-6463-374-0_5 Dr. A Menaga has published a paper on Analysing the Bibliometric of Circular Economy and Customer Behavior: A Study from 2018 to 2023, M. Rani Nimmagadda et al. (eds.), Proceedings of the 3rd International Conference on Reinventing Business Practices, Start-ups and Sustainability (ICRBSS 2023), Advances in Economics, Business and Management Research 277
NATIONAL LEVEL INTERCOLLEGIATE SYMPOSIUM: 	The National Level Symposium, NEGOCIO EXITOSO 2024 for all under graduate students was held from February 19 2024 to February 23 2024. St. Joseph's College of Engineering and St. Joseph's Institute of Technology joint together and organized a mega event for 5 days. The symposium had an overwhelmed response drawing a huge number of students registrations from 31 colleges registered for the event and around 756 participated in the symposium.

FUNDED PROJECTS:

Project	Amount
Impact of special incentives schemes to promote literacy among schedule caste girls studying standard III to V and VI to VIII	Rs. 19, 74, 554
Tractor Hiring and other farm machineries for small and marginal farmers	Rs. 21, 70,000

FACULTY PATENT PUBLICATION:

Dr.A.Ammupriya has published a patent on An investigation in HR Analytics involving the impact on employee turnover.

Dr.K.Sampath has published a patent on Analysis of Brunei's Small and Medium Sized businesses use of management accounting system.

Dr.A. Menaga has published a patent on Innovation of Business Models through the application of design thinking.

WORKSHOP CONDUCTED:

Mr.P.Surendiran David has conducted a workshop on Roadmap to Financial Independence for MBA students of St.Joseph's College of Engineering.

INDUSRIAL VISITS:

On Feb. 8th 2024,the 3rd-year MBA integrated 33 students accompanied by the faculty members Dr. Ramamoorthy and Dr. Subalya embarked on an insightful industrial visit to Modern Bakers (Madras) Pvt. Ltd.,

On 6th February 2024,III-MBA int (33) and IV MBA INT (35) students accompanied by Ms. Jebakerupa Roslin and Dr.Shumnuga Sundaram embarked on an insightful industrial visit to Aavin Milk factory Ambattur.

STUDENTS ACHIEVEMENTS:

STUDENTS	EVENTS	PRIZE
Vijay Anand Rakshitha	Brainblitz	Winners
Savithaa	Best Manager & Brianblitz	Runner up
Vishwa S Reshma devi Manoj Kumaran K Vaikundamani Govindarajan	Business Plan	Runner up
Hari Vijayan K Manikavasagam	web wave	Runner up

DEPARTMENT OF SCIENCE

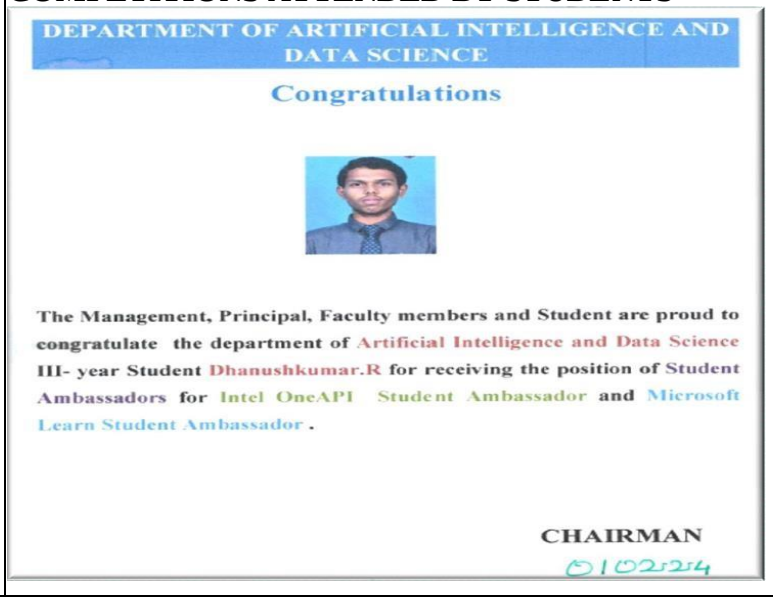
Sl. No.	Events	Remarks

4	**FDP/Workshop/Conference**	***Invited Talk:*** 1. Dr. S. Suresh has delivered an invited talk titled "Spectral Investigation of Transition Metal Oxide (TMO) Nanoparticles and Its Applications" in "FDP on "Computational Physics" conducted by "SIMATS Engineering- Chennai On 24.02.2024. ***Attended:*** 1. Dr. P. Krishnan attended a webinar on "IPA- Young Physicists Meet (YPM) –South Zone" conducted by "Vishakapatnam Young Physicists Forum" on 26/02/2024.
11	**Publications(only published) details**	1. Dr. A. Arulmozhi published a paper titled "Suction Effect On Porous Shrinking Cylinder in MHD Casson Fluid with the Impact of Heat Generation and Radiation" in "Journal of Porous Media". DOI: 10.1615/JPorMedia.2024050282 2. Dr. K. Jayamoorthy published a paper titled "Improved Photocatalytic Performance of Chitosan Blended-Al2O3-TiO2 and Garlic Loaded-Al2O3-TiO2 Hybrid Nanocomposites" in "Chemical Physics Impact". doi: https://doi.org/10.1016/j.chphi.2024.100535 3. Dr. P.Krishnan published a paper titled "Optical, electrical and thermal investigations on brucinium di-hydrogen citrate tri-hydrate single crystal: An optimistic tool for microelectronics, OPO and OLED applications" in "Chemical Physics Impact". doi: https://doi.org/10.1016/j.chphi.2024.100541 4. Dr. N.Punitha published a paper titled "Optimization and chemical free fabrication of green synthesized iron nanoparticles as potential MRI contrast agent" in "Biotechnology and Applied Biochemistry". doi: 10.1002/bab.2561

DEPARTMENT OF ADS		
S.No.	**Title of the Events and Photographs**	**Details of the Event**
2.	**INDUSTRIAL VISIT** 	III year students gone for Industrial visit on 19.2.2024 to Cloud Logic at Pondichery and gathered knowledge about basics of cloud technology. -

3.	**GUEST LECTURE**  *Guest lecture Brochure*	Guest lecture was delivered for the III year ADS students on 08.02.2024 on the topic Entrepreneurship in AI delivered by R.Sathishraj, CEO,E-CRUSADERS.

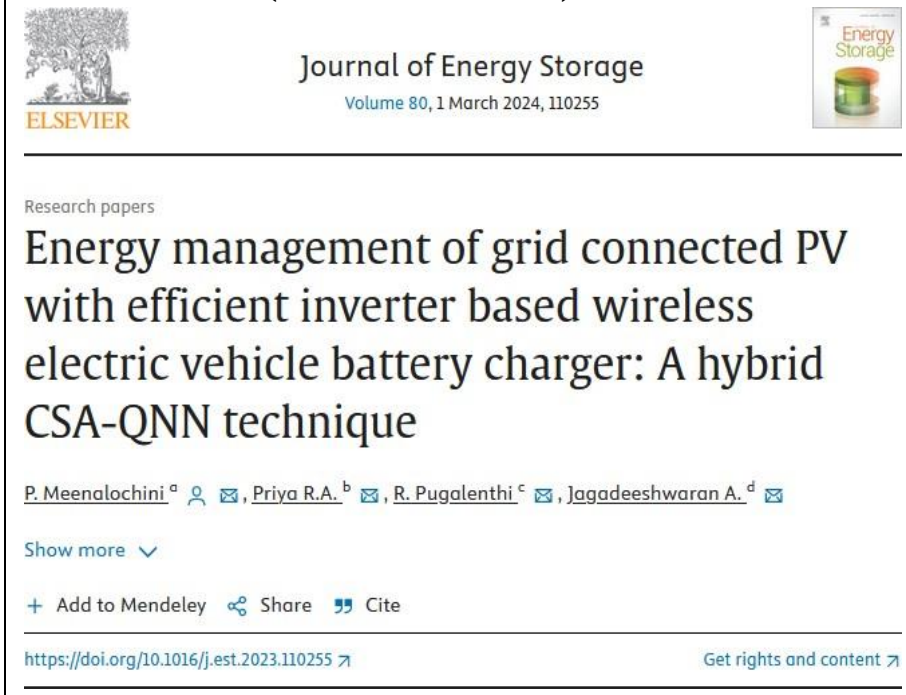
4.	**ADS CLUB ACTIVITY**	-
5.	**FDP/WORKSHOP/CONFERENCE/HACKATHON** 	First ever 24 hours technical hackathon was organized for both hardware and software domains on 23 and 24 Feb 2024.
8.	**VALUE ADDED COURSES**	

