Volume-4 Issue-02

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SCHOOL OF ENGINEERING

SOE-BULLETIN

The Official Newsletter of **School of Engineering**

FEBRUARY 2026

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SCHOOL OF ENGINEERING

Vision

Transform lives through excellence in engineering education, research and innovation with an emphasis on sustainability, inclusive technologies and global needs.

Mission

1.Design and deliver contemporary engineering curricula to address regional and global needs while emphasizing ethics, values, integrity and regional relevance. 2.Carryout high impact academic research, industry projects and innovation activities with active student engagement to advance science and engineering knowledge and state-of-the- art industry practices. 3.Develop regional and national leaders to advance the society and economy.

INDEX

SCHOOL OF
ENGINEERING

INTERNATIONAL ACTIVITIES

International Academic Visit: Technical Talk and Collaboration Meeting

The Department of CSE (AI & ML) at Dayananda Sagar University hosted a distinguished delegation from the University of Wisconsin–Milwaukee on 13 February 2026, comprising Ms. Jennifer Gruenewald, Executive Director for International Education, and Prof. Prasenjit Guptasarma, Dean of the College of Engineering and Applied Science and the Department of Physics. The visit aimed to strengthen academic collaboration in Engineering, Physics, and emerging interdisciplinary domains, with discussions centered on joint research initiatives and faculty–student exchange opportunities.

The schedule included a collaboration meeting with institutional leadership and faculty, followed by an interactive session where Prof. Guptasarma addressed 6th Semester CSE (AI & ML) students on “The Scope of AI in the Current World,” highlighting advancements in Artificial Intelligence and Machine Learning. Coordinated by Dr. Sumit Kumar Yadav, Assistant Professor, CSE (AI & ML), the visit marked a significant step toward enhancing international academic partnerships and expanding global exposure for students.


Videos
For international partners:
UW-Milwaukee: Empowering Students
GPS Map Camera
Bengaluru South,Karnataka,India
Harohalli, Bengaluru South, Karnataka 562112, India
Lat 12.661262, Long 77.450540
Friday, 13/02/2026 01:08 PM GMT+05:30
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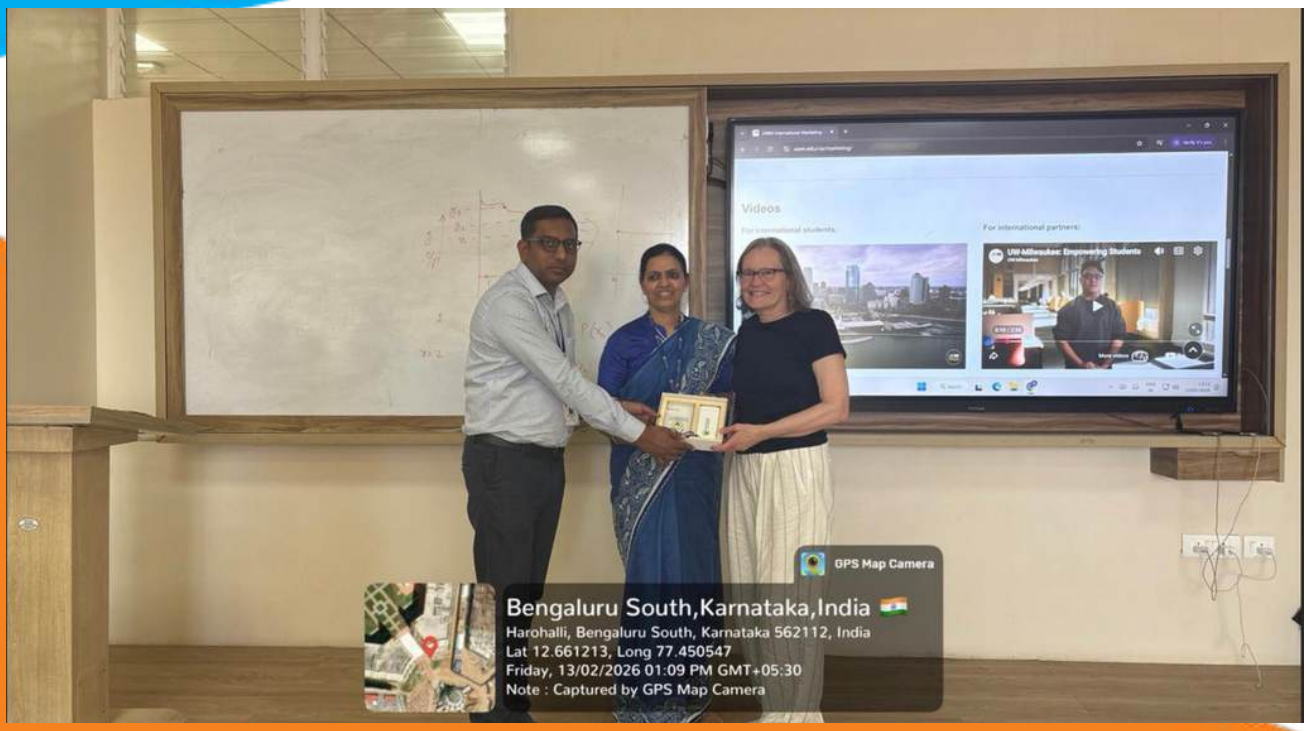
Videos
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UW-Milwaukee: Empowering Students
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SCHOOL OF
ENGINEERING

WORKSHOPS / SKILL DEVELOPMENT PROGRAMS

Grant Sanctioned for Department of AI & Robotics – Official Affiliation with India AI Impact Summit 2026

Dayananda Sagar University has achieved a significant milestone as the Department of AI & Robotics has received official affiliation for hosting a Pre-Summit Event under the India – AI Impact Summit 2026. The proposal to conduct a Panel Discussion on "AI for Economic Development and Social Good" has been formally approved by the summit organizing committee. In addition, a grant of INR 80,000 has been sanctioned for the Department of AI & Robotics to support the organization of this prestigious academic event.

The India – AI Impact Summit 2026, scheduled to be held in New Delhi on 19–20 February 2026, is a global platform focused on advancing inclusive, responsible, and impactful AI collaboration. The affiliated pre-summit event at the university will contribute by bringing together academicians, industry experts, policymakers, and researchers to deliberate on the transformative role of Artificial Intelligence in economic growth and social development.

This recognition and financial support reflect the growing academic excellence and national-level engagement of the Department of AI & Robotics. It further reinforces the university's commitment to leadership in AI research, innovation, and societal impact.

Acceptance of Request for Official Affiliation | India - AI Impact Summit 2026 | Dayananda Sagar University

External Inbox

Khushal Wadhawan 5:35 PM

to me, Abhishek, Kavita, Abhishek,...

Dear Dr. Pramod Kumar Naik,

We are pleased to inform you that your proposal for hosting 'Panel Discussion on AI for Economic Development and Social Good' as a **Pre-Summit Event** has been **approved for official affiliation** under the **India - AI Impact Summit 2026. Please note that funding of INR 80,000 is being considered; the final decision will be communicated shortly.**

The AI Impact Summit, to be held in New Delhi on 19–20 February 2026, is a pivotal global gathering aimed at shaping a future-oriented agenda for **inclusive, responsible, and impactful AI cooperation.** Your event will play an important role in amplifying diverse voices, generating actionable insights, and helping shape the deliberations at the Summit.

Panel Discussion on AI for Economic Development and Social Good with the India - AI Impact Summit 2026.

Department of AI & Robotics has conducted a panel discussion on AI for Economic Development and Social Good and here is the gist of the summit

India has witnessed an extraordinary digital transformation over the past decade, reshaping how governance, innovation, and infrastructure evolve. AI-driven digital systems have played a crucial role in strengthening democratic processes, accelerating technological innovation, and enhancing large-scale infrastructure development. The discussion emphasized that universities today hold a strategic responsibility in this transformation by becoming hubs of innovation and knowledge creation. With initiatives such as establishing Centres of Excellence across multiple domains, educational institutions are positioning themselves as key drivers of national progress and technological advancement.

