SRI KRISHNA INSTITUTIONS COIMBATORE

SUSTAINABLE DEVELOPMENT GOALS

SKCT supports the Sustainable Development Goals

Sri Krishna College of Technology
An Autonomous Institution
Affiliated to Anna University and Approved by AICTE
Accredited by NAAC with 'A' Grade
KOVAIPUDUR CAMPUS, COIMBATORE - 641 042.

VOL 25- ISSUE 27
JUN 29- JUL 05, 2025

SKCT DIGEST

THE PRIDE OF OUR REFLECTION

ISBN NUMBER
978-93-5895-815-7

A heart without dreams is like a bird without feathers.

-Suzy Kassem

Contact Us

0422-2984567 - 68
Kovaipudur,
Coimbatore - 641 042.

ARTIFICIAL INTELLIGENCE & DATA SCIENCE

STUDENT PARTICIPATION

Mr Arun R, **Mr Dilip Kumar**, **Mr Jees Lionel G** and **Mr Jothik Rithin Bio J**, Students of Second B.Tech. AI&DS, conducted an awareness programme on the **"Basics of Computers"** and organised a **"Tree Planting Activity"** for school students.

CERTIFICATE

From:
Municipality President,
Udumalaipettai,
Tirupur District.

Certificate

From All India Council for Technical Education (AICTE), New Delhi, engineering students are supposed to do AICTE Activity Point Program in various aspects like plantation, women empowerment, government services , technology skills , water and environment conservation, and career guidance, etc. in government offices, schools, and colleges and village. The permission is granted to students by the village president.

This is to certify that students of (II) B.Tech (AI&DS) from Sri Krishna College of Technology have conducted an awareness program on the **Basics of Computers** for Class II to V students at the Municipal Primary School, Udumalaipettai. In addition, they also organized a **Tree planting** activity to promote environmental awareness among the students.

We appreciate their work and effort to educate, share knowledge, and support the students in building foundational digital skills and understanding the importance of environmental conservation.

The student names are listed below:

1) ARUN R
2) DILIP KUMAR SP
3) JEES LIONEL G
4) JOTHIK RITHIN BIO J

Date: 10/06/2025
Place: Udumalaipettai, Tiruppur District.

Seal of School

Signature of Headmaster :

Signature of President :

ARTIFICIAL INTELLIGENCE & DATA SCIENCE

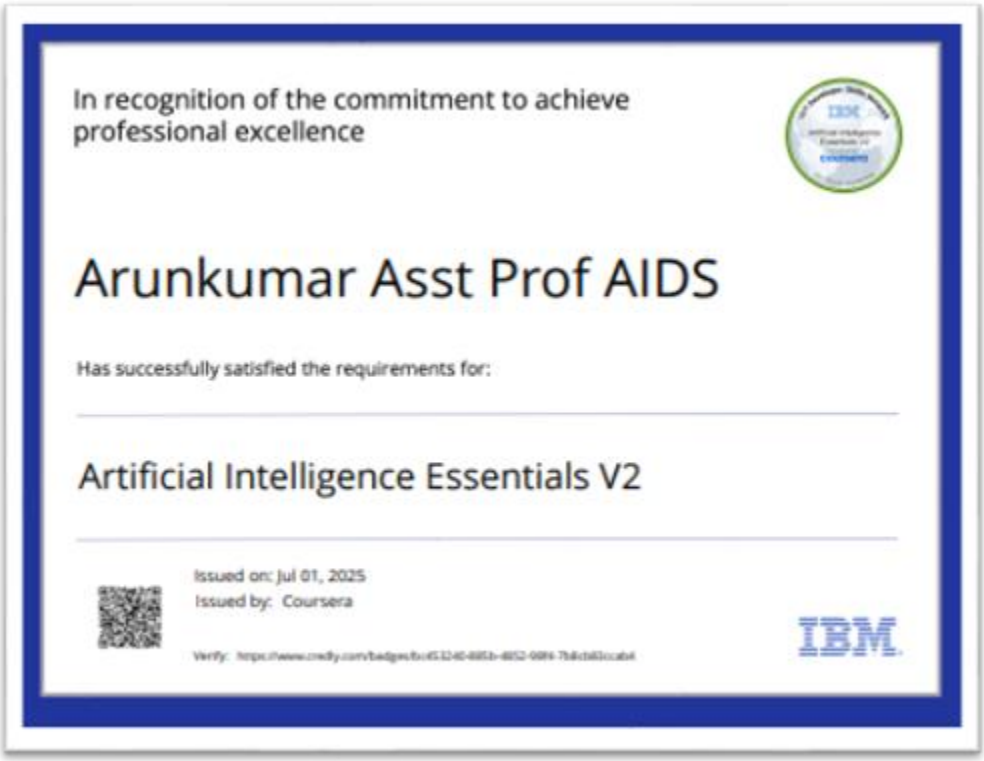
STUDENT INTERNSHIP

Ms Meera Fareena S, **Ms Manopriya S**, **Ms Niranjana R**, **Ms Prithika J**, **Ms Nisha B**, **Ms Kanishka S**, **Ms Niveditha G** and **Ms Kaviya S**, Students of Second B.Tech. AI&DS, completed a four-week virtual internship on **"Web Development"** at Pinnacle Labs during 07 May to 06 June 2025.

ARTIFICIAL INTELLIGENCE & DATA SCIENCE

FACULTY CERTIFICATION

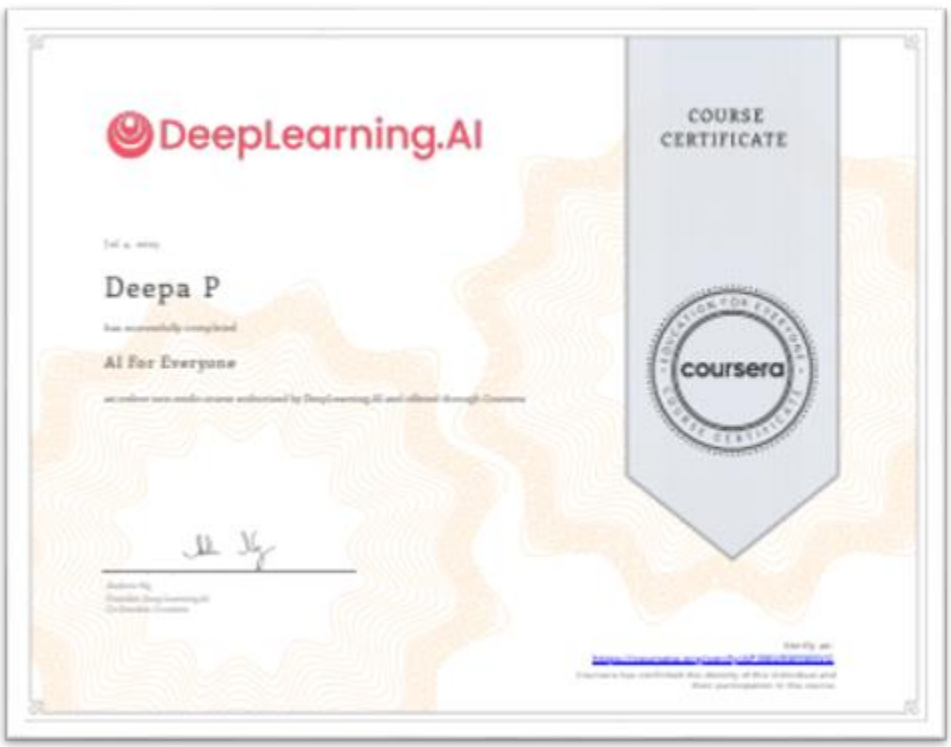
Mr Arun Kumar R, Asst. Professor, completed the online certification course on **"Artificial Intelligence Essentials V2"** offered through Coursera and certified by IBM.



ARTIFICIAL INTELLIGENCE & DATA SCIENCE

FACULTY CERTIFICATION

Ms Deepa P, Asst. Professor, completed **"AI for Everyone"**, an online non-credit course offered through Coursera and authorized by DeepLearning AI.



CSE (IOT)

STUDENT INTERNSHIP

Mr Rithik A S, Student of Second B.E. CSE (IoT), successfully completed a one-month internship on **"C++ Programming"**, offered by Pinnacle on 20 June 2025.

Date Of Issue: June 18, 2025

PINNACLE
ELEVATING POSSIBILITIES IN TECH

internship@pinnaclelabs.tech
pinnaclelabs.tech
Kolkata, India

OFFER LETTER

Dear Rithik As,

We are excited to offer you a **C++ Programming Internship** at Pinnacle Labs Pvt Ltd. This is a fantastic opportunity for you to gain practical experience and enhance your skills in software development.

This Internship Program will have a duration of one month, commencing from the **June 20, 2025**. This intensive month-long program will provide you with a focused and immersive experience in C++ Programming, enabling you to acquire valuable skills and knowledge within this timeframe.

We are confident that this condensed and structured approach will maximize your learning and practical exposure during your time with us. We look forward to having you as part of our team.

Sincerely,

TEAM Pinnacle Labs

MINISTRY OF CORPORATE AFFAIRS

PL/2025/JUNP9/047

CSE (CYS)

STUDENT CERTIFICATION

Mr Manasseh M, Student of Second B.E. CSE (CYS), successfully completed an online course on **"Cyber Job Simulation"**, offered by Deloitte on 02 July 2025.

Deloitte.

Manasseh M

Cyber Job Simulation

Certificate of Completion

July 2nd, 2025

Over the period of July 2025, Manasseh M has completed practical tasks in:

Cyber security

Tina McCreery
Chief Human Resources Officer, Deloitte

CSE (CYS)

STUDENT CERTIFICATION

Mr Manasseh M, Student of Second B.E. CSE (CYS), successfully completed an online course on **"Cybersecurity Analyst Job Simulation"**, offered by Forage on 27 July 2025.

CSE (IOT)

FACULTY CERTIFICATION

Ms S Pavithra, Asst. Professor, successfully completed the online course on **"Introduction to Augmented Reality and ARCore"**, offered through Coursera on 28 June 2025.