		Value added course was delivered for the III year ADS students for five days from 26.02.2024 to 01.03.2024 on the topic Ethical hacking and cyber security,Industrial practices with Devops delivered by Industrial specialist.
9.	**COMPETITIONS ATTENDED BY STUDENTS** 	Our student Dhanushkumar.R has received the opportunity for student ambassador position at Intel One API. □

		Our student Jenina Angelin.D has received the opportunity for student ambassador position at Intel One API.
10.	**AWARDS/PRIZE WON BY STUDENTS** 	No code hackathon conducted by AI Venture Factory,Red phoenix team has secured second runner-up with cash prize of 25,000.

Our Third Year Students Jeevitha M,Jenina Angelin D,Harisudhan S,DhanushKumar R have Won 1st place with cash prize of 10,000 in Ideal Analytics Competition organized by Indian Institute of Management - Vishakapatnam.

Our Third Year Students Snekha S,Kishore Harshan Kumar,Sanjiv S,Sanjana M 2nd Place in Ideathon 3.0 conducted by Kalinga University, Raipur with a reward amount of Rs 15,000.

		Our Third Year Students Jeevitha M,Jenina Angelin D have won the Second Place in Astrafizz National Level Pre – Symposium Event at E.G.S Pillay Engineering College.
11.	**INDUSTRIAL PROJECTS DONE BY STUDENTS**	-
12.	**PUBLICATIONS(ONLY PUBLISHED) DETAILS**  *Copy of certificate* **Dr. R. Pugalenthi**	P. Meenalochini, Priya R.A., **R. Pugalenthi**, Jagadeeshwaran A, "Energy management of grid connected PV with efficient inverter based wireless electric vehicle battery charger: A hybrid CSA-QNN technique",, Elsevier Ltd Publisher:Journal of Energy Storage, DOI: https://doi.org/10.1016/j.est.2023.110255 **(Impact Factor: 9.4, Q1 Journal)** **Abstract:** A Hybrid CSA-QNN approach is proposed in this manuscript for grid-connected PV with an efficient inverter-based wireless electric vehicle (EV) battery charger. The proposed hybrid method combines the performance of both the circle search algorithm (CSA) and quantum neural networks (QNN), commonly named the CSA-QNN technique. The Circle Search Algorithm helps find the best charging spot by creating a virtual circle, while the Quantum Neural Network optimizes the overall power flow and charging efficiency. Together, these technologies contribute to making wireless charging for EVs more efficient and convenient. The major goal of the manuscript is the design of a wireless EV battery charger with PV integration. Wireless EV charging systems (WEVCS) may be a feasible alternative technology for

SPRINGER LINK

Find a journal Publish with us Track your research Search

Home > International Journal of Fuzzy Systems > Article

A Blockchain-Based Cloud File Storage System Using Fuzzy-Based Hybrid-Flash Butterfly Optimization Approach for Storage Weight Reduction

Published: 29 February 2024

(2024) Cite this article

Download PDF Access provided by St. Joseph's College of Engineering

K. Suresh, Krishnamurthy Anand, G. Nagappan & Ramamurthy Pugalenthi

51 Accesses Explore all metrics

Abstract

Cloud infrastructure has enough memory storage space to store large data, so it is used to perform calculations in industrial sectors. The generated data are updated on the cloud server and sent to the consumer through the network. However, the development of blockchain is being adopted by various users to store important data at a low cost. But the stored data are not secure and reliable. IoT devices increase the number of transactions that work as colleagues in different systems, thus causing an inefficient storage problem. To overcome these issues, we use a metaheuristic algorithm to find a good solution to an optimization problem by identifying less frequently queried blocks in BC. Thus, a Fuzzy Hybrid-Flash Butterfly Optimization Algorithm (FHFBOA) is proposed to reduce storage weight in the blockchain and focuses on the problems of storing partial blocks in the cloud, and transforms storage issues into a multi-objective optimization issues. Based on storage cost, local space occupancy, and query probability, an objective function is developed in solving the storage capacity problem of blockchain. The ToN-IoT dataset is utilized to conduct the experiment. The HFBOA algorithm implements various stages of the algorithm such as optimization stage, local search, initialization stage, switch parameter setting, and global search to transfer the number of blocks in the blockchain to the cloud (optimal solution). Here, parameters in HFBOA are evaluated for performance evaluation in terms of storage space required, running time, CPU time, and time spent querying using a bottleneck strategy. The proposed FHFBOA model shows minimal storage space and this method shows large improvements in CPU time requirements from 75 to 98%. It achieves 98% data throughput for a total of 130 runs.

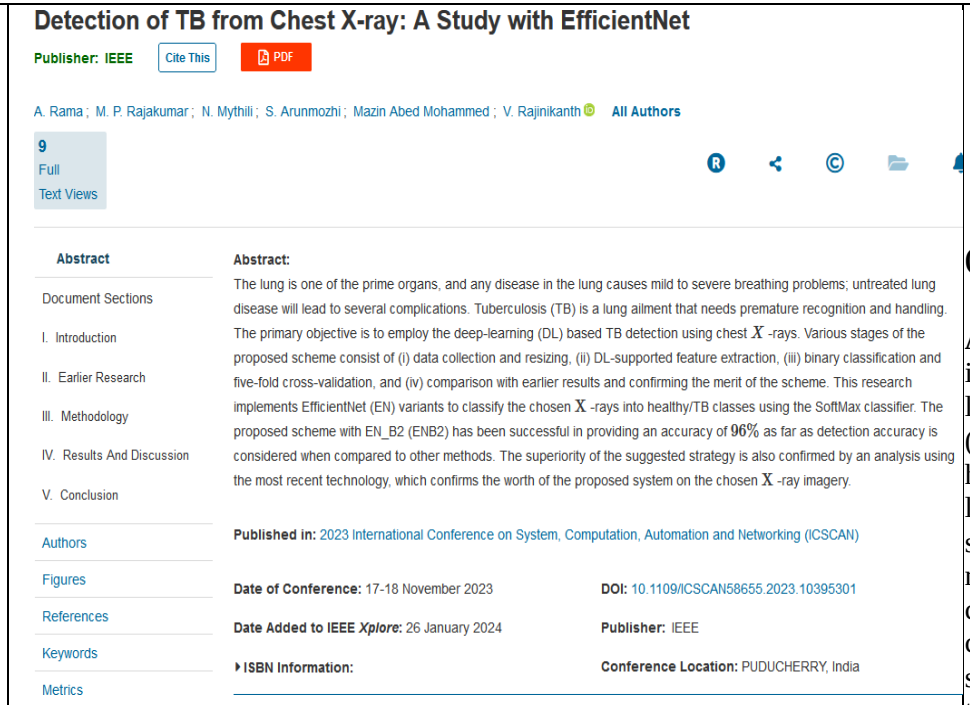
Copy of certificate **Dr. R. Pugalenthi**

charging EVs without a plug-in problem. The CSA-QNN method is performed in the MATLAB platform and it is compared to different existing approaches. The CSA-QNN method shows better results than the existing approaches like the Salp Swarm Algorithm (SSA), Wild horse optimizer (WHO), and Particle Swarm optimization (PSO).