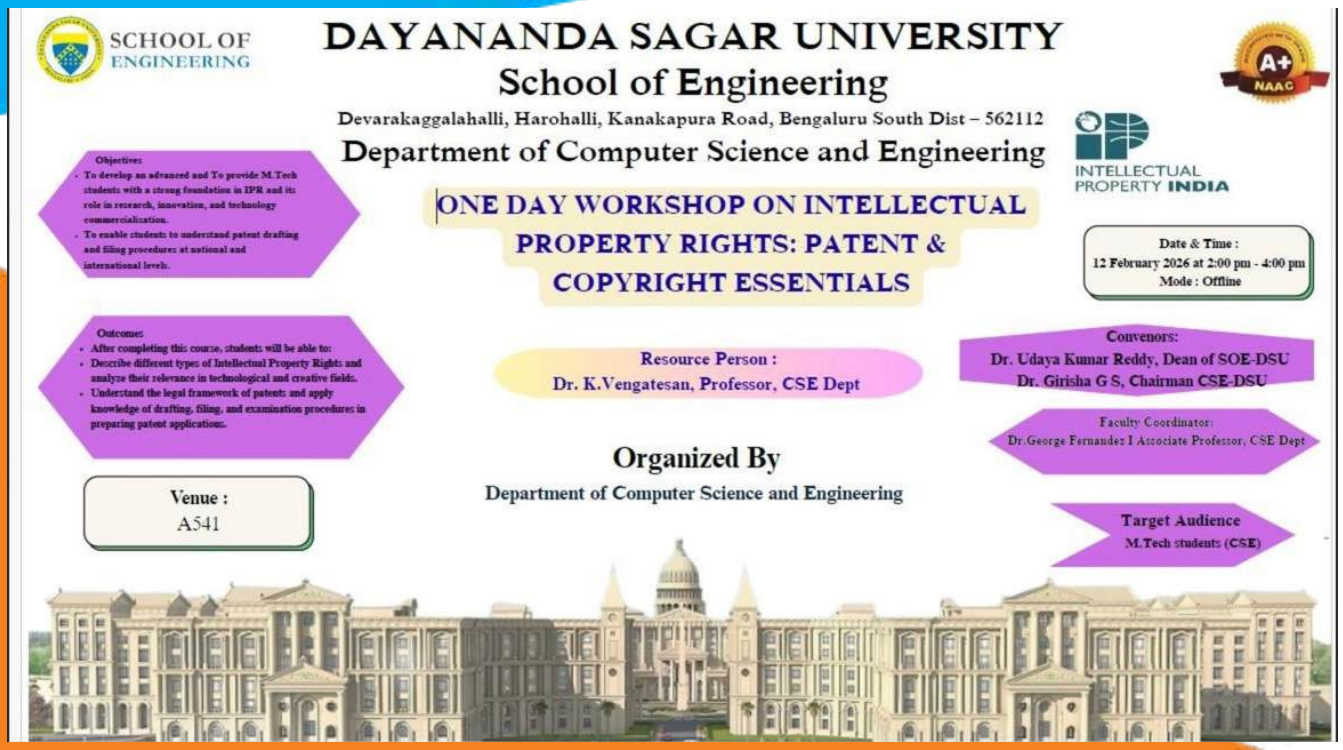
Panel Discussion on AI for Economic Development and Social Good with the India - AI Impact Summit 2026.

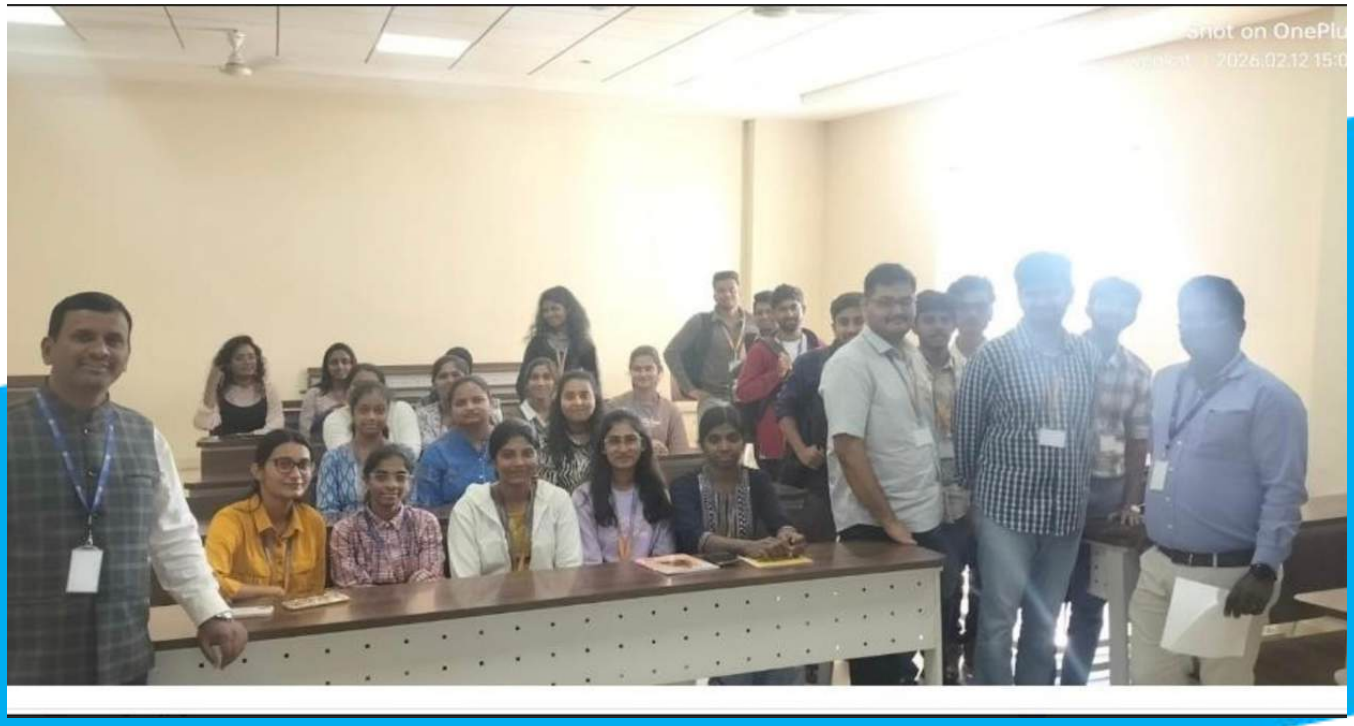
The panel also highlighted the need for universities to adopt an AI-first institutional mindset supported by comprehensive digitalization and sustainability initiatives such as net-zero campuses. The success of recent space missions, including a satellite launch that successfully reached the target height and gathered required data, was cited as an example of India's growing technological capability. To sustain this momentum, the discussion stressed building a startup-driven university ecosystem, encouraging non-linear and project-based learning models, and integrating AI across every stage of teaching and learning to prepare students for the evolving digital future.

ONE DAY WORKSHOP ON INTELLECTUAL PROPERTY RIGHTS (PATENT AND COPY RIGHTS)

The Department of Computer Science & Engineering, School of Engineering, at Dayananda Sagar University, organized a one-day workshop on “Intellectual Property Rights (Patent and Copyrights)” on 12 February 2026 to create awareness about the significance of IPR in academia, research, and innovation.

The workshop aimed to highlight the importance of protecting innovations, research outcomes, and creative works in a knowledge-driven era and introduced participants, primarily MTech students, to the fundamentals and relevance of Intellectual Property Rights in higher education and industry. The sessions covered key topics, including types of IP, the role of IP in research and innovation, patent filing procedures, copyright issues, and commercialization of intellectual property. The program featured expert lectures, interactive discussions, and Q&A sessions for practical clarity, and concluded with a summary emphasizing the need for proactive measures to safeguard intellectual property.