CSE (IOT)

FACULTY CERTIFICATION

Ms S Priyadharshini, Asst. Professor, successfully completed the online course on **"Introduction to R"**, through Infosys Springboard, offered by Coursera on 16 June 2025.

CSE (AI&ML)

FACULTY PUBLICATION

Dr Naveenbalaji G, Assoc. Professor, published a research article titled **"Electrical Analytical Approach for Hydrogen Sensing of $Al_{0.43}Ga_{0.57}As/La_2O_3$:Pt-Based CSDG MOSFET"**, in Analog Integrated Circuits and Signal Processing with the volume no. 124, article no. 44, indexed in SCI/SCIE, on 24 June 2025.

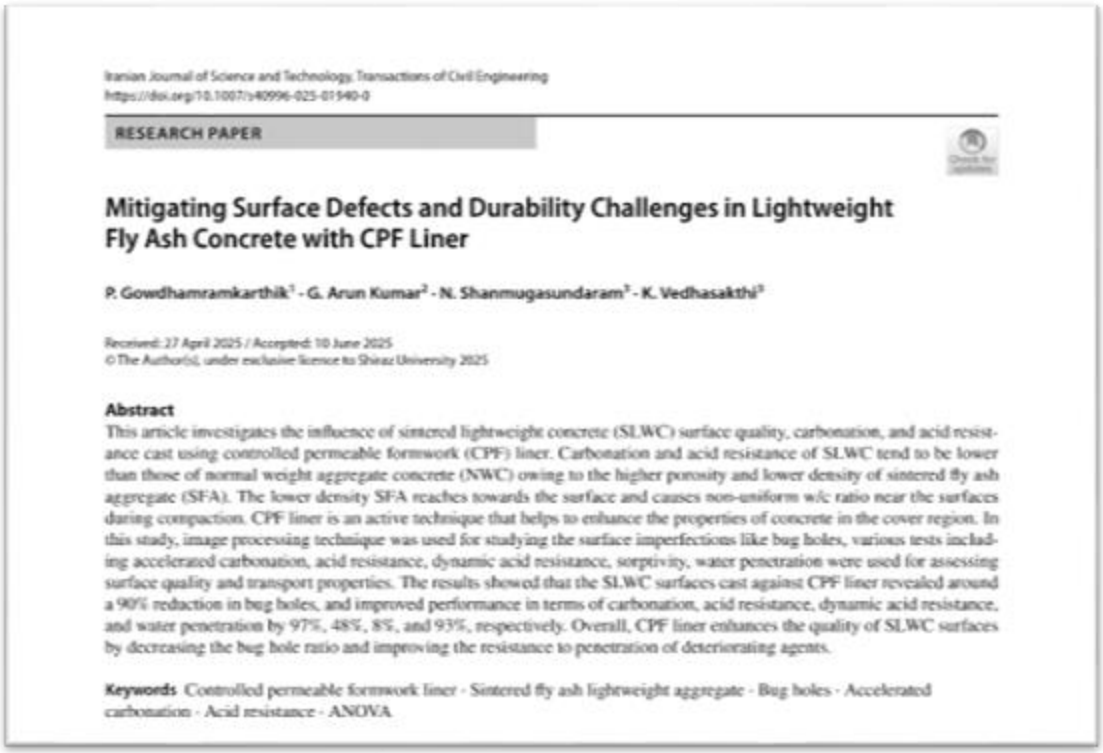
Electrical analytical approach for hydrogen sensing of $Al_{0.43}Ga_{0.57}As/La_2O_3$: Pt-based CSDG MOSFET

Naveenbalaji Gowthaman · Viranjay M. Srivastava

CIVIL ENGINEERING

FACULTY PUBLICATIONS

Dr N Shanmugasundaram and **Dr K Vedhasakthi,** Asst. Professors, published and co-authored a research article titled **"Mitigating Surface Defects and Durability Challenges in Lightweight Fly Ash Concrete with CPF Liner"** Iranian Journal of Science and Technology, Transactions of Civil Engineering, indexed by Scopus.



Iranian Journal of Science and Technology, Transactions of Civil Engineering
https://doi.org/10.1007/s40996-025-01540-0

RESEARCH PAPER

Mitigating Surface Defects and Durability Challenges in Lightweight Fly Ash Concrete with CPF Liner

P. Gowdhamramkarthik[1] · G. Arun Kumar[2] · N. Shanmugasundaram[3] · K. Vedhasakthi[3]

Received: 27 April 2025 / Accepted: 10 June 2025
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Abstract
This article investigates the influence of sintered lightweight concrete (SLWC) surface quality, carbonation, and acid resistance cast using controlled permeable formwork (CPF) liner. Carbonation and acid resistance of SLWC tend to be lower than those of normal weight aggregate concrete (NWC) owing to the higher porosity and lower density of sintered fly ash aggregate (SFA). The lower density SFA reaches towards the surface and causes non-uniform w/c ratio near the surfaces during compaction. CPF liner is an active technique that helps to enhance the properties of concrete in the cover region. In this study, image processing technique was used for studying the surface imperfections like bug holes, various tests including accelerated carbonation, acid resistance, dynamic acid resistance, sorptivity, water penetration were used for assessing surface quality and transport properties. The results showed that the SLWC surfaces cast against CPF liner revealed around a 90% reduction in bug holes, and improved performance in terms of carbonation, acid resistance, dynamic acid resistance, and water penetration by 97%, 48%, 8%, and 93%, respectively. Overall, CPF liner enhances the quality of SLWC surfaces by decreasing the bug hole ratio and improving the resistance to penetration of deteriorating agents.

Keywords Controlled permeable formwork liner · Sintered fly ash lightweight aggregate · Bug holes · Accelerated carbonation · Acid resistance · ANOVA

CIVIL ENGINEERING

FACULTY PARTICIPATION

Dr V Sathish Kumar, Assoc. Professor, and **Dr N Shanmugasundaram**, Asst. Professor, participated in the Online Faculty Development Programme on **"Structural Design and Analysis using STAAD Pro Connect"**, conducted by ICT Academy from 24 to 28 June, 2025.

ICTACADEMY

CERTIFICATE OF PARTICIPATION

C.No: 025-224209

Date: 28 Jun 2025

DR.V.SATHISH KUMAR

Sri Krishna College of Technology, Coimbatore

has participated in 10 Hours of Faculty Development Program on

Structural Design and Analysis using STAAD Pro Connect (Online FDP)

conducted by ICT Academy on 24 Jun 2025 to 28 Jun 2025

ICTACADEMY

CERTIFICATE OF PARTICIPATION

C.No: 025-224206

Date: 28 Jun 2025

DR.N.SHANMUGASUNDARAM

Sri Krishna College of Technology, Coimbatore

has participated in 10 Hours of Faculty Development Program on

Structural Design and Analysis using STAAD Pro Connect (Online FDP)

conducted by ICT Academy on 24 Jun 2025 to 28 Jun 2025

CIVIL ENGINEERING

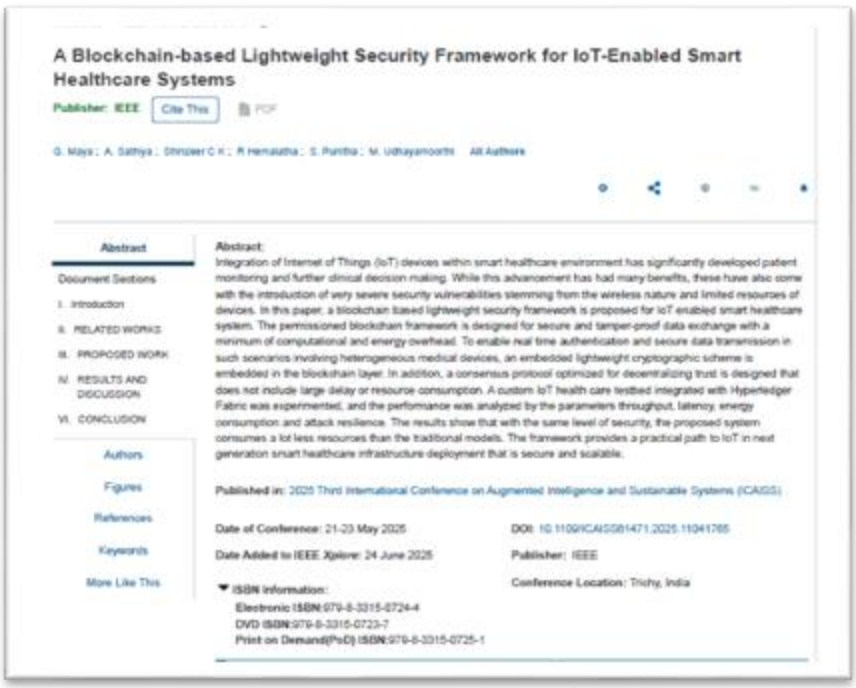
FACULTY PARTICIPATION

Dr P Subashree, Assoc. Professor, and **Dr G Selina Ruby**, Asst. Professor, completed the **"Capacity Building Programme on Cybersecurity – Basic Course"**, organised by the Teaching Learning Centre (TLC), IIT Madras, and conducted by IITM Pravartak from 23 to 27 June, 2025.

COMPUTER SCIENCE AND ENGINEERING

FACULTY PUBLICATION

Dr M Udhayamoorthi, Assoc. Professor, published a research paper titled **"A Blockchain-based Lightweight Security Framework for IoT-Enabled Smart Healthcare Systems"** at the 2025 Third International Conference on Augmented Intelligence and Sustainable Systems (ICAISS), held on 24 June 2025.