K. Suresh, Krishnamurthy Anand, G. Nagappan, **Ramamurthy Pugalenthi**, "A Blockchain-Based Cloud File Storage System Using Fuzzy-Based Hybrid-Flash Butterfly Optimization Approach for Storage Weight Reduction", Springer Publisher: **International Journal of Fuzzy Systems**, https://doi.org/10.1007/s40815.023.01645.4 , **(Impact Factor: 4.3, Q2 Journal)**

Abstract: Cloud infrastructure has enough memory storage space to store large data, so it is used to perform calculations in industrial sectors. The generated data are updated on the cloud server and sent to the consumer through the network. However, development of blockchain is being adopted by various users to store important data at a low cost. But the stored data are not secure and reliable. IoT devices increase the number of transactions that work as colleagues in different systems, thus causing inefficient storage problem. To overcome these issues, we use a metaheuristic algorithm to find a good solution to an optimization problem by identifying less frequently queried blocks in BC. Thus, a Fuzzy Hybrid-Flash Butterfly Optimization Algorithm (FHFBOA) is proposed to reduce storage weight in the blockchain and focuses on the problems of storing partial blocks in the cloud, and transforms storage issues into a multi-objective optimization issues. Based on storage cost, local space occupancy and query probability, an objective function is developed in solving the storage capacity problem of blockchain. ToN-IoT dataset is utilized to conduct the experiment.HFBOA algorithm implements various stages of the algorithm such as optimization stage, local search, initialization stage, switch parameter setting, and global search to transfer the number of blocks in the blockchain to the cloud

		(optimal solution). Here, parameters in HFBOA are evaluated for performance evaluation in terms of storage space required, running time, CPU time, and time spent querying using a bottleneck strategy.
14.	**STAFF CONFERENCE PRESENTATION and PATENT PUBLISHED**  **Lightweight Deep-Learning Based Music Genre Classification: A Study** Publisher: IEEE Cite This PDF A. Rama ; N. Mythili ; M.P. Rajakumar ; S. Arunmozhi ; Mazin Abed Mohammed ; V. Rajinikanth All Authors 7 Full Text Views Abstract Document Sections I. Introduction II. Earlier Research III. Methodology IV. Results and Discussion V. Conclusion Authors Figures References Keywords Metrics **Abstract:** Deep-learning (DL) applications that are used real-time across various industries have gained a lot of traction and have become increasingly popular, especially when it comes to data-driven recommendation systems. This work aims to develop a DL scheme to support the music-recommendation system (MS) based on the music data. The various phases of this scheme includes; (i) data collection and signal-image conversion to get the necessary RGB scale images from the data, (ii) pre-trained DL based feature extraction, and (iii) deep-features based detection to recommend the appropriate music. This research considered the classic- (CL) and pop-music (PO) for the examination and the achieved results are evaluated to substantiate the performance of this arrangement. In this work, the signal-image conversion procedure is implemented to convert 1D signal to 2D image and then it is examined using proposed technique. The experimental outcome is separately presented for (i) spectrogram and (ii) synchro-extracting-transform and obtained results are presented. The experimental investigation is presented with MobileNet variants and this study authorizes that the implemented scheme achieved a better detection MobileNetV2 (>99%) compared to other schemes in this study. **Published in:** 2023 International Conference on System, Computation, Automation and Networking (ICSCAN) **Date of Conference:** 17-18 November 2023 **DOI:** 10.1109/ICSCAN58655.2023.10395381 **Date Added to IEEE *Xplore*:** 26 January 2024 **Publisher:** IEEE **ISBN Information:** **Conference Location:** PUDUCHERRY, India *Copy of certificate* ***Dr.M.P.Rajakumar***	A. Rama, N. Mythili, S, **M.P. Rajakumar**, S. Arunmozhi, Mazin Abed Mohammed, V. Rajinikanth, "Lightweight Deep-Learning Based Music Genre Classification: A Study," 2023 International Conference on System, Computation, Automation and Networking (ICSCAN) Doi: 10.1109/ICSCAN58655.2023.10395381 , 2023. **(Indexed in Scopus)** **Abstract:** Deep-learning (DL) applications that are used real-time across various industries have gained a lot of traction and have become increasingly popular, especially when it comes to data-driven recommendation systems. This work aims to develop a DL scheme to support the music-recommendation system (MS) based on the music data. The various phases of this scheme includes; (i) data collection and signal-image conversion to get the necessary RGB scale images from the data, (ii) pre-trained DL based feature extraction, and (iii) deep-features based detection to recommend the appropriate music. This research considered the classic- (CL) and pop-music (PO) for the examination and the achieved results are evaluated to substantiate the performance of this arrangement. In this work, the signal-image conversion procedure is implemented to convert 1D signal to 2D image and then it is examined using proposed technique. The experimental outcome is separately presented for (i) spectrogram and (ii) synchro-extracting-transform and obtained results are presented. The experimental investigation is presented with MobileNet variants and this study authorizes that the implemented scheme achieved a better detection MobileNetV2 (>99%) compared to other schemes in this study.



Detection of TB from Chest X-ray: A Study with EfficientNet

Publisher: IEEE Cite This PDF

A. Rama ; M. P. Rajakumar ; N. Mythili ; S. Arunmozhi ; Mazin Abed Mohammed ; V. Rajinikanth All Authors

9 Full Text Views

Abstract

Document Sections

I. Introduction

II. Earlier Research

III. Methodology

IV. Results And Discussion

V. Conclusion

Authors

Figures

References

Keywords

Metrics

Abstract:

The lung is one of the prime organs, and any disease in the lung causes mild to severe breathing problems; untreated lung disease will lead to several complications. Tuberculosis (TB) is a lung ailment that needs premature recognition and handling. The primary objective is to employ the deep-learning (DL) based TB detection using chest X -rays. Various stages of the proposed scheme consist of (i) data collection and resizing, (ii) DL-supported feature extraction, (iii) binary classification and five-fold cross-validation, and (iv) comparison with earlier results and confirming the merit of the scheme. This research implements EfficientNet (EN) variants to classify the chosen X -rays into healthy/TB classes using the SoftMax classifier. The proposed scheme with EN_B2 (ENB2) has been successful in providing an accuracy of 96% as far as detection accuracy is considered when compared to other methods. The superiority of the suggested strategy is also confirmed by an analysis using the most recent technology, which confirms the worth of the proposed system on the chosen X -ray imagery.