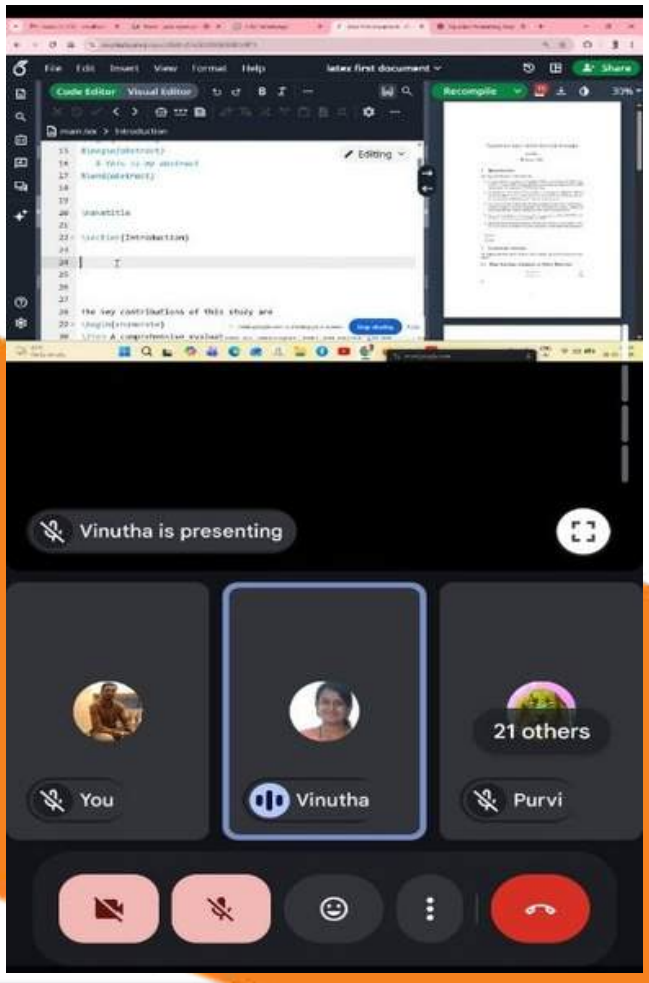


“ZERO to Submission” – 5-Day Workshop on LaTeX & Overleaf

The Department of CSE (AI & ML), School of Engineering, at Dayananda Sagar University, conducted a 5-Day Online Hands-on Workshop titled “Zero to Submission – LaTeX Documentation using Overleaf” from 05–11 February 2026 for 4th and 6th Semester students to develop professional technical documentation skills using LaTeX and Overleaf.

The workshop covered document structuring, equations, tables, figures, bibliography management, IEEE formatting standards, citation styles, and academic integrity, culminating in a comprehensive assignment requiring students to prepare a structured technical document in IEEE/APA format.

The sessions were delivered by Dr. Vinutha N, Associate Professor, and Prof. Pradeep Kumar K, Assistant Professor, under the guidance of Dr. Jayavrinda Vrindavanam V, Professor & Chairperson, ensuring a blend of conceptual clarity and hands-on practice. Coordinated by Dr. Jayavrinda Vrindavanam V, Dr. Vinutha N, and Prof. Pradeep Kumar K, with Ms. Saumyaa Priyadarshinee (6th Semester, CSE AI & ML) as Student Coordinator, the workshop significantly enhanced students’ technical writing proficiency, research readiness, and documentation standards, strengthening the department’s research culture.



NSS Outreach Activity – Sustainability Surveys and Rural Development Program

As part of the Sustainability Surveys and Rural Development Program, the Department of CSE (AI & ML) at Dayananda Sagar University, in collaboration with the NSS Department of Student Affairs, organized an outreach initiative titled “Village Level Drinking Water and Sanitation Awareness Survey” on 18 February 2026 with active participation from 4th-semester students (Sections A to E).

The activity involved visits to nearby villages to promote awareness about safe drinking water, sanitation, sustainable health practices, social responsibility, and environmental consciousness, with students conducting structured surveys for effective community engagement and meaningful data collection.

The program was guided by Dr. Sumit Kumar Yadav, NSS Coordinator, along with faculty members Dr. Sumant K. Mohapatra, Dr. Nagarjuna Naik, Dr. Prateek Verma, Dr. Manimaran, Prof. Sriram Kumar, Prof. Verriboina Antony, and Prof. Ripunjay Jaiswar, and successfully strengthened institutional-community ties while providing valuable experiential learning beyond the classroom.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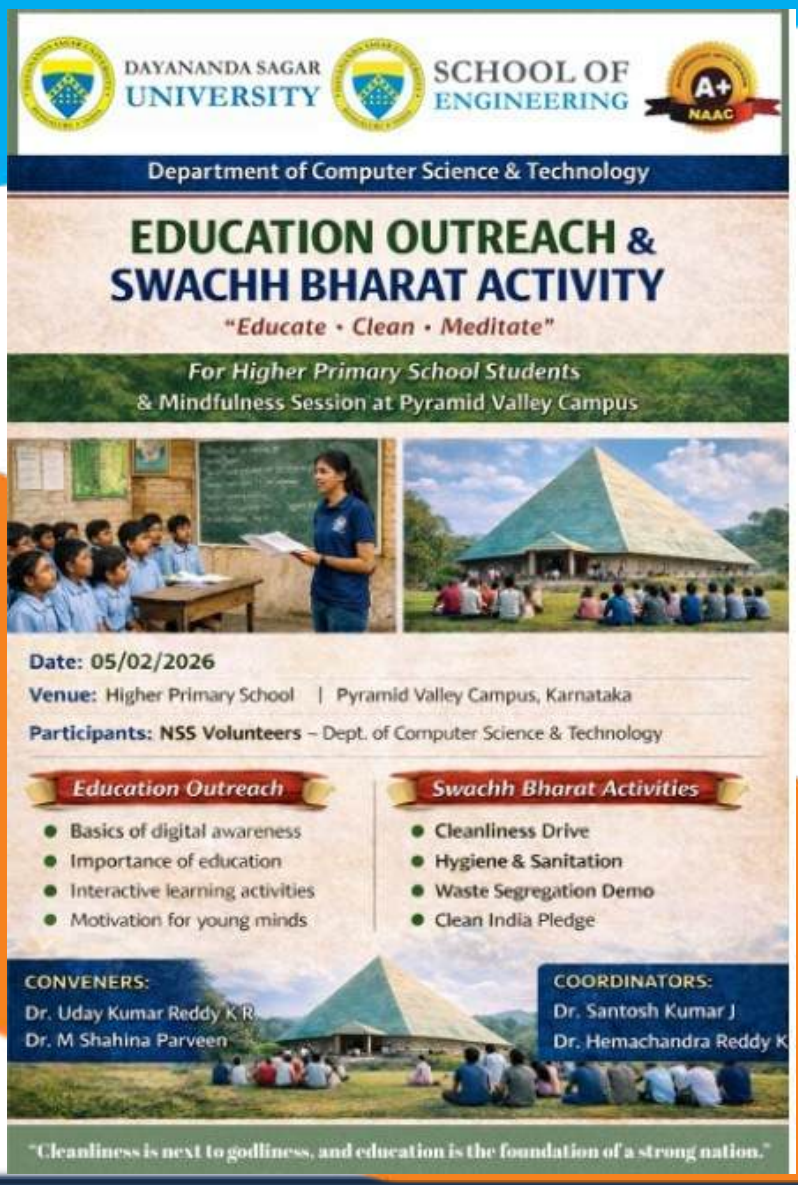
Google

NSS Outreach Activity – Educational support, Swachh Bharat initiatives, and value-based experiential learning

The National Service Scheme (NSS) Unit of the Department of Computer Science & Technology at Dayananda Sagar University organized an outreach activity on 5th February 2026, focusing on educational support, Swachh Bharat initiatives, and value-based experiential learning under the guidance of Dr. Hemachandra Reddy & Dr. Santosh Kumar J. The program was conducted at Medamaranahalli Government Higher Primary School and included a visit to Pyramid Valley International Meditation Centre, Bengaluru.