A Blockchain-based Lightweight Security Framework for IoT-Enabled Smart Healthcare Systems

Publisher: IEEE | Cite This | PDF

G. Maya ; A. Sathiya ; Dhinjeer C K ; R Hemalatha ; S. Punitha ; M. Udhayamoorthi | All Authors

Abstract

Document Sections

I. Introduction
II. RELATED WORKS
III. PROPOSED WORK
IV. RESULTS AND DISCUSSION
VI. CONCLUSION

Authors
Figures
References
Keywords
More Like This

Abstract:
Integration of Internet of Things (IoT) devices within smart healthcare environment has significantly developed patient monitoring and further clinical decision making. While this advancement has had many benefits, these have also come with the introduction of very severe security vulnerabilities stemming from the wireless nature and limited resources of devices. In this paper, a blockchain based lightweight security framework is proposed for IoT enabled smart healthcare system. The permissioned blockchain framework is designed for secure and tamper-proof data exchange with a minimum of computational and energy overhead. To enable real time authentication and secure data transmission in such scenarios involving heterogeneous medical devices, an embedded lightweight cryptographic scheme is embedded in the blockchain layer. In addition, a consensus protocol optimized for decentralizing trust is designed that does not include large delay or resource consumption. A custom IoT health care testbed integrated with Hyperledger Fabric was experimented, and the performance was analyzed by the parameters throughput, latency, energy consumption and attack resilience. The results show that with the same level of security, the proposed system consumes a lot less resources than the traditional models. The framework provides a practical path to IoT in next generation smart healthcare infrastructure deployment that is secure and scalable.

Published in: 2025 Third International Conference on Augmented Intelligence and Sustainable Systems (ICAISS)

Date of Conference: 21-23 May 2025
DOI: 10.1109/ICAISS61471.2025.11041765
Date Added to IEEE Xplore: 24 June 2025
Publisher: IEEE
Conference Location: Trichy, India

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Print on Demand(PoD) ISBN:979-8-3315-0725-1

COMPUTER SCIENCE AND ENGINEERING

FACULTY PARTICIPATION

Dr M Kavitha Margret, Ms S Vidhiya and **Ms K M Madhumitha**, Faculty Members of the Department of CSE, successfully completed the Faculty Development Programme on **"Big Data Analytics"**, organised by CT Academy and C-DAC Hyderabad, under the Ministry of Electronics & Information Technology (MeitY), Government of India from 23 to 27 June 2025.

COMPUTER SCIENCE AND ENGINEERING

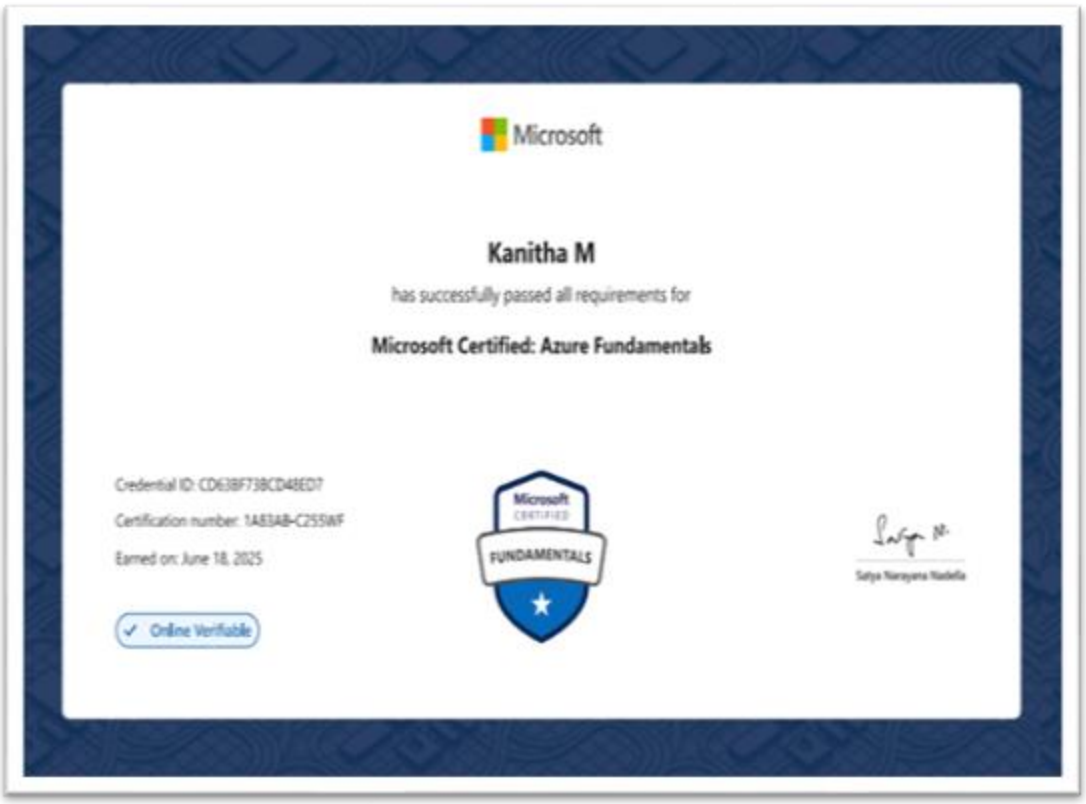
STUDENT PARTICIPATION

Ms Abinaya K, Ms Harini R and **Ms Brindha S**, Students of Final B.E. CSE, completed an online course on **"UI/UX Design with Sketch: Travel Booking App"**, offered through Coursera.

COMPUTER SCIENCE AND ENGINEERING

STUDENT CERTIFICATION

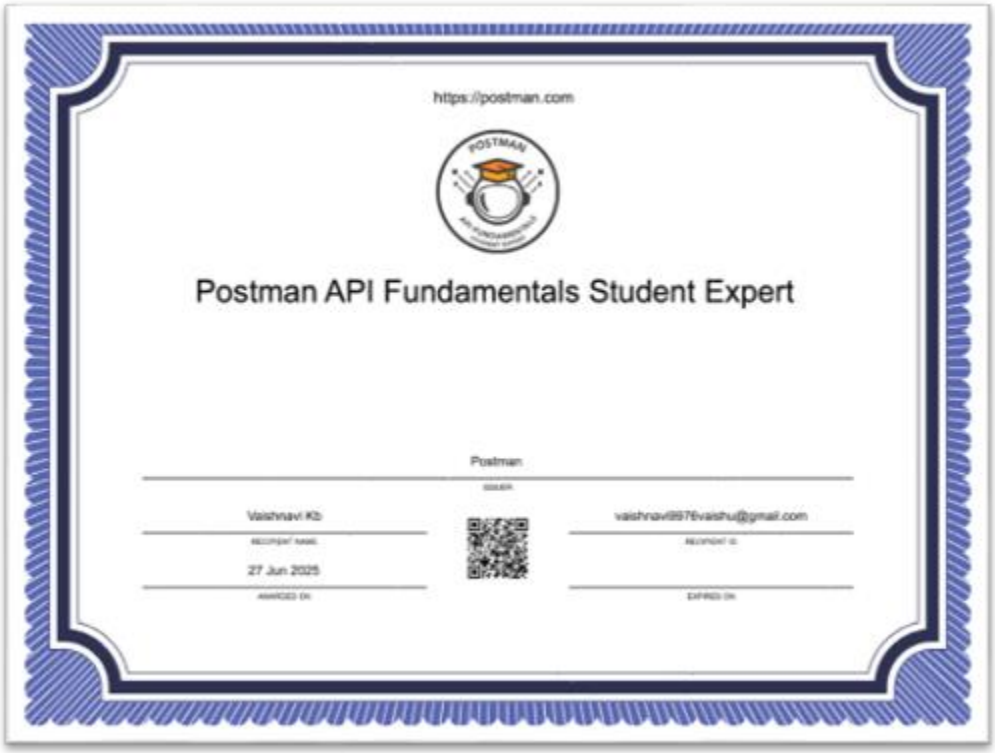
Ms Kanitha M, Student of Final B.E. CSE, completed the certification on **"Microsoft AZ-900 Fundamentals"**, offered by Microsoft.



COMPUTER SCIENCE AND ENGINEERING

STUDENT CERTIFICATION

Ms Vaishnavi K B, Student of Second B.E. CSE-E, completed and was awarded the official badge on **"Postman API Fundamentals Student Expert Programme"** conducted by Postman, a global API platform on 27 June 2025.



COMPUTER SCIENCE AND ENGINEERING

STUDENT INTERNSHIP

Ms Mahalakshmi K, Student of Second B.E. CSE, completed an internship on **"Android App Development"** at Krutanic Solutions.

COMPUTER SCIENCE AND ENGINEERING

STUDENT INTERNSHIP

Ms Merisha R M, Student of Second B.E. CSE, completed an internship based on "**HTML, CSS and JavaScript"** at **ZHILON Solutions**.

ZHILON
Solutions India Pvt. Ltd

GSTIN - 33AACCZ1756H1ZB
CIN - U62099TN2023PTC159730

Date : 22-06-2025

Internship Certificate

This is to certify that Ms. Merisha R M, a student of Sri Krishna College of Technology, Department of Computer Science and Engineering, has successfully completed her internship at our organization from 1st June 2025 to 22nd June 2025.

During her internship, she actively worked in the domain of HTML, CSS, and JavaScript, demonstrating a strong understanding of front-end development principles. She was involved in practical tasks, gained hands-on experience in web design, and contributed positively to assigned projects.

Her performance throughout the internship was commendable, showcasing a keen interest in learning, a collaborative spirit, and a professional attitude.
We wish her continued success in all her future endeavors.

For Zhilon Solutions,

Managing Director.
(Ashick Nithesh)

ZHILON SOLUTIONS INDIA PVT. LTD.