Published in: 2023 International Conference on System, Computation, Automation and Networking (ICSCAN)

Date of Conference: 17-18 November 2023

DOI: 10.1109/ICSCAN58655.2023.10395301

Date Added to IEEE *Xplore*: 26 January 2024

Publisher: IEEE

ISBN Information:

Conference Location: PUDUCHERRY, India

Copy of certificate ***Dr.M.P.Rajakumar***

A. Rama, N. Mythili, S, **M.P. Rajakumar**, S. Arunmozhi, Mazin Abed Mohammed, V. Rajinikanth, "Detection of TB from Chest X-ray: A Study with EfficientNet," 2023 International Conference on System, Computation, Automation and Networking (ICSCAN), Puducherry, India, pp. 1-5, Doi: 10.1109/ICSCAN58655.2023.10395301, 2023.
(Indexed in Scopus)

Abstract: The lung is one of the prime organs, and any disease in the lung causes mild to severe breathing problems; untreated lung disease will lead to several complications. Tuberculosis (TB) is a lung ailment that needs premature recognition and handling. The primary objective is to employ the deep-learning (DL) based TB detection using chest X -rays. Various stages of the proposed scheme consist of (i) data collection and resizing, (ii) DL-supported feature extraction, (iii) binary classification and five-fold cross-validation, and (iv) comparison with earlier results and confirming the merit of the scheme. This research implements EfficientNet (EN) variants to classify the chosen X -rays into healthy/TB classes using the SoftMax classifier. The proposed scheme with EN_B2 (ENB2) has been successful in providing an accuracyof 96% as far as detection accuracy is considered when compared to other methods. The superiority of the suggested strategy is also confirmed by an analysis using the most recenttechnology, which confirms the worth of the proposed systemon the chosen X -ray imagery.

Title of the invention: A SYSTEM AND

Office of the Controller General of Patents, Designs & Trade Marks
Department for Promotion of Industry and Internal Trade
Ministry of Commerce & Industry,
Government of India

INTELLECTUAL PROPERTY INDIA

Application Details	
APPLICATION NUMBER	202441003972
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	19/01/2024
APPLICANT NAME	1 . Dr. Ram Murat Singh 2 . ANOOJA B 3 . Dr. Anshad A S 4 . S.ANANTHI 5 . Tumula Mani Kota Rajasekhar 6 . YAMINI CHOUHAN
TITLE OF INVENTION	A SYSTEM AND METHOD FOR ASSISTING USER ALARM USING IOT
FIELD OF INVENTION	COMPUTER SCIENCE
E-MAIL (As Per Record)	senanipindia@gmail.com
ADDITIONAL-EMAIL (As Per Record)	
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	09/02/2024

Application Status	
APPLICATION STATUS	Awaiting Request for Examination

View Documents

Copy of certificate **S.Ananthi**

METHOD FOR ASSISTING USER ALARM USING IOT

Patent Application Number: 202441003972

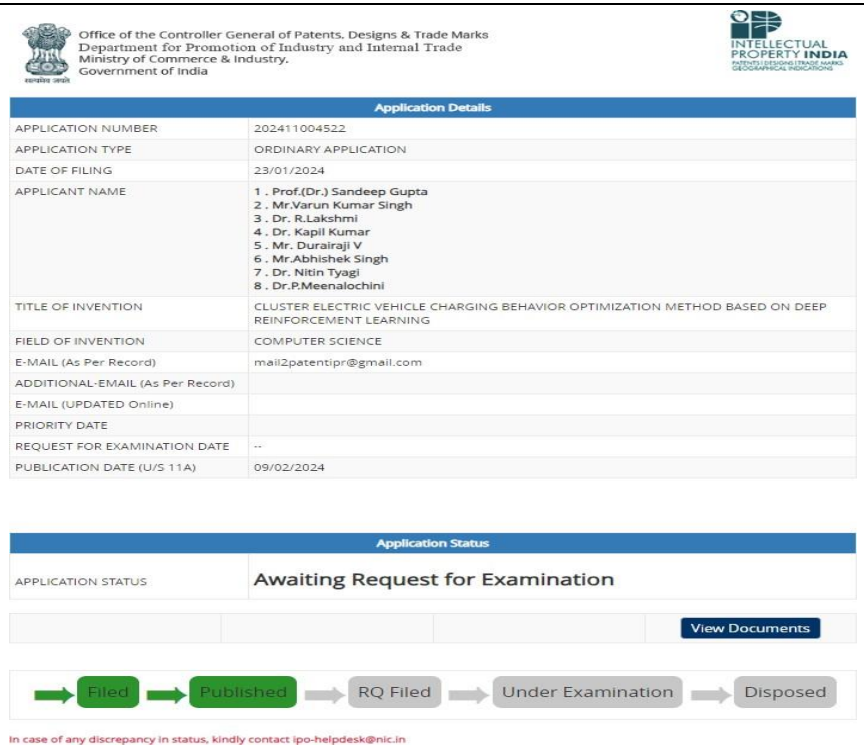
Name of Inventor:

1 . Dr. Ram Murat Singh
2 . ANOOJA B
3 . Dr. Anshad A S
4 . S.ANANTHI
5 . Tumula Mani Kota Rajasekhar
6 . YAMINI CHOUHAN

Date of filing of Application: 19/01/2024

Publication Date: 09/02/2024

Title of the invention: CLUSTER ELECTRIC



Office of the Controller General of Patents, Designs & Trade Marks
Department for Promotion of Industry and Internal Trade
Ministry of Commerce & Industry,
Government of India

INTELLECTUAL PROPERTY INDIA

Application Details

APPLICATION NUMBER	202411004522
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	23/01/2024
APPLICANT NAME	1 . Prof.(Dr.) Sandeep Gupta 2 . Mr.Varun Kumar Singh 3 . Dr. R.Lakshmi 4 . Dr. Kapil Kumar 5 . Mr. Durairaji V 6 . Mr.Abhishek Singh 7 . Dr. Nitin Tyagi 8 . Dr.P.Meenalochini
TITLE OF INVENTION	CLUSTER ELECTRIC VEHICLE CHARGING BEHAVIOR OPTIMIZATION METHOD BASED ON DEEP REINFORCEMENT LEARNING
FIELD OF INVENTION	COMPUTER SCIENCE
E-MAIL (As Per Record)	mail2patentipr@gmail.com
ADDITIONAL-EMAIL (As Per Record)	
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	09/02/2024

Application Status

APPLICATION STATUS	Awaiting Request for Examination

View Documents

Filed → Published → RQ Filed → Under Examination → Disposed

In case of any discrepancy in status, kindly contact ipo-helpdesk@nic.in

Copy of certificate **Mr. Durairaji V**

VEHICLE CHARGING BEHAVIOR OPTIMIZATION METHOD BASED ON DEEP REINFORCEMENT LEARNING

Patent Application Number:202411004522

Name of Inventor:

1 . Prof.(Dr.) Sandeep Gupta
2 . Mr.Varun Kumar Singh
3 . Dr. R.Lakshmi
4 . Dr. Kapil Kumar
5 . Mr. Durairaji V
6 . Mr.Abhishek Singh
7 . Dr. Nitin Tyagi
8 . Dr.P.Meenalochini

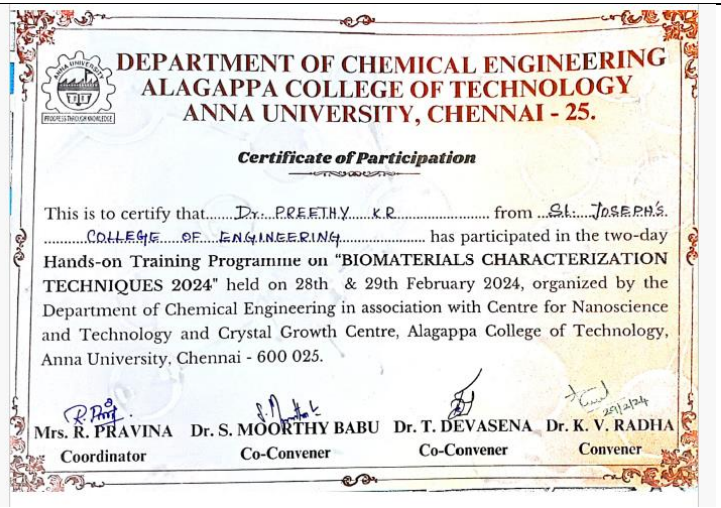
Date of filing of Application:23/01/2024