A total of 45 NSS volunteers and 4th-semester CST students actively participated in the event. Volunteers conducted digital literacy sessions covering basic computer operations and MS Office tools. Career guidance and awareness on responsible use of technology were also provided to school students. As part of the Swachh Bharat Abhiyan, cleanliness drives were carried out within the school premises. Awareness sessions on hygiene, sanitation, and E-waste management were conducted. The activity aimed to empower rural students while fostering leadership and social responsibility among volunteers.



World Wetlands Day – Educational field visit to Mavathur Lake

On 10 February 2026, the Department of Mechanical Engineering at Dayananda Sagar University – School of Engineering (DSU–SoE) commemorated World Wetlands Day by organizing an educational field visit to Mavathur Lake, located along Kanakapura Road. The visit was coordinated by Abhijith N, Assistant Professor and NSS Coordinator of the Mechanical Engineering Department. Second- and third-year Mechanical Engineering students actively participated in the field visit. During the program, faculty members explained the ecological and environmental importance of wetlands, emphasizing their role in groundwater recharge, flood control, biodiversity conservation, and natural water filtration. Students also gained insights into how wetlands sustain diverse ecosystems and support various plant and animal species.The students were accompanied by Dr SaravanaBavan, Chairman of the Department; Vinayak B Hemadri; Abhilash O, Assistant Professor; and Jayappa B C, Instructor from the Department of Mechanical Engineering, who guided and supported the students throughout the visit.

Short Visit to Mavathur Wetland and Adanakuppe, Kanakpura hobli

An NSS activity Organized by
DEPARTMENT OF MECHANICAL ENGINEERING
On 10/02/2026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Workshop on
“From Data to Deployment: AI Workflows for Data Science Using MATLAB”

The Department of Computer Science & Engineering (Data Science) under the DataScience@DSU club and IEEE ITS students chapter, organized a two-day hands-on MATLAB Workshop titled “From Data to Deployment: AI Workflows for Data Science Using MATLAB” on 5th and 6th February 2026.

The workshop aimed to provide students with practical exposure to end-to-end AI workflows using MATLAB. The sessions were delivered by Mr. Avinash Vulasa, Senior Application Engineer – UPT, Coreel Technologies, with MathWorks as the Industry Partner, providing valuable industry insights.

The workshop covered topics such as Machine Learning, Image Processing, and Deep Learning, including classification, regression, image enhancement, edge detection, morphological operations, pre-trained networks, YOLOv4 object detection, and real-time image processing using MATLAB Mobile.

The workshop was coordinated by Dr. Shaila S G, Prof. Shivamma D, Prof. Snigdha Sikha Kashyap, and Prof. Chandrakala L from the Department of CSE (Data Science). A total of 140 students from the 4th Semester actively participated, gaining practical knowledge and industry-relevant AI skills.

Workshop on “Azure AI”

The Department of Computer Science and Engineering (Data Science), Dayananda Sagar University, organized a Workshop on Azure AI on 19th February 2026 in the CDSIMER Auditorium, under the DataScience@DSU Club and IEEE ITS Students Chapter.

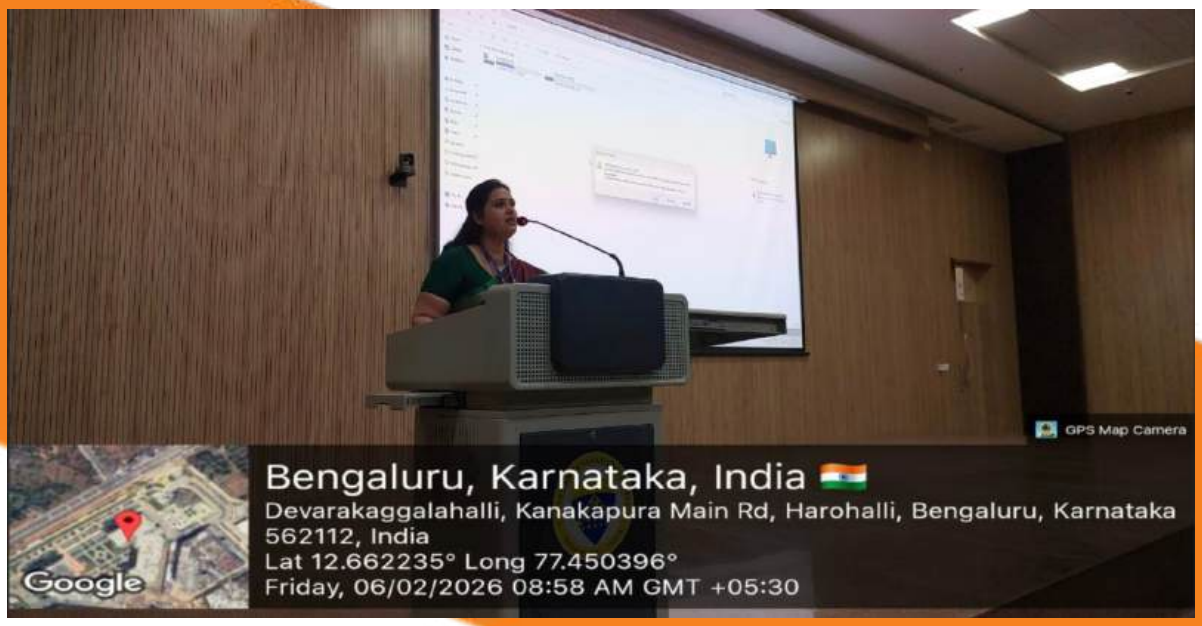
The event was conducted under the guidance of Dr. Shaila S. G., Professor and Chairperson, CSE (Data Science), and coordinated by Dr. Santhosh Kumar G., Dr. U. Pavan Kumar, Prof. Prapti Bhattacharjee, and Prof. Kishor Malakar, along with faculty members of the department. The session was delivered by Mr. Lingaraj Benni, an AI and Cloud Leader with over 18 years of experience in Enterprise AI and a Microsoft Practice Leader.

During the session, the speaker shared practical insights on core AI workloads, Agentic AI, and cloud-based AI implementations using Azure, along with demonstrations of real-world AI architectures. Around 200 students from the 4th and 6th semesters actively participated in the interactive session and gained valuable exposure to Azure AI tools, cloud-based applications, and Microsoft’s AI ecosystem.

Placement Orientation on “Career Readiness”

The Career Readiness & Placement Orientation Program was organized on 6th February 2026 by the Department of Computer Science and Engineering (Data Science), School of Engineering, Dayananda Sagar University (DSU). The event was conceptualized and guided by Mr. Vijay Kumar, Director – Placement Cell, SOE, DSU, and Dr. Shaila S. G., Professor & Chairperson, CSE (Data Science). The program was organized by Prof. Shivamma D and Prof. Godhandaraman T, Assistant Professors, with the support of the Placement team.

The orientation was conducted for 120 students of the 6th semester to provide clarity on the placement process, recruiter expectations, and effective preparation strategies. The session aimed to bridge the gap between academic learning and industry requirements, helping students better prepare for upcoming recruitment drives and future career opportunities.



Faculty Workshop with EPSON on Advanced Manufacturing, Automation & Strategic Collaboration.

Dr. Kartik S. Tandel, Dr. Avinash Kumar Saurav, and Prof. Sripad Kulkarni S, Department of Aerospace Engineering, DSU participated in the EPSON Workshop on Advanced Manufacturing, Automation & Strategic Collaboration held on 13/02/2026. The workshop provided comprehensive insights into recent advancements in manufacturing technologies and automation practices.

The participants gained valuable hands-on exposure to EPSON industrial robots, including pick-and-place robotic systems, as well as advanced EPSON printing technologies. The session offered meaningful industry-oriented learning and served as an effective platform for bridging the gap between academia and industry practice

Two-Day National Workshop on Quantum Materials for a Sustainable Future on the Occasion of Science Day 2026 Celebrations

The Department of Physics in support of the Department of Chemistry, Mathematics, Biology and Humanities at School of Engineering, Dayananda Sagar University, successfully organized a DST-ANRF Sponsored Two-Day National Workshop on “Quantum Materials for Sustainable Future” on 27–28 February 2026, as part of the National Science Day 2026 celebrations.