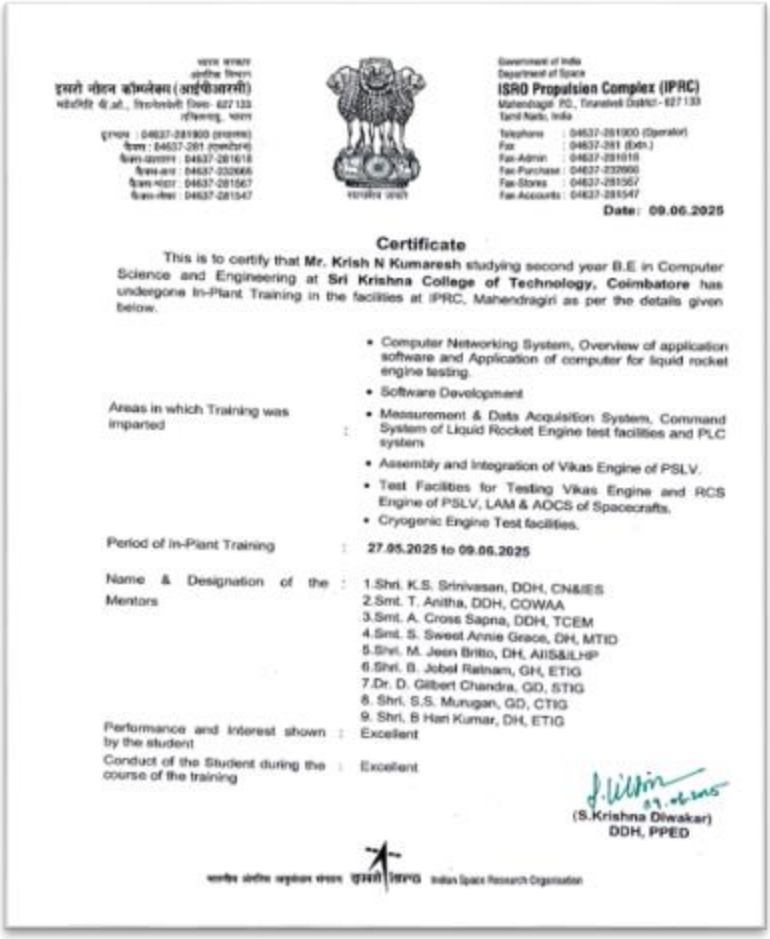
+91 8270068157
info@baytech.in
www.baytech.in

Zhilon solutions India Pvt. Ltd.,
Karungal,Kanyakumari,
TamilNadu,India.
PIN: 629157

COMPUTER SCIENCE AND ENGINEERING

STUDENT INTERNSHIP

Mr Krish N Kumaresh, Student of Third B.E. CSE B, completed a 10-day internship at the **Indian Space Research Organisation (ISRO)**, Propulsion Complex, Mahendragiri.



इसरो नोदन कॉम्प्लेक्स (आईपीआरसी)

Government of India
Department of Space
ISRO Propulsion Complex (IPRC)

Date: 09.06.2025

Certificate

This is to certify that **Mr. Krish N Kumaresh** studying second year B.E in Computer Science and Engineering at **Sri Krishna College of Technology, Coimbatore** has undergone In-Plant Training in the facilities at IPRC, Mahendragiri as per the details given below.

Areas in which Training was imparted	:	• Computer Networking System, Overview of application software and Application of computer for liquid rocket engine testing. • Software Development • Measurement & Data Acquisition System, Command System of Liquid Rocket Engine test facilities and PLC system • Assembly and Integration of Vikas Engine of PSLV. • Test Facilities for Testing Vikas Engine and RCS Engine of PSLV, LAM & AOCS of Spacecrafts. • Cryogenic Engine Test facilities.
Period of In-Plant Training	:	27.05.2025 to 09.06.2025
Name & Designation of the Mentors	:	1.Shri. K.S. Srinivasan, DDH, CN&IES 2.Smt. T. Anitha, DDH, COWAA 3.Smt. A. Cross Sapna, DDH, TCEM 4.Smt. S. Sweet Annie Grace, DH, MTID 5.Shri. M. Jeen Britto, DH, AIIS&ILHP 6.Shri. B. Jobel Ratnam, GH, ETIG 7.Dr. D. Gilbert Chandra, GD, STIG 8. Shri. S.S. Murugan, GD, CTIG 9. Shri. B Hari Kumar, DH, ETIG
Performance and Interest shown by the student	:	Excellent
Conduct of the Student during the course of the training	:	Excellent

(S.Krishna Diwakar)
DDH, PPED

Indian Space Research Organisation

COMPUTER SCIENCE AND ENGINEERING

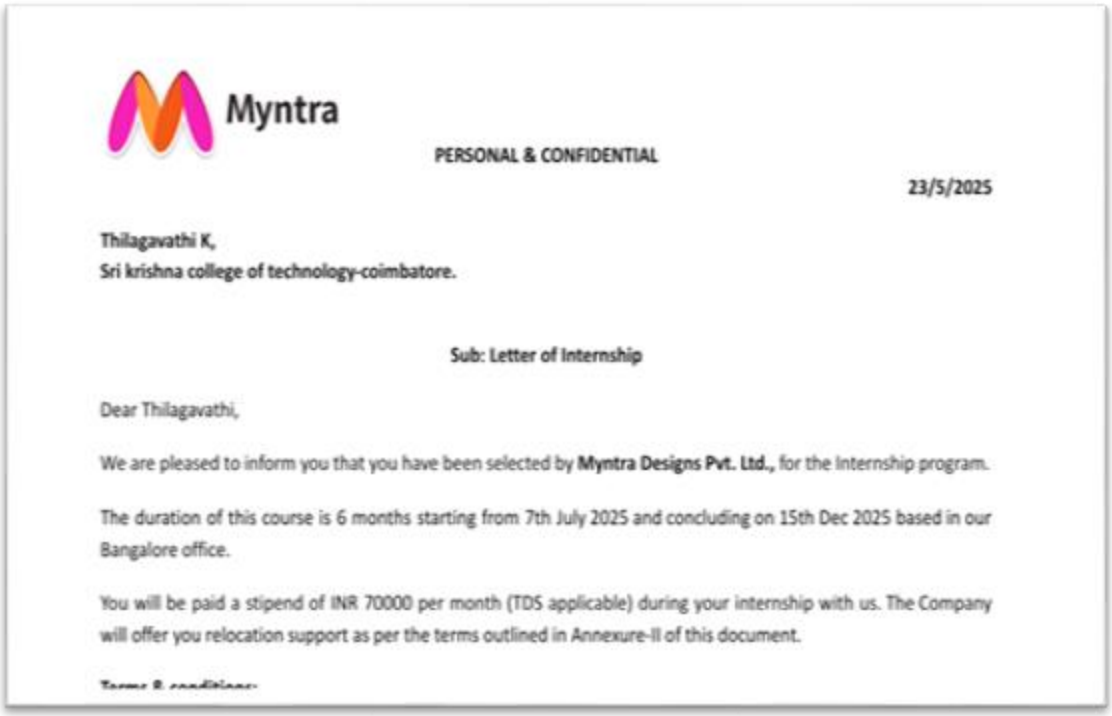
STUDENT PARTICIPATION

Mr Krish N Kumaresh, Student of Third B.E. CSE B, attended a "**Symposium**" and also participated in the **"Cultural Fest"** held at the Indian Institute of Space Science and Technology (IIST), Thiruvananthapuram.

COMPUTER SCIENCE AND ENGINEERING

STUDENT INTERNSHIP

Ms K Thilagavathi, Student of Final B.E. CSE, secured an internship at **Myntra** with a **monthly stipend of ₹70,000**.



Myntra

PERSONAL & CONFIDENTIAL

23/5/2025

Thilagavathi K,
Sri krishna college of technology-coimbatore.

Sub: Letter of Internship

Dear Thilagavathi,

We are pleased to inform you that you have been selected by **Myntra Designs Pvt. Ltd.,** for the Internship program.

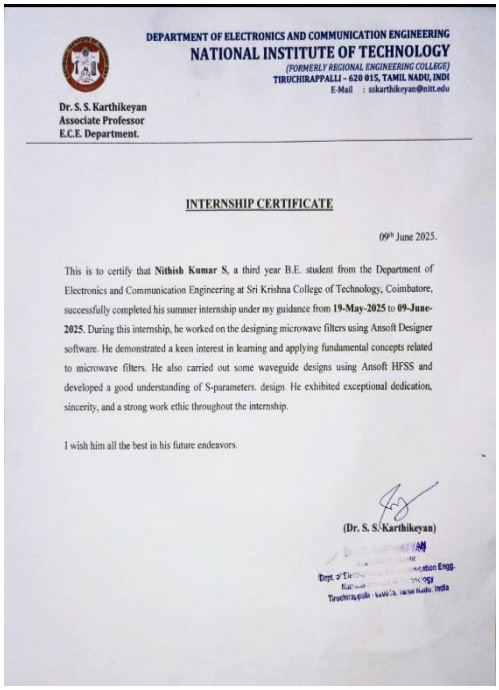
The duration of this course is 6 months starting from 7th July 2025 and concluding on 15th Dec 2025 based in our Bangalore office.

You will be paid a stipend of INR 70000 per month (TDS applicable) during your internship with us. The Company will offer you relocation support as per the terms outlined in Annexure-II of this document.

ELECTRONICS AND COMMUNICATION ENGINEERING

STUDENT INTERNSHIP

Mr S Nithish Kumar, Student of Third Year B.E. ECE attended an Internship at **National Institute of Technology,** Tiruchirappalli during 19 May 2025 to 09 June 2025.



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGY
(FORMERLY REGIONAL ENGINEERING COLLEGE)
TIRUCHIRAPPALLI - 620 015, TAMIL NADU, INDI
E-Mail : sskarthikeyan@nitt.edu

Dr. S. S. Karthikeyan
Associate Professor
E.C.E. Department.