Publication Date: 09/02/2024

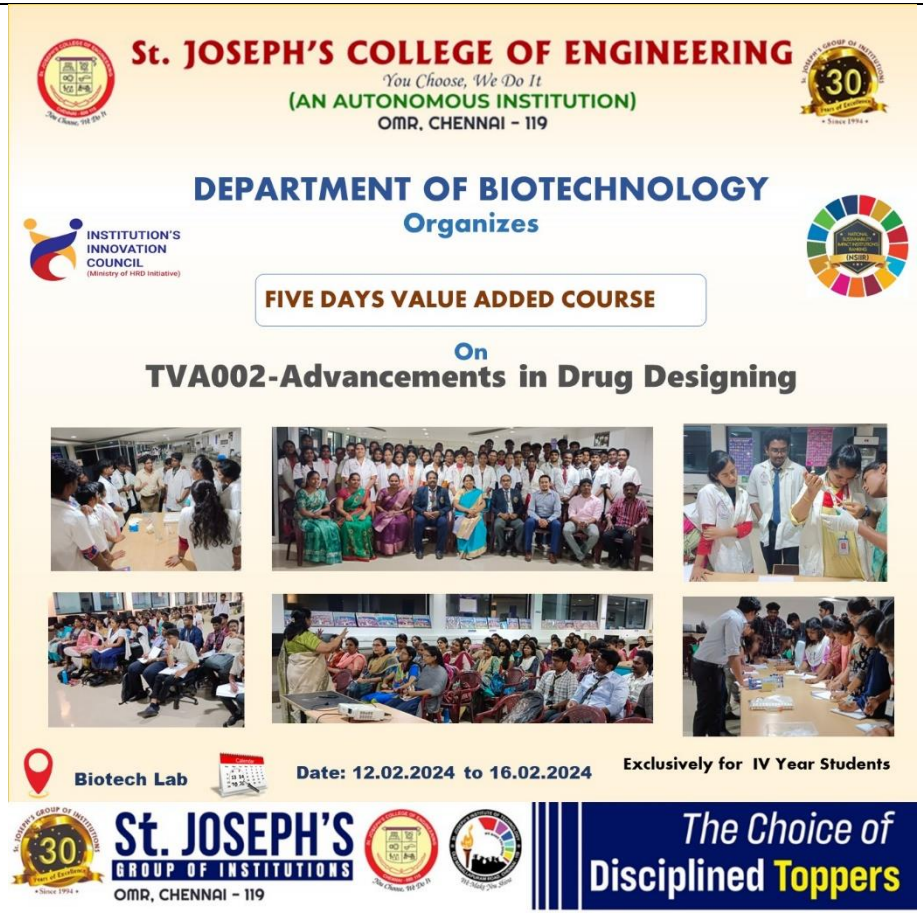
DEPARTMENT OF BIOTECHNOLOGY

S.No.	Title of the Events and Photographs	Details of the Event
1	**COLLABARATIVE QUALITY INITIATIVES WITH OTHER INSTITUTIONS**	-

2	**INDUSTRIAL VISIT**  *Photos of Industrial Visit*	III year Biotechnology students had gone for Industrial visit to Thirumala Milk Products Pvt Ltd on 09/02/2024.
3.	**FDP/WORKSHOP/CONFERENCE**	Dr. K.R. Preethy had participated in a Hands on training programme on ' Biomaterials Characterization Techniques 2024' held on 28th and 29th February 2024.

		
4.	**VALUE ADDED COURSES** 	Five days Value added courses was conducted for IIIrd year and IV year students on the subject TVA002 Advancements in Drug designing in association with Biozone Institute of Life science.


St. JOSEPH'S COLLEGE OF ENGINEERING
You Choose, We Do It
(AN AUTONOMOUS INSTITUTION)
OMR, CHENNAI - 119
30
DEPARTMENT OF BIOTECHNOLOGY
Organizes
FIVE DAYS VALUE ADDED COURSE
On
Advancements in Drug Designing
In Association with
Biozone Institute of Life Science
Date: 26.02.2024 to 01.03.2024
Time: 7:50 Am to 3: 00 PM
Biotech Lab
Exclusively for III Year Students
St. JOSEPH'S
GROUP OF INSTITUTIONS
OMR, CHENNAI - 119
The Choice of
Disciplined Toppers

		
5.	**AWARDS/PRIZE WON BY STUDENTS**	II year Biotechnology students Rashmitha V, Kamushree T (Break the Query), Rufina pricy S, Shangamithra S, Abinayasree S, Krithika V, Keerthana SL, Harinin S (Technical Connection) participated in technical events conducted in SIMATS on 14 th February 2024 and won II and IIIrd prize. II year Biotechnology students Yazhini A, Yaamini B, Bernita Celas C and Ritihashri N participated in paper presentation in National level technical symposium conducted in SIMATS on 14 th February 2024 and won II prize. II year Biotechnology students Yazhini A, Yaamini B,

		Jayashri BS, participated in paper presentation conducted by Vel Tech R&D Institute of science and technology and won Best paper award with cash prize of Rs.3000.

You Choose, We Do It

St. JOSEPH'S COLLEGE OF ENGINEERING
(An Autonomous Institution)
St. Joseph's Group of Institutions
OMR, Chennai - 119

DEPARTMENT OF BIOTECHNOLOGY

Congratulations

The Management, Principal, Faculty members and Students are proud to congratulate the following Biotechnology Students for Winning positions in National Level Technical Symposium held on 14th February 2024.

Name	Year	Event	Position	Event details
RASHMITHA V KAMUSHREE T	II Year (Biotech)	BREAK THE QUERY	II	TECHTROVE' 24 at Saveetha Institute of Medical and Technical Sciences (SIMATS), Thandalam. 14th February 2024
RUFINA PRICY S SHANGAMITHRA S ABINAYASHREE S KRITHIKA V KEERTHANA S L HARINI S		TECHNICAL CONNECTION	III	

CHAIRMAN
21802024

	 St. JOSEPH'S COLLEGE OF ENGINEERING (An Autonomous Institution) St. Joseph's Group of Institutions OMR, Chennai - 119 nirf-Innovation DEPARTMENT OF BIOTECHNOLOGY Congratulations The Management, Principal, Faculty members and Students are proud to congratulate the following Biotechnology Students and Faculty for winning positions in National Level Technical Symposium held during the month of February 2024. Name: YAZHINI A, YAAMINI B, BERNITA CELAS C, RITIHASHRI N Year: II (Biotech) Event: Paper Presentation Position: II Mentor Details: Ms.Yuwvaranni.S, Assistant Professor; Dr.Chamundeeswari.M, Associate Professor Event Details TECHTROVE'24 -A National Level Technical Symposium conducted by Saveetha Institute of Medical and Technical Sciences (SIMATS), Chennai -602105. CHAIRMAN 21/02/24	
6.	**PUBLICATIONS(ONLY PUBLISHED) DETAILS**	1. Ms.Yuwvaranni.S has published a paper Titled "Optimization and chemical free fabrication of green synthesized iron nanoparticles as potential MRI contrast agent" in Biotechnology and Applied Biochemistry, 2024;1–13. https://doi.org/10.1002/bab.2561 2. Ms. A.Anli Dino, Published review paper on "Microalgae: an emerging source of bioplastics production" Discover Environment. DOI: 10.1007/s44274-024-00038-0