The workshop brought together eminent researchers, academicians, industry experts, and young scholars to deliberate on the transformative role of quantum materials in next-generation information technologies and sustainable development. The event aimed to introduce recent advances in quantum materials, deepen understanding of fundamental quantum phenomena, and foster interdisciplinary collaboration aligned with national scientific priorities

Project Exhibition & Ph.D. Poster Presentations during Science Day (2026) Celebrations

A major highlight of the event was the B.Tech Project Exhibition and Ph.D. Poster Presentation Session, held on 28 February 2026. Undergraduate students showcased innovative projects aligned with sustainability, energy-efficient technologies, and emerging scientific solutions. The exhibition provided a platform for students to demonstrate creativity, technical competence, and research orientation.

Additionally, the ChemFun Reels Competition encouraged science communication and student creativity, making the event both academically enriching and engaging.


in the country
ectrochemical and structural characterization
Researchers utilize analytical techniques
Phase and Crystal Structure (XRD)
Reveals particle size, shape, and structural
Surface Area and Porosity (BET Analysis)
Chemical Environment and Bonding (XPS

SCHOOL OF
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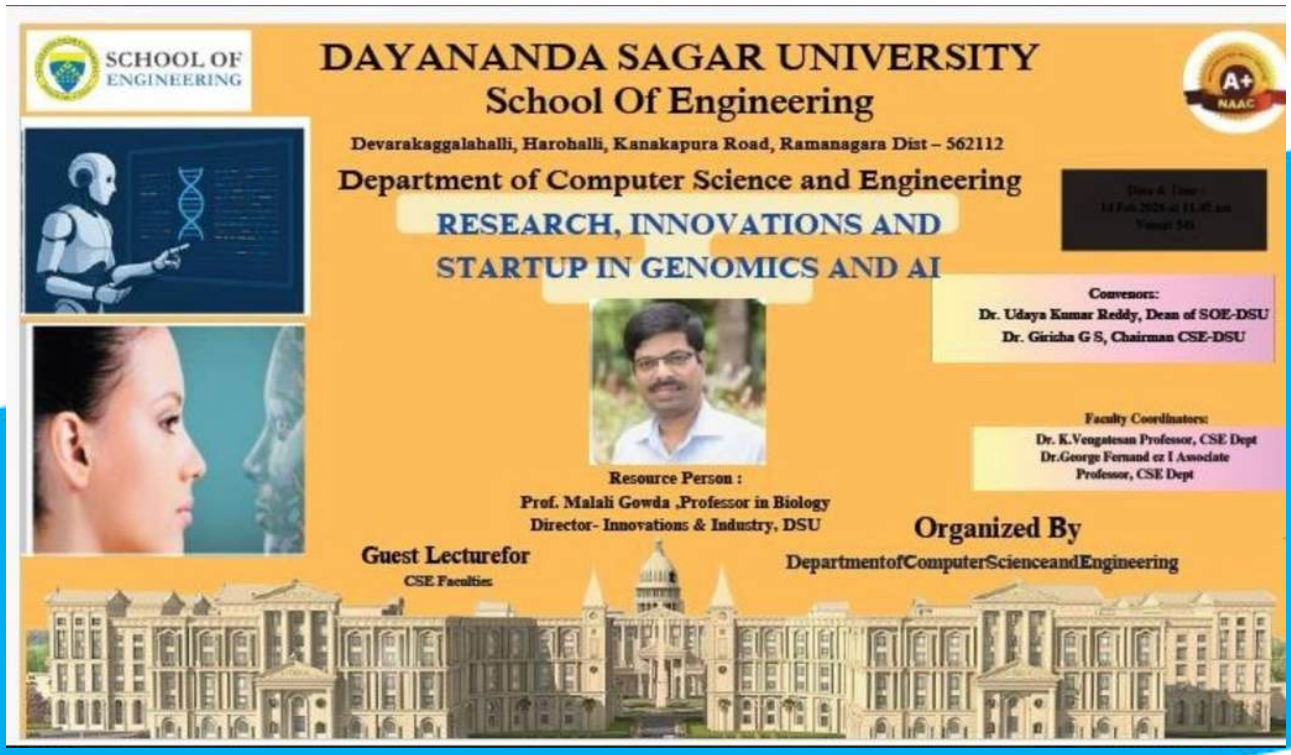
WEBINARS / SEMINARS / TECHNICAL TALKS

Expert Talk on “Research, Innovations and Startup in Genomics and AI”

The Department of Computer Science & Engineering, School of Engineering, at Dayananda Sagar University, organized an expert talk titled “Research, Innovations and Startup in Genomics and AI” on 14.02.2026 to expose faculty and students to interdisciplinary research opportunities at the intersection of genomics and artificial intelligence.

The session, delivered by Prof. Malali Gowda, focused on how AI techniques such as machine learning, deep learning, and data analytics are transforming genomic research through applications in gene sequencing analysis, disease prediction, drug discovery, precision medicine, and personalized healthcare.

He emphasized the importance of collaboration between computer science and biological sciences, highlighted innovation initiatives, startup incubation processes, intellectual property rights, and funding opportunities, and shared real-world startup examples to encourage translational research and entrepreneurship. The talk also provided guidance on research proposal writing and publication strategies, followed by an interactive Q&A session addressing research, startup formation, and career opportunities, and concluded with a formal vote of thanks.


SCHOOL OF ENGINEERING
DAYANANDA SAGAR UNIVERSITY
School Of Engineering
Devarakaggalahalli, Harohalli, Kanakapura Road, Ramanagara Dist – 562112
Department of Computer Science and Engineering
RESEARCH, INNOVATIONS AND STARTUP IN GENOMICS AND AI
Convenors:
Dr. Udaya Kumar Reddy, Dean of SOE-DSU
Dr. Giricha G S, Chairman CSE-DSU
Faculty Coordinators:
Dr. K.Vengatesan Professor, CSE Dept
Dr.George Fernand cz I Associate Professor, CSE Dept
Resource Person :
Prof. Malali Gowda ,Professor in Biology
Director- Innovations & Industry, DSU
Guest Lecturefor
CSE Faculties
Organized By
DepartmentofComputerScienceandEngineering


Gene editing - targeted therapy of human diseases
(Thalassemia, Sickle Cell Anemia, HLA, etc)
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Webinar on “Techniques to Crack an Entry-Level Data Science Role”

The Department of CSE (AI & ML) organized a webinar on “Techniques to Crack an Entry-Level Data Science Role” on 12th February 2026. The session was delivered by Keshav Sairam, Associate Data Scientist at Emplay Inc. and a distinguished alumnus of the department.

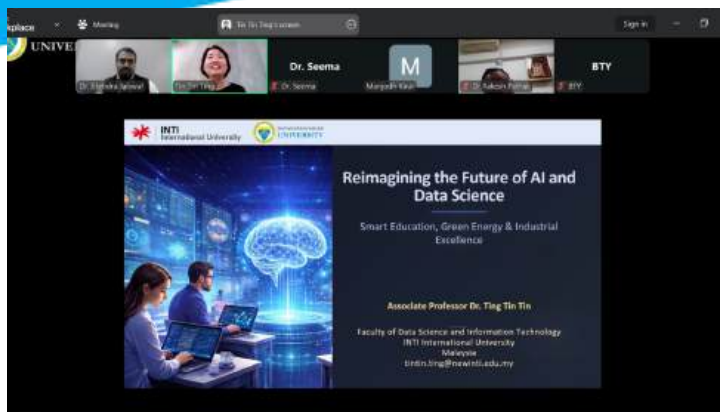
He shared practical insights on preparing for entry-level data science roles, emphasizing the importance of maintaining a CGPA above 7.5, building strong fundamentals in machine learning and data science, and completing impactful analytics projects. He also highlighted the value of a professional online presence through LinkedIn and GitHub, a well-structured resume, a project portfolio, and confidence during interviews.