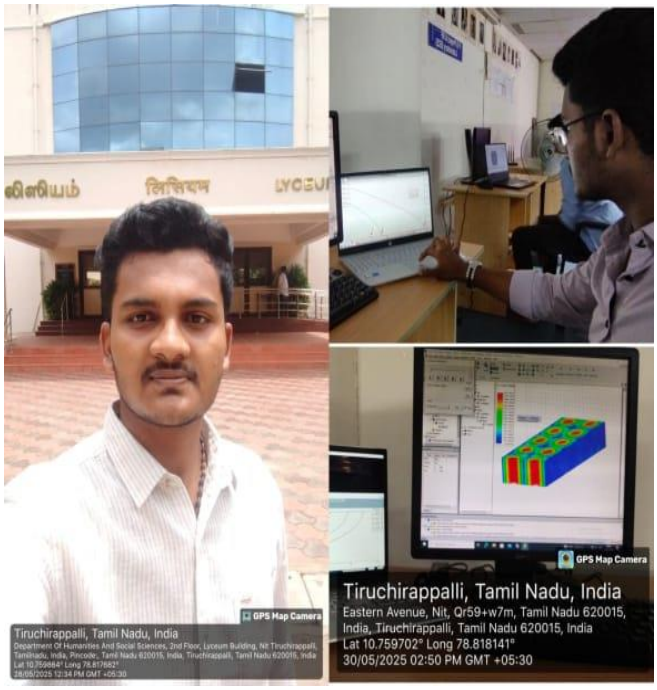
INTERNSHIP CERTIFICATE

09th June 2025.

This is to certify that **Nithish Kumar S**, a third year B.E. student from the Department of Electronics and Communication Engineering at Sri Krishna College of Technology, Coimbatore, successfully completed his summer internship under my guidance from **19-May-2025** to **09-June-2025**. During this internship, he worked on the designing microwave filters using Ansoft Designer software. He demonstrated a keen interest in learning and applying fundamental concepts related to microwave filters. He also carried out some waveguide designs using Ansoft HFSS and developed a good understanding of S-parameters. design. He exhibited exceptional dedication, sincerity, and a strong work ethic throughout the internship.

I wish him all the best in his future endeavors.

(Dr. S. S. Karthikeyan)



ELECTRONICS AND COMMUNICATION ENGINEERING

FACULTY PARTICIPATION

Dr C Senthilkumar and **Dr K Bagyalakshmi**, Faculty members, Department of ECE, attended the FDP on **"Applied AI & ML: From Concepts to Real World Applications in Teaching"** organized by Dr MGR University, Chennai during 26 to 30 May 2025.


Dr.M.G.R. Educational and Research Institute
(DEEMED TO BE UNIVERSITY)
Maduravoyal, Chennai - 600 095

Department of Computer Science and Engineering

One Week Virtual Faculty Development Program

"Applied AI & ML: From Concepts to Real World Applications in Teaching"

Certificate of Participation

This is to certify that Dr.Senthilkumar C,Assoc.Prof,
of Dept. of ECE, Sri Krishna College of Technology ,Coimbatore
has participated in One Week Virtual Faculty Development Program on "Applied AI & ML: From Concepts to Real World Applications in Teaching" organised by Department of Computer Science and Engineering during 26th May to 30th May - 2025.

HOD-CSE (Dr.S.Geetha) | Dean Engg&Tech (Dr.N.Ithaya) | Registrar (Dr. C.B.Palaniveln)

Certificate Number
MGRAIML427


Dr.M.G.R. Educational and Research Institute
(DEEMED TO BE UNIVERSITY)
Maduravoyal, Chennai - 600 095

Department of Computer Science and Engineering

One Week Virtual Faculty Development Program

"Applied AI & ML: From Concepts to Real World Applications in Teaching"

Certificate of Participation

This is to certify that Dr.K.Bagyalakshmi,Asst.Prof
of Dept. of ECE, Sri Krishna College of Technology ,Coimbatore
has participated in One Week Virtual Faculty Development Program on "Applied AI & ML: From Concepts to Real World Applications in Teaching" organised by Department of Computer Science and Engineering during 26th May to 30th May - 2025.

HOD-CSE (Dr.S.Geetha) | Dean Engg&Tech (Dr.N.Ithaya) | Registrar (Dr. C.B.Palaniveln)

Certificate Number
MGRAIML437

ELECTRONICS AND COMMUNICATION ENGINEERING

FACULTY CERTIFICATION

Dr C Senthilkumar, Assoc. Professor, completed an Online Certification Courses on **"Introduction to Python"** offered through Coursera.

ELECTRONICS AND COMMUNICATION ENGINEERING

FACULTY CERTIFICATION

Dr S Prema, Asst. Professor, completed an Online Certification Courses on **"Quantum Computing with Qiskit and Advanced Algorithms"** offered through Coursera.

ELECTRONICS AND COMMUNICATION ENGINEERING

STUDENT ONLINE CERTIFICATION

Ms A Nesamalar, Student of Second B.E. ECE, completed the Great Learning Course on **"Introduction to Artificial Intelligence"**

ELECTRONICS AND COMMUNICATION ENGINEERING

EVENT ORGANIZED

The Department of Electronics and Communication Engineering, in association with the Department Association (KNOCKIA), organised an event titled **"Gears to Code: The Evolution of Intelligent Automotive Systems"** on 30 June 2025.

ELECTRICAL AND ELECTRONICS ENGINEERING

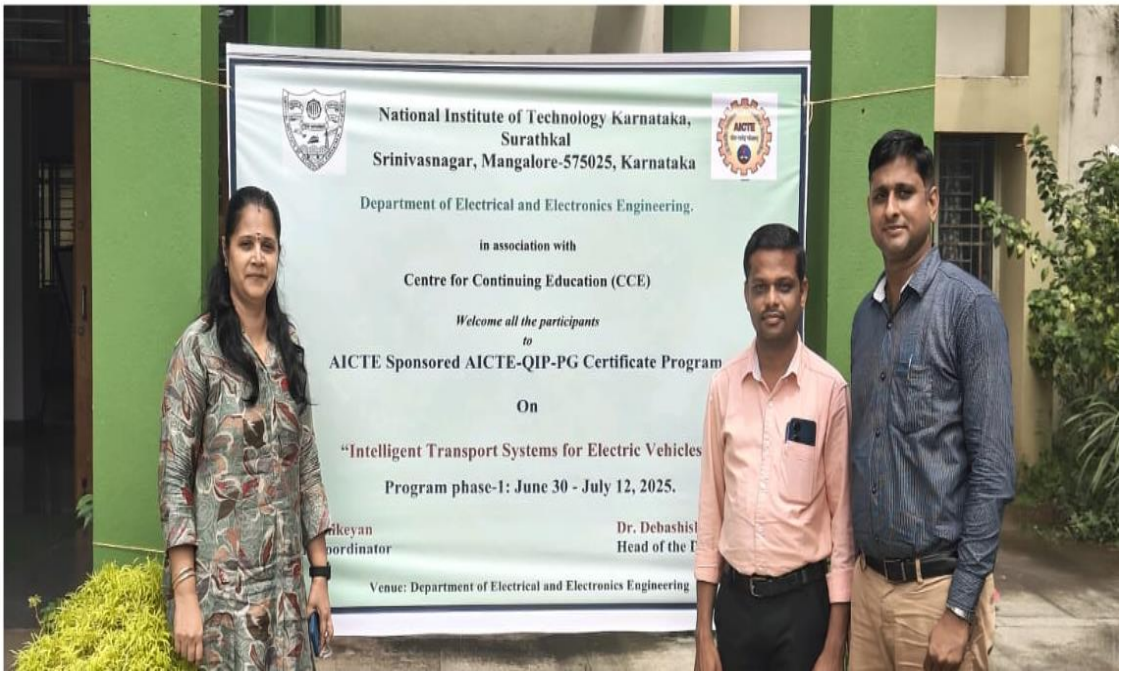
FACULTY PUBLICATION

Dr Sanjana Devi V S, Asst. Professor, along with the students of ICE, published a research article titled **"Early Detection of Parkinson's Disease using Drawings Analysis with Random Forest & SC Boost Classifiers"** in the International Conference on Emerging Technologies in Computing and Communication (ETCC), organised by PES University, Bangalore, held during 26 to 27 June 2025.

ELECTRICAL AND ELECTRONICS ENGINEERING

FACULTY PARTICIPATION

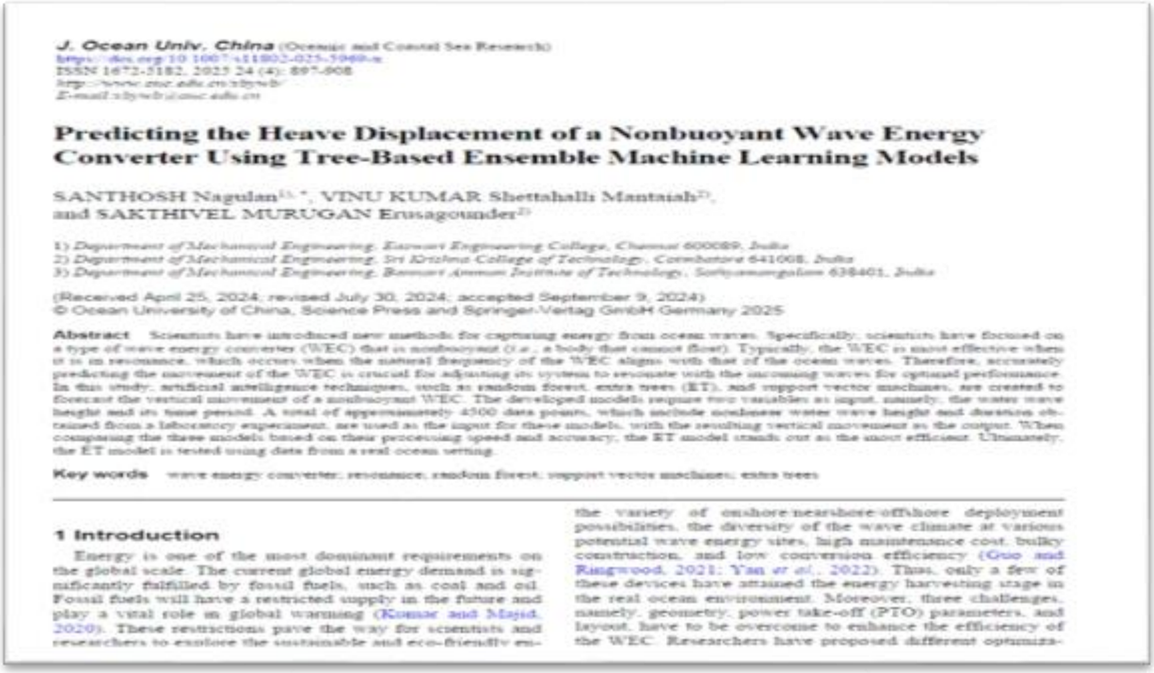
Dr Lijo Jacob Varghese and **Dr Suresh K P**, Faculty of EEE, are participating in the AICTE-QIP-PG Certification Programme on **"Intelligent Transport Systems for Electric Vehicles"** at NITK Surathkal, Karnataka during 30 June to 11 July