Received: 21 March 2023 | Accepted: 14 January 2024

DOI: 10.1002/bab.2561

ORIGINAL ARTICLE

WILEY

Optimization and chemical free fabrication of green synthesized iron nanoparticles as potential MRI contrast agent

Yuvvaranni S[1] | **Punitha N**[2] | **Chamundeeswari M**[1]

[1]St. Joseph's College of Engineering, Chennai, Tamil Nadu, India

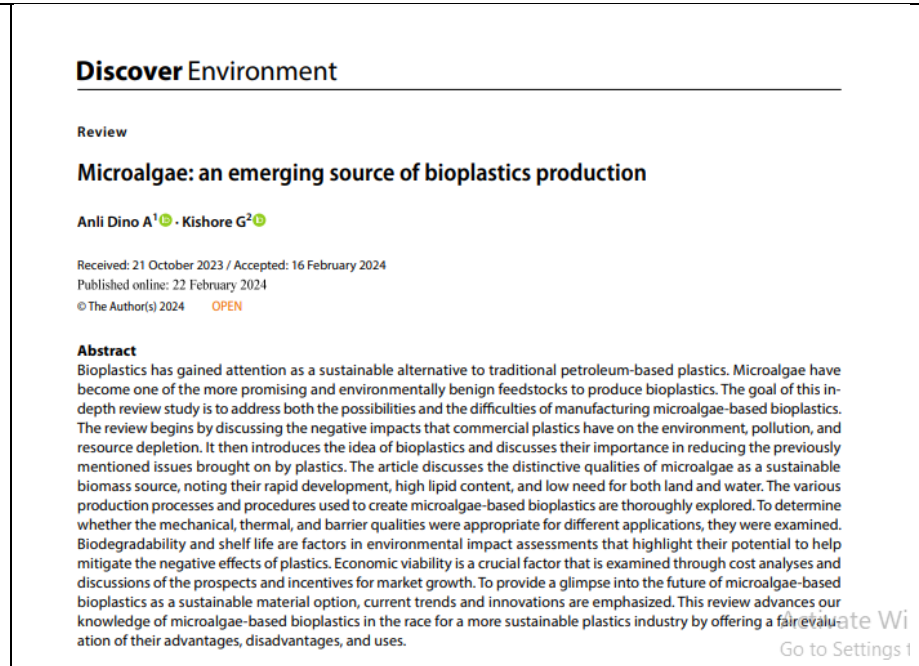
[2]Department of Physics, St. Joseph's College of Engineering, Chennai, Tamil Nadu, India

Correspondence
Chamundeeswari. M, Associate Professor, Department of Biotechnology, St. Joseph's College of Engineering, OMR, Chennai 600119, Tamil Nadu, India.
Email: chamundeeswari@gmail.com

Abstract

The current research article has investigated the synthesis and characterization of novel iron nanoparticles (INPs) from neem and betel leaves extract combination using response surface methodology–central composite design and coated with chitosan–curcumin (CCINPs) as a biocompatible and contrast agent for magnetic resonance imaging (MRI). The coating of INPs with chitosan and curcumin (CCINPs) was carried out using a simple, easy, chemical-free ultrasonication method and characteristics were confirmed by UV–visible (Vis) spectrophotometer (UV–Vis), Fourier-transform infrared spectroscopy, X-ray diffraction, scanning electron microscope, atomic force microscopy, and vibrating sample magnetometer. The biocompatibility of the particles was ensured by conducting hemolytic and cell viability assays. The nanoparticle was found to be nonhemolytic (<5%) up to 150 μg/mL for both INPs and CCINPs. The cell viability was stable (peripheral blood mononuclear cells-PBMCs) till 48 h at 150 μg/mL of INPs and CCINPs. Both the test results produced were found to be biocompatible and additionally, an in vitro MRI study of INPs and CCINPs demonstrated the efficiency of the nanoparticle as a negative contrast agent with enhanced contrast nature in CCINPs. Thus, overall results indicate that the green synthesized chemical-free novel © INPs could be a potential candidate for a wide range of

Copy of paper published by Ms. S. Yuvvaranni

	 **Discover** Environment Review **Microalgae: an emerging source of bioplastics production** Anli Dino A[1] · Kishore G[2] Received: 21 October 2023 / Accepted: 16 February 2024 Published online: 22 February 2024 **Abstract** Bioplastics has gained attention as a sustainable alternative to traditional petroleum-based plastics. Microalgae have become one of the more promising and environmentally benign feedstocks to produce bioplastics. The goal of this in-depth review study is to address both the possibilities and the difficulties of manufacturing microalgae-based bioplastics. The review begins by discussing the negative impacts that commercial plastics have on the environment, pollution, and resource depletion. It then introduces the idea of bioplastics and discusses their importance in reducing the previously mentioned issues brought on by plastics. The article discusses the distinctive qualities of microalgae as a sustainable biomass source, noting their rapid development, high lipid content, and low need for both land and water. The various production processes and procedures used to create microalgae-based bioplastics are thoroughly explored. To determine whether the mechanical, thermal, and barrier qualities were appropriate for different applications, they were examined. Biodegradability and shelf life are factors in environmental impact assessments that highlight their potential to help mitigate the negative effects of plastics. Economic viability is a crucial factor that is examined through cost analyses and discussions of the prospects and incentives for market growth. To provide a glimpse into the future of microalgae-based bioplastics as a sustainable material option, current trends and innovations are emphasized. This review advances our knowledge of microalgae-based bioplastics in the race for a more sustainable plastics industry by offering a fair evaluation of their advantages, disadvantages, and uses. *Copy of paper published by Ms.Anli Dino*	
7.	**STAFF CONFERENCE PRESENTATION**	A paper titled “Effects of Seaweed Extract on Crocus sativus in In-house Cultivation using Vertical Farming” was presented in “International Conference on Integrating Recent Innovations in Science and Technology: Shaping the Future (ICIRIST – 2024) organized by Dhanalakshmi Srinivasan Engineering College, Perambalur – 621212, Tamil Nadu, India during 1-3 February 2024.

	 *Copy of certificate Dr.G. Baskar*	

DEPARTMENT OF MATHEMATICS

Events	Remarks
Collabarative Quality initiatives with other	-

institutions

FDP/Workshop/Conference

S.No	Name of the staff	Title of FDP / Workshop	Organized by	Mode	From	To
1	Dr. K. Abinaya	FDP on Resonance of Eras: Exploring the Intersection of Classical and Contemporary Literature	School of English of Kumaraguru College of Liberal Arts and Science	Online	05-02-2024	10-02-2024
2	Dr. S. Saryu Priyadarshini	FDP on Resonance of Eras: Exploring the Intersection of Classical and Contemporary Literature	School of English of Kumaraguru College of Liberal Arts and Science	Online	05-02-2024	10-02-2024
3	Ms.A. Sathiyajothi	FDP on Use of Artificial Intelligence in teaching - Hands on Practice	Gokul Global University	Online	05-02-2024	11-02-2024

Publications(only published) details

1. **P. Agilan**, K. Julietraja, B. Kanimozhi, A. Alsinai,, **Hyers Stability of AQC Functional Equation, DCDIS: Dynamics of Continuous, Discrete and Impulsive Systems, Series B: Applications & Algorithms Volume 31, Issue 1, Page: 63-75, February 2024 (SCOPUS)**

DEPARTMENT OF CIVIL ENGINEERING

Sl. No.	Photographs Captured During Events (Briefs About the Photographs)	Corresponding remarks (Minimum 300 words) in regarding the status of activity execution stating
1.	**Collaborative Quality initiatives with other institutions**	

2.	**Industrial Visits, In plant trainings, Internships**	  • Third year students visited D.N Constructions (Tar plant and Brick chamber) at Walajabad on 8.02.2024.They learnt about Bitumen mixing and Brick Manufacturing
3.	**Guest Lecture / Webinar Organized**	 • A Guest Lecture was arranged on 07.02.2024 on the topic "Lessons learnt from Earthquake Engineering" for third year students. The Lecture was delivered by Dr.K.Muthumani, Managing Director Structflix Structural Concepts Pvt Ltd, Chennai

4.	**Other activities (if any)**	• Mr. **Edwin Sahaya Justin J of** 2016 -2020 Batch delivered an Alumni Talk on the topic **Cracking GATE Examination.**The event conducted on 5.02.2024.  • **Mr.Cyril Mr. Sri Siva Chandra Mr.Muthu Maeckam of 2016 -2020** batch conducted **mock interviews** for Second and Third year students on 17.02.2024.