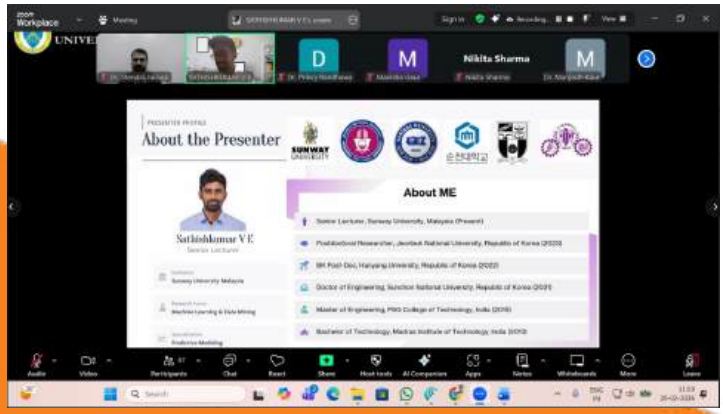
The event was coordinated by Dr. Vinutha N, Associate Professor, CSE (AI & ML), and Dr. Princy Randhawa, Associate Professor, CSE (AI & ML). The session provided students with clear, actionable guidance and was highly beneficial for aspiring data science professionals.

International Webinar on “Emerging Trends in Artificial Intelligence”

The Department of CSE (AI & ML), School of Engineering, at Dayananda Sagar University, organized an International Webinar on “Emerging Trends in Artificial Intelligence” on 20 February 2026, bringing together global academicians and industry experts to discuss cutting-edge advancements and applications of AI. The webinar commenced with an opening by Dr. Princy Randhawa and remarks by Dr. Jayavrinda Vrindavanam V, Professor & Chairperson, and was moderated by Dr. Jitendra Jaiswal to ensure smooth coordination.

Technical sessions featured expert talks on AI in healthcare research, RF energy harvesting for body sensor networks, dataset preparation for predictive modeling, ethical considerations in generative AI, and AI-driven smart education, green energy, and industrial excellence, collectively emphasizing innovation, sustainability, data quality, and responsible AI deployment. The event concluded with a vote of thanks by Dr. Jayavrinda Vrindavanam V and served as a significant platform for global knowledge exchange, collaboration, and academic excellence in Artificial Intelligence.





Webinar on “From Workplace to Academia: A Journey of Transformation”

The Department of CSE (AI & ML), School of Engineering, Dayananda Sagar University, organized a webinar on 20th February 2026 featuring Tharun Sendil, an esteemed alumnus of the department, currently pursuing a Master’s in Data and Computational Science at University College Dublin, Ireland.

He shared insights on resume building, academic progression, and career readiness, highlighting how his profile evolved from UG to PG with stronger projects, structured presentations, and measurable achievements. He emphasized regularly updating resumes, using tools like Overleaf for ATS-friendly formats, and leveraging higher education for deeper technical expertise and global opportunities.

The event was coordinated by Dr. Vinutha N, Associate Professor, CSE (AI & ML). The session was informative and beneficial for students planning higher studies and career advancement.

Technical talk on
“Entrepreneurship beyond Tech”

The Department of Computer Science and Engineering (Data Science), Dayananda Sagar University, under the DataScience@DSU club and IEEE ITS students chapter, organized a talk on “Entrepreneurship Beyond Tech” on 19th February 2026 at the CDSIMER Auditorium. The session was delivered by Mr. Vinod Shankar, CEO of AIC DSU, who shared valuable insights on the startup ecosystem, leadership, and business innovation.

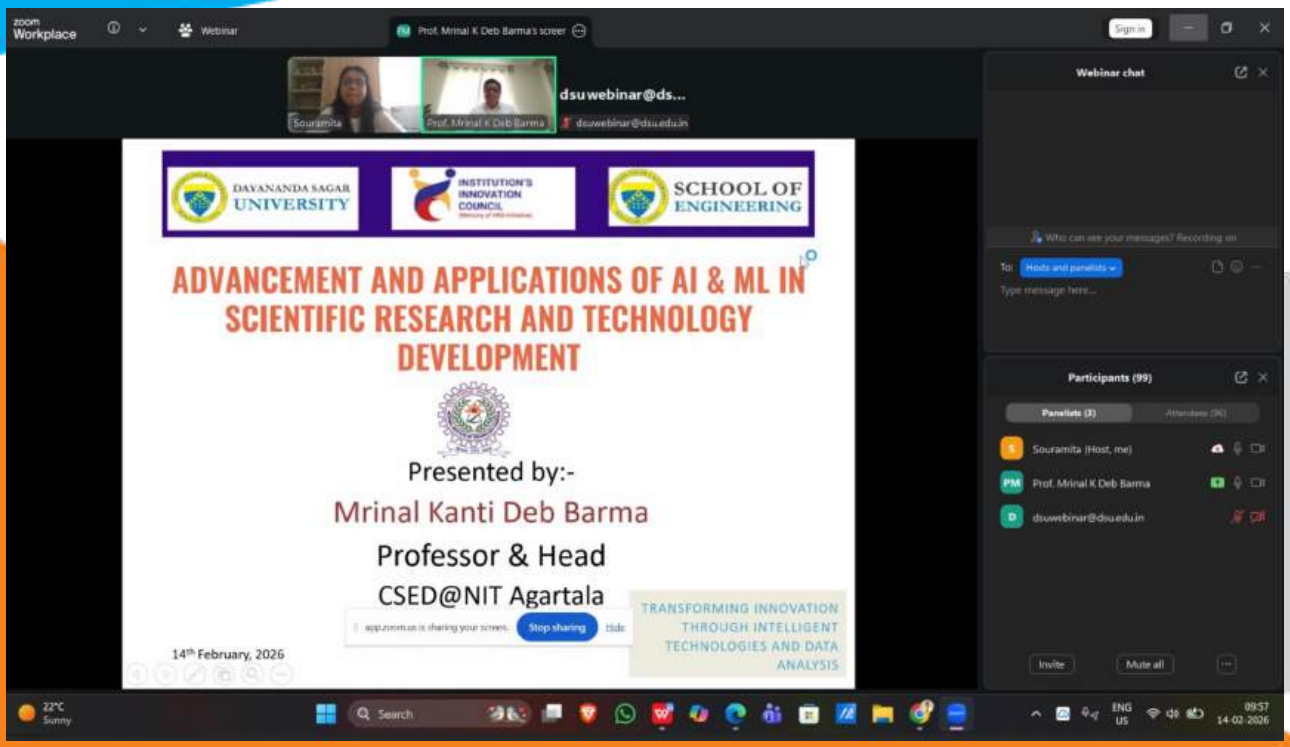
The talk emphasized the importance of strategic thinking, market understanding, and interdisciplinary skills beyond technical expertise, encouraging students to transform technical ideas into scalable business solutions. The event was organized under the guidance of Dr. Shaila S G, Professor and Chairperson, CSE (Data Science). Around 200 students from the 4th and 6th semesters actively participated in the session and gained valuable exposure to entrepreneurship and innovation.

Expert Lecture on
“Advancement and Applications of AI & ML in Scientific Research and Technology Development”

The Department of CSE (Data Science), School of Engineering, Dayananda Sagar University, organized an expert lecture titled “Advancement and Applications of AI & ML in Scientific Research and Technology Development” on 14 February 2026 in online mode under the DataScience@DSU Club and IEEE ITS Students Chapter. The event was conducted under the guidance of Dr. Shaila S. G., Professor and Chairperson, CSE (Data Science).

The session was delivered by Dr. Mrinal Kanti Deb Barma, Professor and Head, Department of CSE, National Institute of Technology Agartala, who provided insights into the evolution and advancements in Artificial Intelligence, Machine Learning, and Deep Learning, along with their applications in healthcare, cybersecurity, environmental monitoring, and robotics.