MECHANICAL ENGINEERING

FACULTY PUBLICATION

Dr Vinu Kumar S M, Faculty of Mechanical Engineering, co-authored a paper titled **"Predicting the Heave Displacement of a Nonbuoyant Wave Energy Converter Using Tree-Based Ensemble Machine Learning Models"**, published in J. Ocean Univ. China (SCIE, Q3) by Springer. DOI: https://doi.org/10.1007/s11802-025-5969-x



J. Ocean Univ. China (Oceanic and Coastal Sea Research)
https://doi.org/10.1007/s11802-025-5969-x
ISSN 1672-5182, 2025 24 (4): 897-908

Predicting the Heave Displacement of a Nonbuoyant Wave Energy Converter Using Tree-Based Ensemble Machine Learning Models

SANTHOSH Nagulan[1), *], VINU KUMAR Shettahalli Mantaiah[2)], and SAKTHIVEL MURUGAN Erusagounder[3)]

1) Department of Mechanical Engineering, Easwari Engineering College, Chennai 600089, India
2) Department of Mechanical Engineering, Sri Krishna College of Technology, Coimbatore 641008, India
3) Department of Mechanical Engineering, Bannari Amman Institute of Technology, Sathyamangalam 638401, India

(Received April 25, 2024; revised July 30, 2024; accepted September 9, 2024)

Abstract Scientists have introduced new methods for capturing energy from ocean waves. Specifically, scientists have focused on a type of wave energy converter (WEC) that is nonbuoyant (i.e., a body that cannot float). Typically, the WEC is most effective when it is in resonance, which occurs when the natural frequency of the WEC aligns with that of the ocean waves. Therefore, accurately predicting the movement of the WEC is crucial for adjusting its system to resonate with the incoming waves for optimal performance. In this study, artificial intelligence techniques, such as random forest, extra trees (ET), and support vector machines, are created to forecast the vertical movement of a nonbuoyant WEC. The developed models require two variables as input, namely, the water wave height and its time period. A total of approximately 4500 data points, which include nonlinear water wave height and duration obtained from a laboratory experiment, are used as the input for these models, with the resulting vertical movement as the output. When comparing the three models based on their processing speed and accuracy, the ET model stands out as the most efficient. Ultimately, the ET model is tested using data from a real ocean setting.

Key words wave energy converter; resonance; random forest; support vector machines; extra trees

1 Introduction

Energy is one of the most dominant requirements on the global scale. The current global energy demand is significantly fulfilled by fossil fuels, such as coal and oil. Fossil fuels will have a restricted supply in the future and play a vital role in global warming (Kumar and Majid, 2020). These restrictions pave the way for scientists and researchers to explore the sustainable and eco-friendly en- the variety of onshore/nearshore/offshore deployment possibilities, the diversity of the wave climate at various potential wave energy sites, high maintenance cost, bulky construction, and low conversion efficiency (Guo and Ringwood, 2021; Yan et al., 2022). Thus, only a few of these devices have attained the energy harvesting stage in the real ocean environment. Moreover, three challenges, namely, geometry, power take-off (PTO) parameters, and layout, have to be overcome to enhance the efficiency of the WEC. Researchers have proposed different optimiza-

MECHANICAL ENGINEERING

FACULTY PARTICIPATION

Mr K Mohan, Asst. Professor, is attending the **AICTE-QIP-PG Certification Programme** on **"IoT"** at IIITDM Kurnool.

MECHANICAL ENGINEERING

FACULTY PARTICIPATION

Mr K Senthil Kumar and **Mr M Rajeswaran**, Asst. Professors, Department of Mechanical Engineering, are attending the **AICTE-QIP-PG Certification Programme** on **"Artificial Intelligence and Data Science"** at IIIT Kottayam, Kerala.

MECHANICAL ENGINEERING

FACULTY PUBLICATION

Mr K Senthil Kumar, Asst. Professor, published an article titled **"Nanostructured coatings for enhanced photothermal conversion in solar desalination systems"**, published in a Q1 journal with 6.9 Impact Factor.

Applied Thermal Engineering

Research Paper

Nanostructured coatings for enhanced photothermal conversion in solar desalination systems

Manzoore Elahi M. Soudagar, Arunkumar Munimathan, K. Senthil Kumar, Aman Sharma, Mamata Chahar, Lalitha Gnanasekaran, Ratchagaraja Dhairiyasamy, Manikandan Ayyar, Vinayagam Mohanavel

MECHANICAL ENGINEERING

FACULTY PUBLICATION

Mr K Senthil Kumar, Asst. Professor, published an article titled **"Optimizing solar desalination performance using copper and silicon carbide nanoparticles"**, published in Journal of Thermal Analysis and Calorimetry (Q1, Impact Factor: 3.1).

Optimizing solar desalination performance using copper and silicon carbide nanoparticles

Abstract

Introduction

MECHANICAL ENGINEERING

FACULTY PUBLICATION

Mr K Senthil Kumar, Asst. Professor, published an article titled **"Improving the thermal efficiency of a solar water heater by using PCM with Cu, SiC, and BN nanoparticles"**, published in Results in Engineering (Q2, Impact Factor: 7.9).

Results in Engineering

Research paper

Improving the thermal efficiency of a solar water heater by using PCM with copper powder (Cu), silicon carbide (SiC), and boron nitride (BN) nano particles

Senthil Kumar K, Arunkumar Munimathan, S. Ravi, Deepak Gupta, K. Rajan, Ratchagaraja Dhairiyasamy, Vinayagam Mohanavel, Ram Subbiah, Marusoore Elshi M. Soodagar

INFORMATION TECHNOLOGY

STUDENT PARTICIPATION

Mr S Sujith Kumar, Student of Third B.Tech. IT, successfully completed **Industrial Exposure Training** in the field of **"JAVA"** at CYFOTOK INFOSEC LLP.

CYFOTOK INFOSEC
CYFOTOK.COM

02 June, 2025

INTERNSHIP CERTIFICATE

This is to Certify that **S SUJITH KUMAR** Pursuing **III** Year student of **BTECH INFORMATION TECHNOLOGY** from **"SRI KRISHNA COLLEGE OF TECHNOLOGY"** Coimbatore, has successfully completed Industrial exposure Training in the field of **"JAVA"** at **CYFOTOK INFOSEC LLP** under the guidance of our Development Team from date **02.05.2025**,for a duration of 20 days.

During this Internship period, He/She actively participated in various projects and demonstrated a high level of dedication and commitment to learning and applying Java programming skills.

Regards,

Priyadharshini M
Director

Phone
(+91)9176121201

Email
info@cyfotok.com

Address
Coimbatore,Tamil Nadu

INFORMATION TECHNOLOGY

STUDENT PARTICIPATION

Ms Harshitha Saraswathi R S, Student of Third B.Tech. IT, completed **German Language Course - Basic Level 1 and 2**, certified by Goethe Institute.

GOETHE-ZENTRUM
COIMBATORE
KOOPERATIONSPARTNER
GOETHE-INSTITUT

(A unit of Coimbatore Indo-German Cultural Association)

GOETHE-INSTITUT, DEUTSCHLAND
Goethe Institute, Germany

TEILNAHMEBESTÄTIGUNG
Certificate of Participation

Hiermit bestätigen wir, dass
This is to certify that

Harshitha Saraswathi RS

an einem Deutschkurs der Niveaustufe A2 teilgenommen hat.
has participated in a German Language Course for **Basic Level 2**.

Der Kurs besteht aus 160 Einheiten zu je 45 Minuten.
The course consisted of 160 units of 45 minutes duration each.

Director
GOETHE-ZENTRUM COIMBATORE

INFORMATION TECHNOLOGY

STUDENT INTERNSHIP

Mr Karan S N, Student of Second B.Tech. IT, completed a **two-week internship programme** at **Boyante Solutions**, during 02 June to 13 June 2025.

Boyante Solutions

INTERNSHIP COMPLETION CERTIFICATE

This is to certify that **Karan S.N.**, a student of **Sri Krishna College of Technology**, has completed a **two-week internship program** at **Boyante Solutions**, from **02/06/2025** to **13/06/2025**, as part of their academic curriculum.

During the internship, the student was assigned to the **Software Development & Testing** and was exposed to real-time software development activities, including:

- Understanding the software development and testing lifecycle
- Learning about agile development practices and team collaboration
- Assisting in documentation and testing activities

We found the intern to be enthusiastic, punctual, and eager to learn. Their participation and willingness to take up tasks under guidance were commendable.

We wish **Karan S.N.** all the very best for their future academic and professional endeavors.

Authorized Signatory
K.Vinoth Kannan
Associate Manager
Boyante Solutions
Date: 13/06/2025

Boyante Solutions
No. 1, Sri Sai Garden, Kuttaur Street, Kalapatti, Coimbatore - 641048.

INFORMATION TECHNOLOGY

FACULTY PARTICIPATION

Ms S Saranya, Asst. Professor, participated in the Two-day National Level Seminar on **"Impact of Terahertz Technology in India by 2040: Prospects and Challenges"**, sponsored by Anusandhan National Research Foundation (ANRF), held at Sri Eswar College of Engineering, Coimbatore, during 03 and 04 June 2025.