DEPARTMENT OF ELECTRONICS AND INSTRUMENTATION ENGINEERING

Sl. No.	Title	Detail

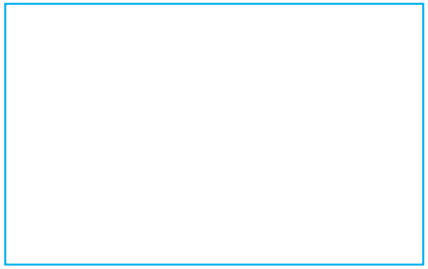
I	Consultancy	

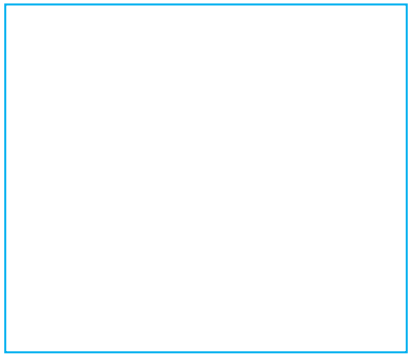
S.No.	Name of faculty	Client Organization	Title of Consultancy of project	Amount received (Rupees)	Month and Year	Proof
1	Dr.P.Deepa Mr.D.Sankaran	J-Tech Instruments	Robotics and Automation in Agriculture : Integration of Sensing Technologies and Automation Systems	2,00,000/-	Dec 2023 to Feb 2024	

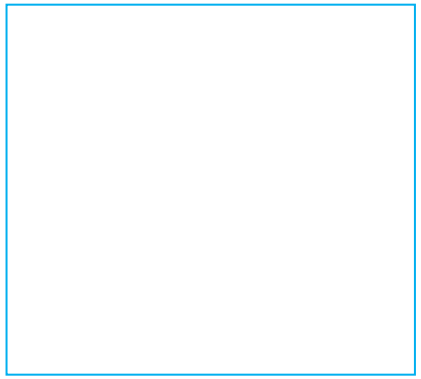
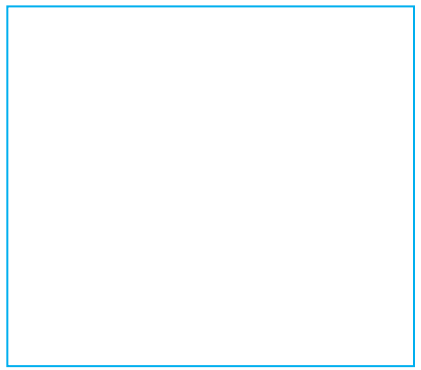
DEPARTMENT OF INFORMATION TECHNOLOGY

Sl. No.	Photographs Captured During Event/Screenshot	Corresponding remarks in regarding the status of activity execution
1	**Co-author** **Dr. Duraimurugan S** Published a paper in SCIE Indexed Journal	**Staff Paper Publication** Kumaar, M. Akshay, **Duraimurugan Samiayya**, Rajinikanth, Vincent, P. M. Durai Raj, Kadry, Seifedine, "Brain Tumor Classification Using a Pre-Trained Auxiliary Generative Adversarial Network" Publisher: UNIV INT RIOJA-UNIR**,** International Journal of Interactive Multimedia and Artificial Intelligence, DOI:10.9781/ijimai.2023.02.008 **(Impact Factor: 3.6, Q3, Indexed in SCIE)** **Abstract:** Computer Vision's applications and their use cases in the medical field have grown vastly in the past decade. The algorithms involved in these critical applications have helped doctors and surgeons perform procedures on patients more precisely with minimal side effects. However, obtaining medical data for developing large-scale generalizable and intelligent algorithms is challenging in the real world as multiple socio-economic, administrative, and demographic factors impact it. Furthermore, training machine learning algorithms with a small amount of data can lead to less accuracy and performance bias, resulting in incorrect diagnosis and treatment, which can cause severe side effects or even casualties. Generative Adversarial Networks (GAN) have recently proven to be an effective data synthesis and augmentation technique for training deep learning-based image classifiers. This research proposes a novel approach that uses a Style-based Generative Adversarial Network for conditional synthesis and auxiliary classification of Brain Tumors by pre-training. The proposed method was validated with an open-source MRI dataset which consists of three types of tumors -Glioma, Meningioma, and Pituitary. The proposed system achieved 99.51% test accuracy, 99.52% precision score, and 99.50% recall score, significantly higher than other approaches. Since the framework can be made adaptive using transfer learning, this method also benefits new and small datasets of similar distributions.

2	**Co-author** **J. Manikandan** Published a paper in SCIE Indexed Journal	S. Selvakanmani, P. Rajeswari, B.V. Krishna, **J. Manikandan**, "Optimizing E-waste management: Deep learning classifiers for effective planning", Elsevier Ltd Publisher: Journal of Cleaner Production, https://doi.org/10.1016/j.jclepro.2024.141021, ISSN: 09596526, 18791786, Volume 443, 141021, 2024, **(Impact Factor: 11.072, Q1, Indexed in Scopus)** **Abstract:** E-waste demands urgent attention to devise effective and sustainable waste management solutions. In response to this challenge, the integration of deep learning classifiers emerges as a promising avenue to optimize the planning of e-waste collection. By harnessing the capabilities of deep learning, these classifiers yield enriched navigational insights, facilitating more informed asset allocation and strategic interventions. To improve the potential efficiency and accuracy in waste collection the proposed methodology of Adaptive V3 and Federated Learning (Adaptive V3 and FL) are proposed to optimize e-waste collecting planning. The datasets like the Starter e-waste dataset and the Compressed E-waste dataset are employed for the e-waste classification. The overall performance achieved by the proposed method is 98.9 % and this maximized the performance than existing approaches such as DCNN, DLRNN, LSTM as well as BSFC which attained 78.4 %, 78.1 %, 58.6 %, and 39.4 % respectively. This research overcomes the proposed strategy in revolutionizing e-waste collecting, planning, and advancing a technology-driven approach to e-waste management. Further, it is performed to perform the effective e-waste classification with multiple wastes using large equipment.