He also discussed emerging trends such as deep learning, generative AI, and explainable AI, and emphasized the importance of ethical AI, data privacy, and responsible innovation. Around 200 students from the 4th and 6th semesters, along with faculty members, actively participated in the interactive session, which concluded with a Q&A discussion on research opportunities and career pathways in AI and ML.



ALUMNI TALK–III
“Alumni Tales – A Data Science Journey”

The Alumni Committee of the Department of CSE (Data Science), Dayananda Sagar University, organized “ALUMNI TALK–III: Alumni Tales – A Data Science Journey” on 5th February 2026 for the 4th semester students. The session was delivered by Mr. Suraj Rao, an alumnus who graduated in 2025, who shared his academic experiences, industry exposure, and career journey in the field of Data Science.

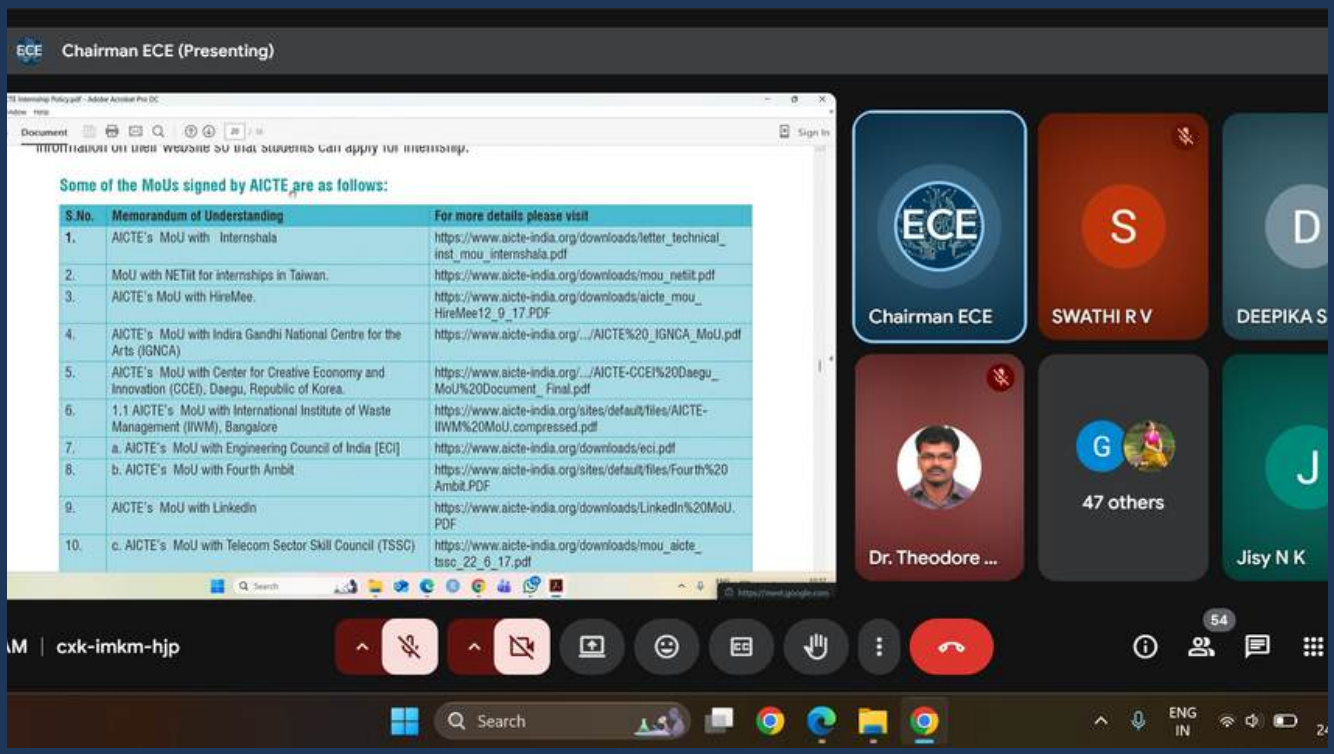
The event was conducted under the guidance of Dr. Shaila S. G., Professor and Chairperson, CSE (Data Science), and organized by Prof. Manjula M, Prof. Souramita Bhowmik, and Prof. Mriganka Das, Assistant Professors. Around 180 students from the 4th semester actively participated in the session, gaining valuable insights into career opportunities, industry expectations, and skill development in Data Science.

“Career Planning and Industry Readiness”

The Department of Electronics and Communication Engineering (ECE), School of Engineering, Dayananda Sagar University, organized a webinar on Career Planning and Industry Readiness on 24 January 2026 for the final-year B.Tech students of the 2022–2026 batch.

The session aimed to equip students with valuable insights into career opportunities, industry expectations, and essential skills required to excel in the professional world. Eminent speakers shared guidance on emerging technologies, interview preparedness, and the importance of soft skills, helping students align their academic learning with industry needs. The webinar served as a platform to inspire and prepare graduates for a smooth transition from campus to career.

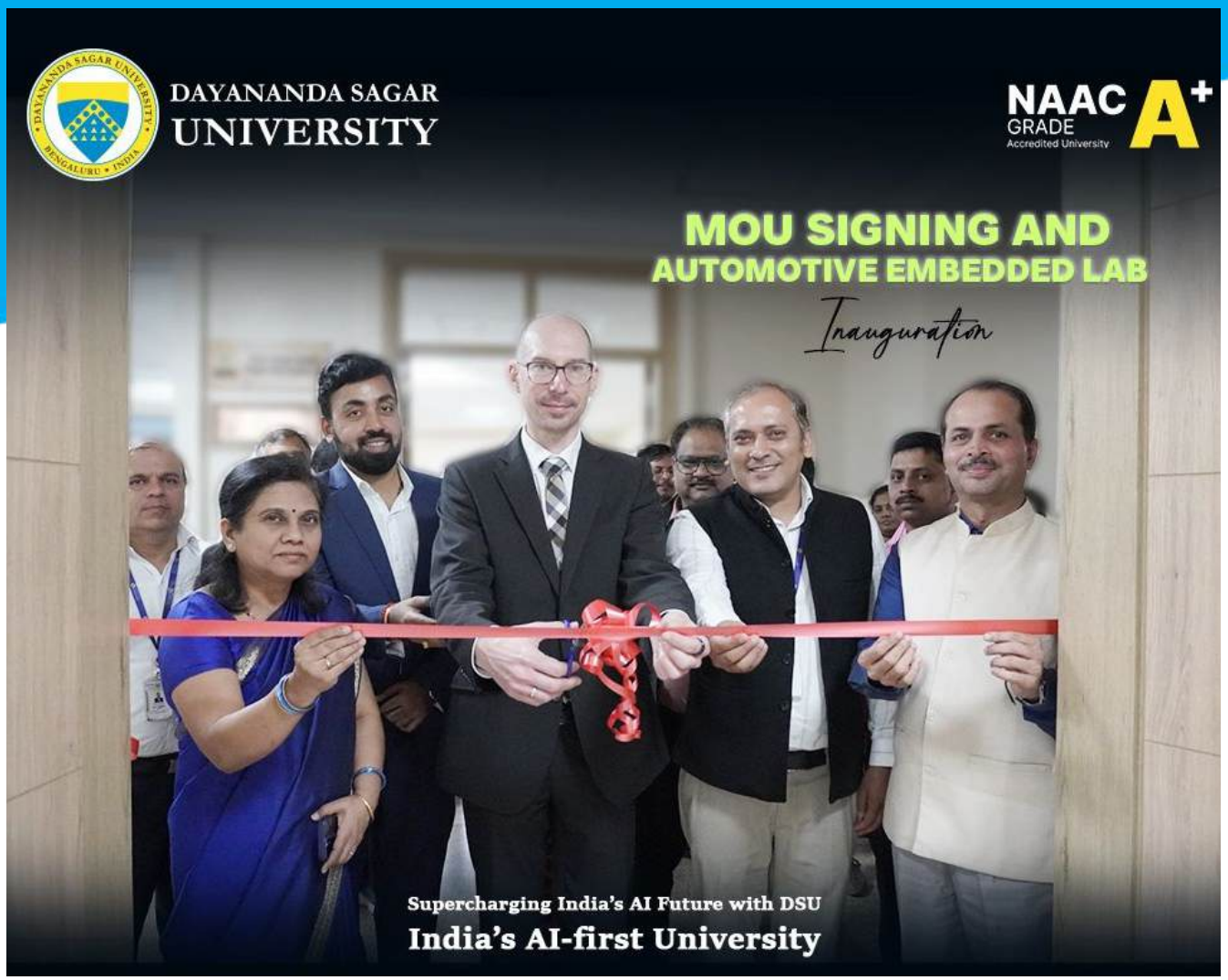
“Career Planning and Industry Readiness”



Automotive Embedded Systems Lab

The Department of Electronics and Communication Engineering at Dayananda Sagar University proudly marked a significant milestone with the launch of the Automotive Embedded Systems Lab, strengthening its commitment to bridging academia and industry in the rapidly evolving automotive and mobility sector.