INFORMATION TECHNOLOGY

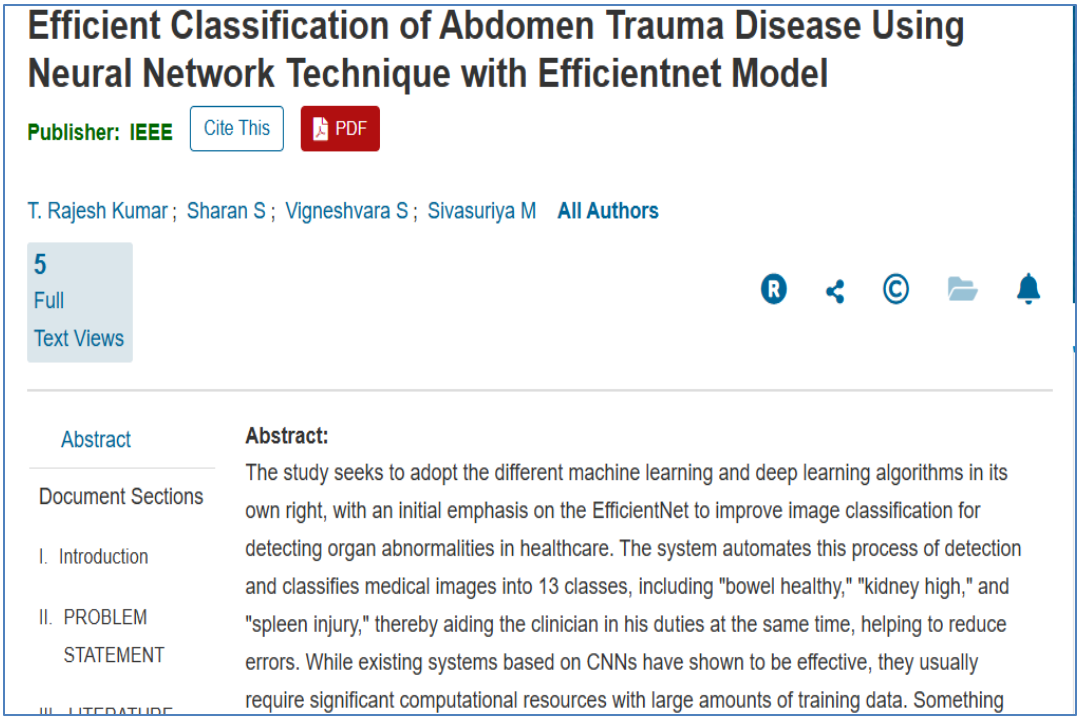
FACULTY CERTIFICATION

Ms S Saranya, Asst. Professor, successfully completed an online course on **"Concurrent and Distributed Computing with Python"** on 03 June 2025.

INFORMATION TECHNOLOGY

FACULTY PUBLICATION

Dr T Rajesh Kumar, Assoc. Professor & Programme Co-ordinator, published a paper titled **"Efficient Classification of Abdomen Trauma Disease Using Neural Network Technique with EfficientNet Model"** in IEEE Xplore.



Efficient Classification of Abdomen Trauma Disease Using Neural Network Technique with Efficientnet Model

Publisher: IEEE | Cite This | PDF

T. Rajesh Kumar ; Sharan S ; Vigneshvara S ; Sivasuriya M All Authors

5 Full Text Views

Abstract

Document Sections

I. Introduction

II. PROBLEM STATEMENT

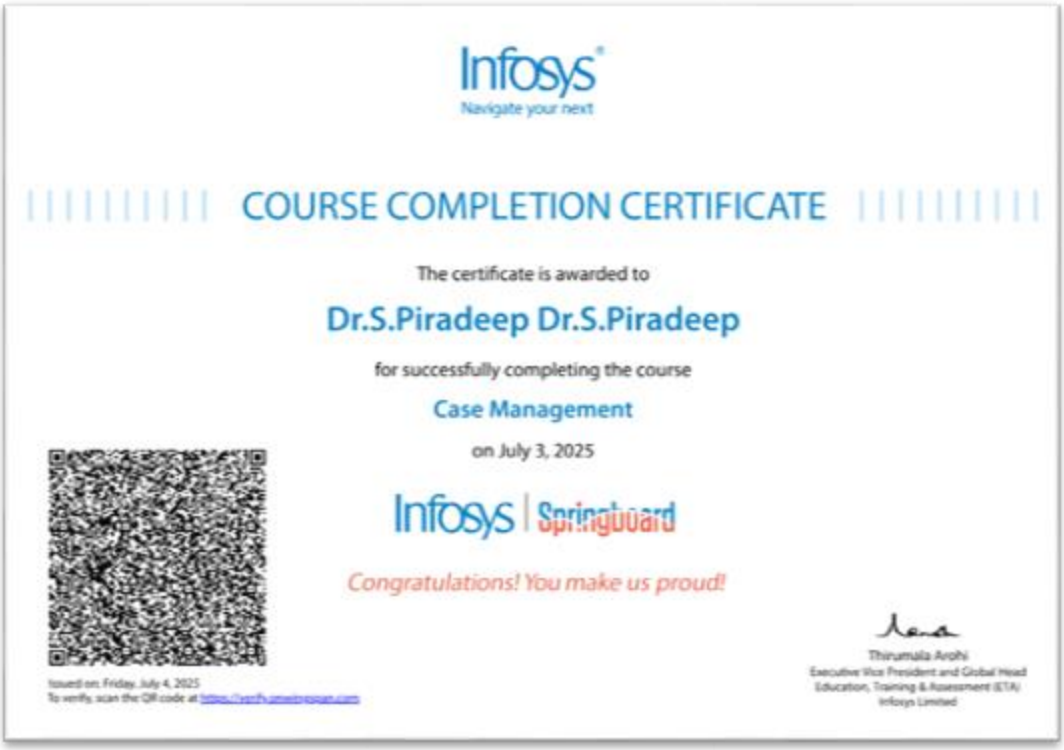
Abstract:

The study seeks to adopt the different machine learning and deep learning algorithms in its own right, with an initial emphasis on the EfficientNet to improve image classification for detecting organ abnormalities in healthcare. The system automates this process of detection and classifies medical images into 13 classes, including "bowel healthy," "kidney high," and "spleen injury," thereby aiding the clinician in his duties at the same time, helping to reduce errors. While existing systems based on CNNs have shown to be effective, they usually require significant computational resources with large amounts of training data. Something

MASTER OF BUSINESS ADMINISTRATION

FACULTY CERTIFICATION

Dr Piradeep S, Asst. Professor, completed the course **"Case Management"** through Infosys Springboard on 03 July 2025.



MASTER OF BUSINESS ADMINISTRATION

FACULTY CERTIFICATION

Mr Siva S, Asst. Professor, completed the course **"HR Analytics"** on 03 July 2025 through Great Learning.

SCIENCE AND HUMANITIES

FACULTY PARTICIPATION

Dr N Venugopal, Assoc. Professor, successfully completed a online course on **"Writing and Editing: Word Choice and Word Order"** offered through Coursera on 30 June 2025.

SCIENCE AND HUMANITIES

FACULTY PARTICIPATION

Dr B Kogilavani, Asst. Professor, successfully completed the following Coursera courses:

- **"Use Canva to Create Social Media Visuals for Business"**
- **"Introduction to Event Management"**
- **"Introduction to Budgeting for Events"**
- **"Use Canva to Create an Interactive Mind Map"**

SCIENCE AND HUMANITIES

FACULTY ACHIEVEMENT

Dr R Ganesh, Asst. Professor, along with **Dr K R Kanimozhi**, Assoc. Professor (S&H), and **Dr V Sathishkumar**, Assoc. Professor (Civil), submitted a project under Water Resource Management titled : **"Eco-Smart Thermo Electric Water Warmer and Cooler"**.

The project was approved by Unnat Bharat Abhiyan with a sanctioned amount of **₹1,00,000**. **Dr R Ganesh** serves as the Principal Investigator.

Subject: Approval of Proposal under Unnat Bharat Abhiyan – Water Resource Management
To: <uba@skct.edu.in>
Cc: <ganesh.r@skct.edu.in>

Dear Sir/Madam,

Greetings from UBA

I am pleased to inform you that your proposal entitled **"Eco Smart Thermoelectric Water Warmer and Cooler"** under the Unnat Bharat Abhiyan scheme, within the Water Resource Management group for 2024, has been approved by the competent authorities.

Kindly find attached the mandate form, which needs to be duly signed by you, the concerned person, and returned to us at your earliest convenience to initiate further disbursement of funds.

Thank you for your interest and valuable contribution.

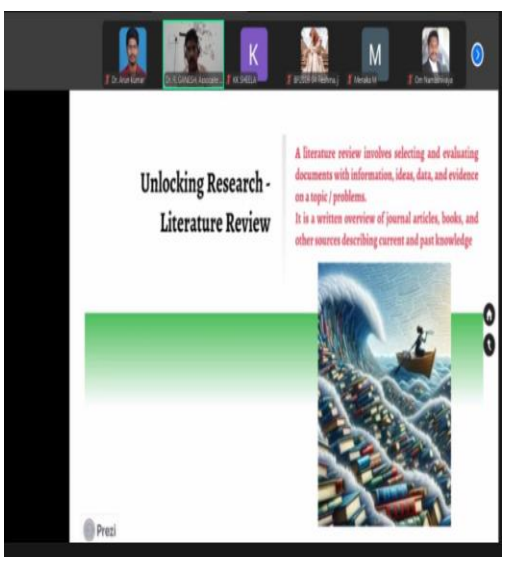
Warm regards,
Dr Anuradha Awasthi

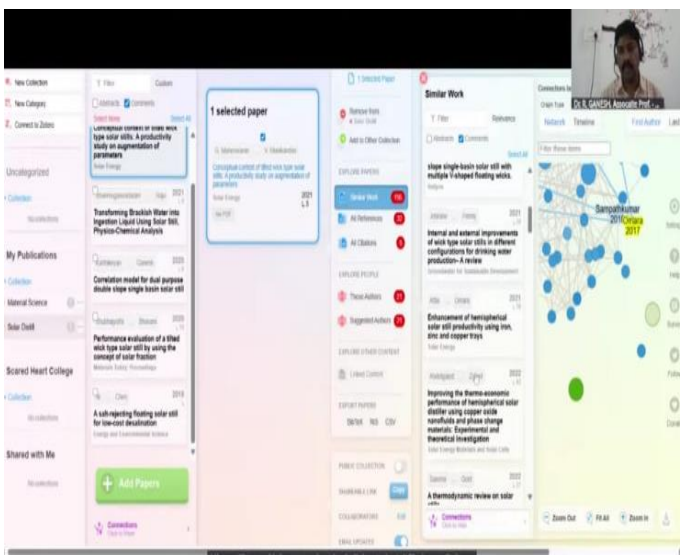
Project Executive Officer, UBA, IIT Kanpur

SCIENCE AND HUMANITIES

FACULTY ACHIEVEMENT

Dr R Ganesh, Asst. Professor, served as the Resource Person for the online Faculty Development Programme (FDP) on **"Research AI Tools – Research Rabbits"**, organised by the PG & Research Department of Biochemistry, Sacred Heart College (Autonomous), Tirupatur, on 30 June 2025.