3	 **Co-author** **J. Manikandan** Published a paper in Scopus Indexed Conference	**Staff Paper Publication** B. Krishna, G. D. Devi, S. V and **J. Manikandan**, "An Improved Music genre classification using Convolutional Neural Network and Spectrograms," 2023 International Conference on System, Computation, Automation and Networking (ICSCAN), Puducherry, India, pp. 1-6, doi: 10.1109/ICSCAN58655.2023.10395616, 2023. **(Indexed in Scopus)** **Abstract:** The entertainment industry and playlist generators like gaana, spotify, Slacker, etc. have become increasingly interested in types of music in the past few decades. In this study, Information Extraction (IE) and information methods of processing are integrated. In a broader sense, we humans undertake a lot of the work of classifying musical styles into their respective genres. Therefore, this article proposes a system for categorising musical genres using spectrograms. The spectrogram represents the results of applying the Short-Time Fourier Transform (STFT) to the sound files. Convolutional neural networks (CNNs) are used as the basis for the classification system in this study. The GTZAN dataset was chosen for this study because it contains accurate classifications of ten different types of music (blues, classical, rock, etc.). Spectrograms are created, data sets are separated, images are resized, the model is tested with convolutional neural networks, and finally, the trained model predicts the genre based on its output. The recommended model will be tested and evaluated for its loss and accuracy rate in the end. Increased accuracy in identifying musical genres via spectrogram analysis of audio recordings is reported.
4	 **Co-author** **J. Manikandan** Published a paper in Scopus Indexed Conference	A. S. S, S. K. Sugunedham, R. M, A. S and **J. Manikandan**, "Fruits and Pest Diseases Detection using Deep Learning-Based Approach," 2023 International Conference on System, Computation, Automation and Networking (ICSCAN), Puducherry, India, pp. 1-5, doi: 10.1109/ICSCAN58655.2023.10395005, 2023. **(Indexed in Scopus)** **Abstract:** Current agricultural environments present threats from fungal and bacterial pathogens which pose grave threats to both crop production and food security, necessitating timely detection of plant pathogens as a priority. Computer based techniques that employ deep learning methodologies have been devised to effectively detect plant diseases by analysing indicators on stems and leaves. We focus on three primary detection systems that include YOLO, region-based Fully Convolutional Networks (R-FCNs) and faster Region-based Convolutional Neural Networks (Faster R-CNNs) as “deep learning meta-architectures, including Residual Network and VGG Net. To enhance precision and minimize false positives in training time, we have devised a technique which combines global and local class tagging as well as feature extraction. To do this, we used an immense database called Pests and Diseases of Fruit Information that contains various images of pests and diseases as well as details like inflammation severity and root location - this data served to train and assess our systems extensively; its results demonstrate its ability to precisely identify nine pests/diseases even in challenging soils. At the core of it all lies our research: deep-learning meta-architectures and attribute concentrators demonstrate their value in disease detection. By employing cutting edge technologies, we hope to enhance plant health management while optimizing crop yield.

5	 **Co-author** **Dr. A.Tamizhselvi** Published a paper in Scopus Indexed Conference	**Staff Paper Publication** U. Sakthi, K. Thangaraj, **A.Tamizhselvi** and M. K. Kirubakaran, "Deep Convolutional Neural Network Framework for Brain Tumor Classification using MRI Images," 2023 2nd International Conference on Automation, Computing and Renewable Systems (ICACRS), Pudukkottai, India, 2023, pp. 548-553, doi: 10.1109/ICACRS58579.2023.10404771**(Indexed in Scopus)** **Abstract:** Brain cancer is one of the high-risk diseases and increases the death rate in all countries, affecting both men and women. The early diagnosis and severity of brain cancer leads to better medical treatment and save people's lives. The machine learning procedure has been applied for early detection and treatment of brain cancer in the biomedical field by classifying them into low-risk and high-risk groups. In cancer research, the predictive and classification model has been developed using Deep Convolutional Neural Network (DCNN) algorithms for accurate decision making. The Magnetic Resonance Image (MRI) classification technique DCNN is advanced to detect and match feature points of training and test images. The DCNN classifier based on the outcome of feature points then classifies images. The key notion of this proposed research effort is to implement and execute the proposed DCNN algorithm on cancer patient datasets for risk level classification. The brain cancer affected patient details are collected from UCI machine learning data repository for experimental analysis. In this research study, the DCNN algorithm is proposed and it gives better accuracy and faster than the KNN, CNN and SVM.
6	 **Ms. Abinaya K Samy** Published an India Patent	**Patent Published** **Title of the invention:** Machine Learning-Based Approach for Exploring Urban Demand for Agricultural Products, Urban Farming, and Rural-Urban Migration **Name of Inventor:** 1. Dr. Deepak Kholiya 2. Dr. D.Anitha Kumari **3. Abinaya K Samy** 4. Dr. Mohd Asif Shah 5. Nitin Mishra 6. Tabussam Tufail 7. Dr. Sthita Prajna Mishra 8. Dr. Suniti Kumar Kuriyal 9. Prof. Gulshan Kumar Dhingra 10. Ms. G.Devayani 11. Dr. Gandhi 12. Mr. Y. Rama Govinda Reddy **Patent Application Number:** 202411003971 **Date of filing of Application:**19/01/2024 **Publication Date:** 09/02/2024

7	 **Ms. M. Janani** Published an India Patent	**<u>Patent Published</u>** **Title of the invention:** Deep Learning-Based Techniques for Investigating Methods And Technologies For Ensuring Food Safety and Quality Throughout the Food Supply Chain, Including Microbial Testing, Traceability Systems, and Certification Programs **Name of Inventor:** 1. Dharm Beer Singh 2. Dr. Shantanu Bhattacharyya 3. Ms. Pratima Sahu **4. M. Janani** 5. Dr. Pratibha Rani Deep 6. Dr. Gandhi N 7. Y. Rama Govinda Reddy 8. Harshit Girdhar 9. Dr. A Sreenivas 10. Dr. T. ArunKumar 11. Yudhveer Singh Moudgil 12. Dr. Chiranjib Goswami **Patent Application Number:** 202411002772 **Date of filing of Application:** 14/01/2024 **Publication Date:** 02/02/2024
8	 **Dr. C. Heltin Genitha** Published an India Patent	**Title of the invention:** Early and Accurate Prediction of Kidney Diseases Using Algorithms of Deep Learning **Name of Inventor:** 1. Dr. Inamul Hasan Madar 2. Shital Bhushan Mehta 3. Dr. N.Gaoudam **4. C. Heltin Genitha** 5. S. Jayasree 6. Dr S. Geeitha 7. Dr. K Rajendra Prasad 8. Mamatha B 9. Dr V Kavitha 10. Atal Bihari Singh 11. Dr. K. Srinivasa Rao 12. Dr.A. Senthilkumar **Patent Application Number:** 202441006260 **Date of filing of Application:** 31/01/2024 **Publication Date:** 09/02/2024

9	 **Dr.S.Sumathi** Published an India Patent	**<u>Patent Published</u>** **Title of the invention:** Integration of IOT And Artificial Intelligence for Enhanced Forest Fire Detection, Monitoring, and Prediction **Name of Inventor:** 1. Srinivasa Rao Dhanikonda 2. S. Malathi 3. Dr.S.M.Ramesh 4. Veeresh **5. Dr.S.Sumathi** 6. Dr. Rajesh Bhaskar Survase 7. S Muthurajan 8. Kolli Venkatrao 9. B.Gracelin Sheena 10. V.Banupriya 11. Dr. Sandeep Petkar 12. Dr M Rambabu **Patent Application Number:** 202441002716 **Date of filing of Application:** 13/01/2024 **Publication Date:** 23/02/2024

10

Sample FDP Certificate

FDP/Workshop attended by Faculty

S.No	Title of the topic	Name of the Staff	Conducted By	Date
1.	Palo Alto Network Security Fundamentals	Dr.A.Tamizhselvi	VIT, Chennai	09-01-24 to 13-01-25 (5 days)