SCIENCE AND HUMANITIES

FACULTY ACHIEVEMENT

Dr R Thilagavaty, Asst. Professor, published a paper titled **"Teachers' Perception and Practices of English Language Teaching Trends, Tools and Challenges"** in the UGC Care Group II journal - Metszet Journal, ISSN No: 2061-2710, Volume 10, Issue 6.

METSZET JOURNAL

A UGC - CARE Approved Group - II Journal

An ISO : 7021-2008 Certified Journal

ISSN NO : 2061-2710 / Web : https://metszetjournal.com/
e-mail : submitmetszetjournal@gmail.com

Paper ID: METSZET/5005

CERTIFICATE OF PUBLICATION

This is to Certified that the paper entitled

TEACHERS' PERCEPTION AND PRACTICES OF ENGLISH LANGUAGE TEACHING: TRENDS, TOOLS & CHALLENGES

Authored by :

DR. R. THILAGAVATHY

From

Assistant Professor in English, Sri Krishna College of Technology, Kovaipudhur, – 641042, Coimbatore (Dt), Tamilnadu.

Has been Published in

METSZET Journal, Volume 10, issue 6, June - 2025

James Boulton, Editor - in -chief
METSZET JOURNAL

Scopus

LIBRARY

FACULTY PARTICIPATION

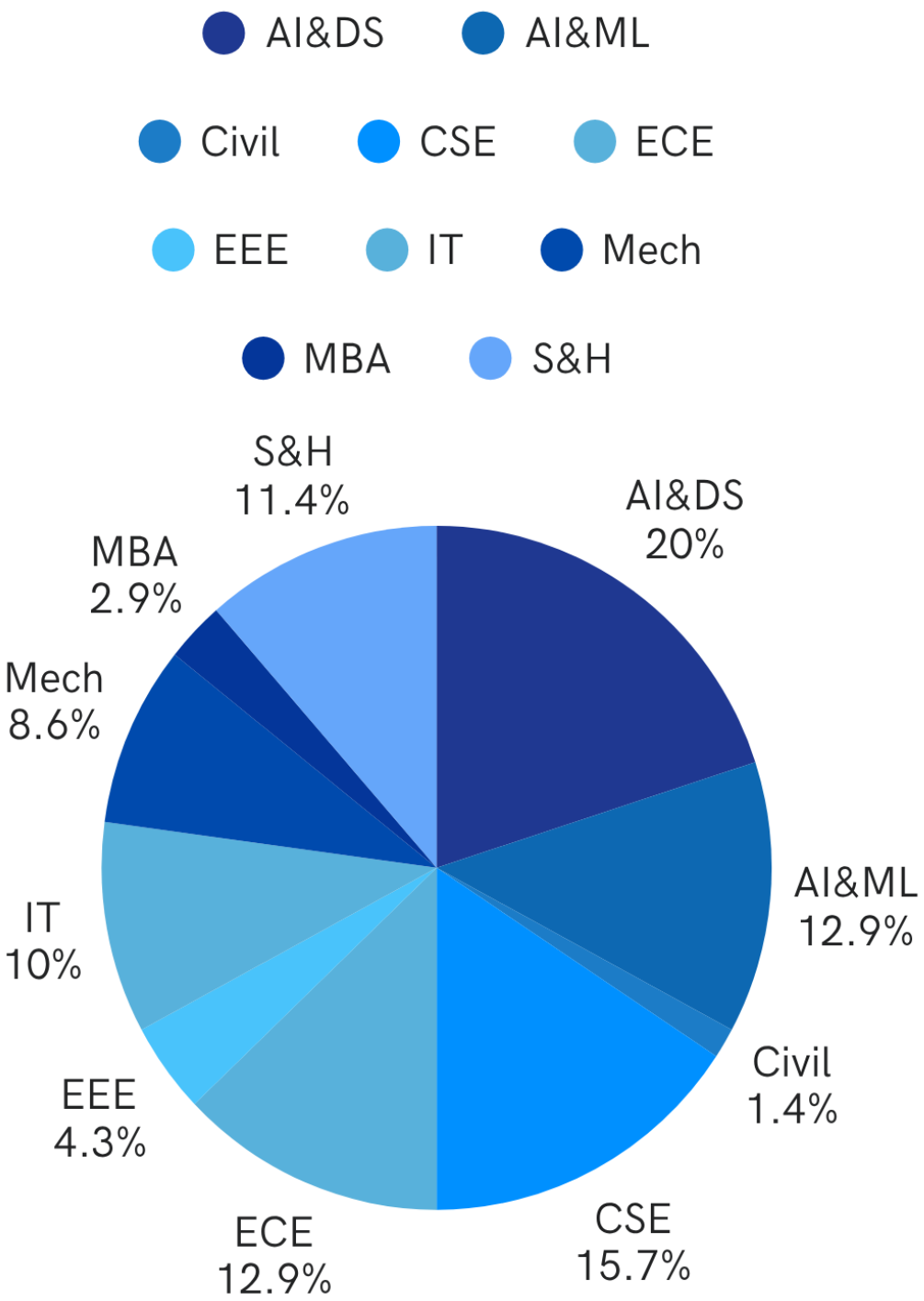
Dr Athulya S, Mr Jegan MS, Mr Bala Murugan M, Ms Gowri, Faculty Members of Library Department participated in the **"One Nation One Subscription: IEEE Webinar for Librarians and Institute Administrators"** organized by IEEE on 24 June 2025.

LIBRARY

FACULTY PARTICIPATION

Dr Athulya S, HoD of the Library Department, participated in the **"J-Gate User Awareness Monthly National Webinar"**, organised by J-Gate on 28 June 2025.

CONTENT CONRIBUTIONS BY THE DEPARTMENTS



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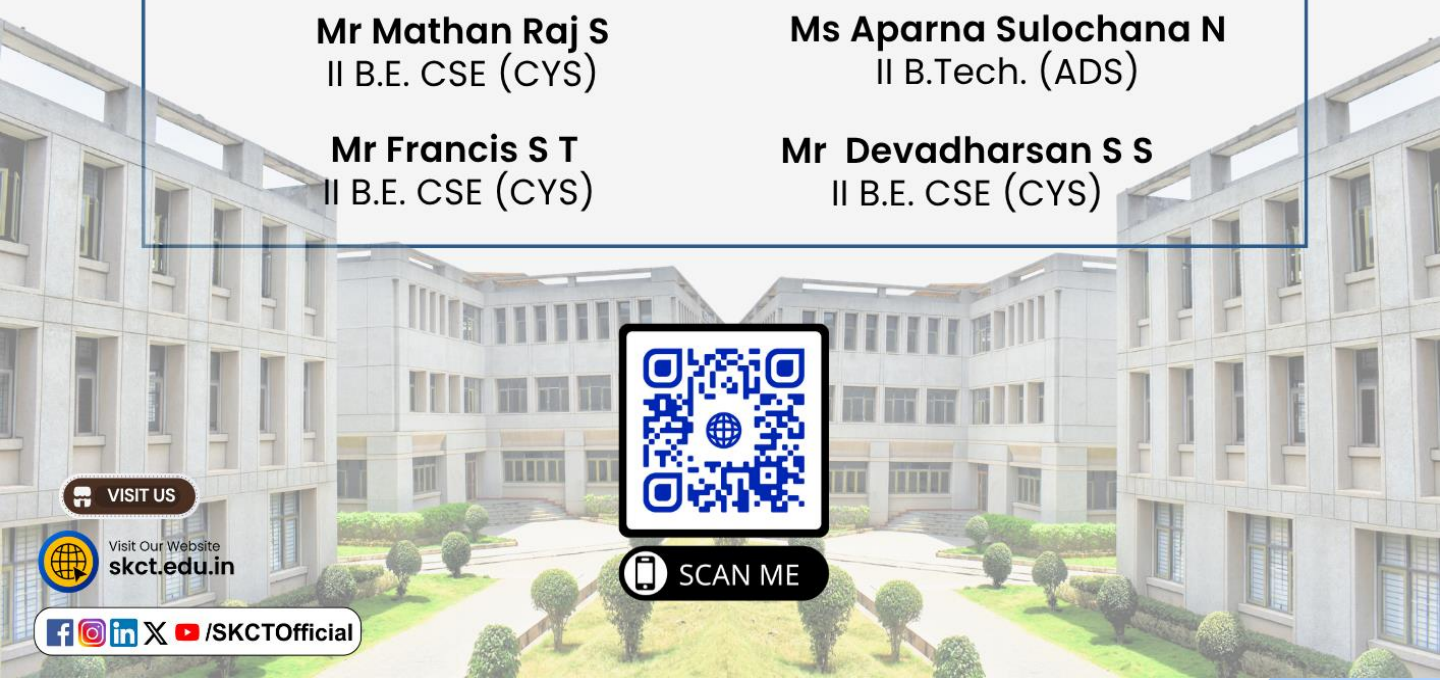

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