This initiative is formalized through an MoU with Vector Informatik India and is powered by their advanced automotive embedded tools and technologies. The lab has been enabled under the Automotive Engineering Capability Development initiative by Tata Technologies, with a focused vision of creating industry-ready engineers through hands-on, experiential learning.



Automotive Embedded Systems Lab

Strategic Career Guidance

The Electroblitz Club of the Department of Electronics and Communication Engineering, School of Engineering, Dayananda Sagar University, organized a talk titled “NextGen Futures: Strategic Career Guidance” on 24 February 2026 under the guidance of Dr. Divyashree H B, Assistant Professor, ECE. The session was conducted by Global Careers and delivered by Mr. Santosh, Branch Manager, Global Careers, with the objective of equipping students with strategic insights to navigate today’s competitive and dynamic professional landscape.

The talk covered career planning strategies, emerging domains such as AI, IoT, and Data Science, higher education opportunities, competitive examinations, certifications, internships, and skill development pathways. Through practical guidance and real-world perspectives, Mr. Santosh motivated students to align their academic learning with industry expectations and take proactive steps toward continuous learning and goal-oriented professional growth.

AI in Everyday Life

The Department of Electronics and Communication Engineering, School of Engineering, Dayananda Sagar University, under the banner of Unity Hub, organized a Pencil Sketching Competition themed “AI in Everyday Life.” The event was coordinated by Dr. Navya R and Prof. Manasa K R.

The competition encouraged students to creatively depict the influence of Artificial Intelligence in everyday life through pencil art. Participants presented innovative sketches illustrating smart technologies, robotics, healthcare AI, and digital transformation. The event promoted creativity, attention to detail, and sustainable, low-resource artistic expression.

Dr. M. Shahina Parveen, Head of the Department, CST, Dayananda Sagar University, served as the judge and evaluated entries based on creativity, relevance to theme, technique, and presentation. The two-hour competition witnessed enthusiastic participation and successfully blended art with technological awareness, fostering innovation and holistic development among students.

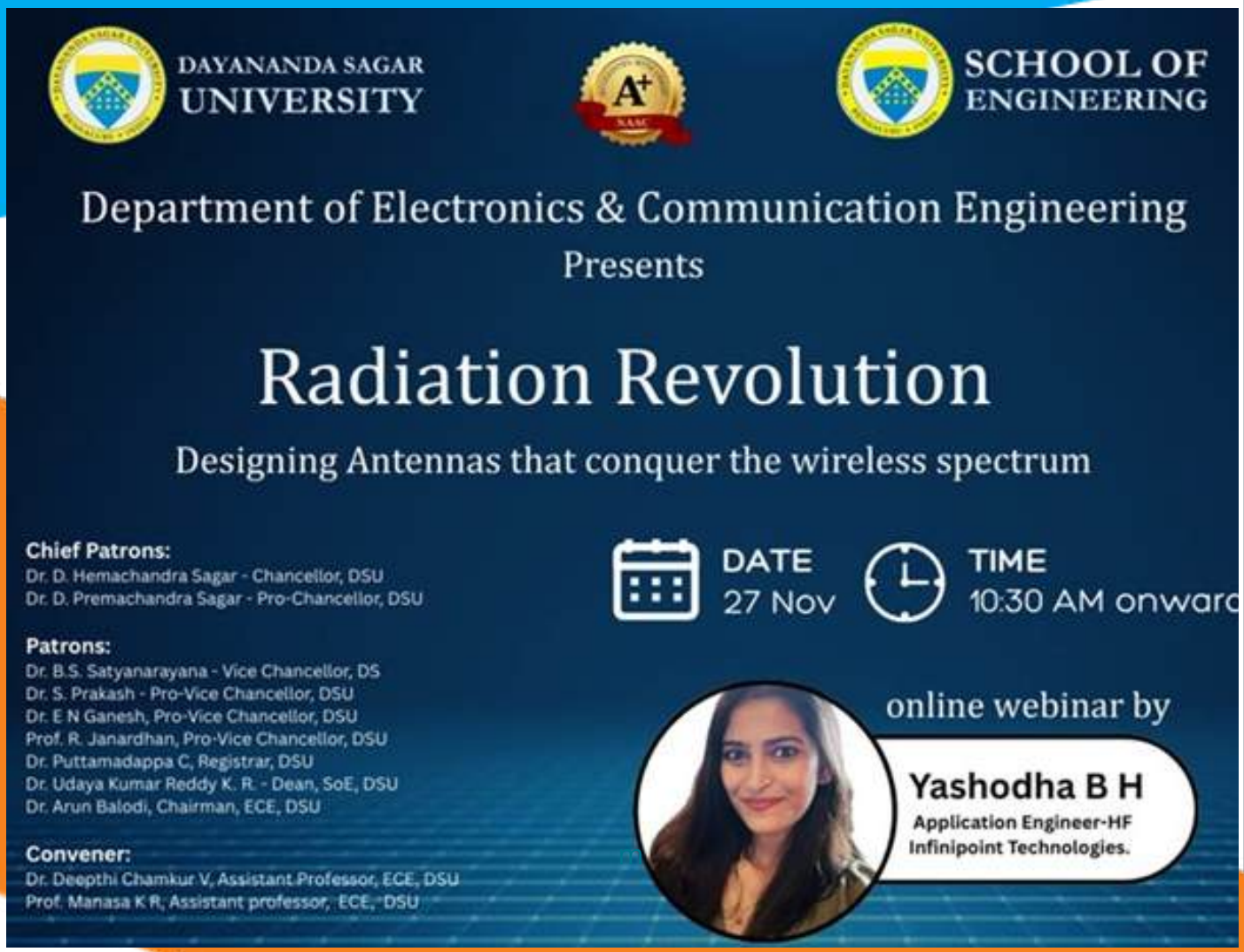
AI in Everyday Life

AI in Everyday Life

Radiation Revolution: Designing Antennas that Conquer the Wireless Spectrum”

The Department of Electronics & Communication Engineering, School of Engineering, Dayananda Sagar University, organized an online webinar titled “Radiation Revolution: Designing Antennas that Conquer the Wireless Spectrum.” The session was delivered by Yashodha B H, Application Engineer – HF at Infini point Technologies.

The webinar focused on the vital role of antennas in modern communication, covering topics such as 5G, Massive MIMO, and millimetre-wave bands. Key design challenges including size constraints, beam steering, and system complexity were discussed, along with practical antenna solutions for 4G/5G devices. The session provided students with valuable industry insights and guidance on research, innovation, and high-frequency engineering applications, concluding with an engaging Q&A interaction.



Design Innovation for successful career in the field of Aeronautical Space and defence for Aeronautical Engineers talk by Mr Dhanish Abdul Khadher, SS Technologies.

Mr. Dhanish Abdul Khadher from SS Technologies delivered an insightful talk on “Design Innovation for a Successful Career in the Field of Aeronautical, Space, and Defence” on 23/02/2026 for Aeronautical Engineering students. The session focused on the importance of innovation-driven design thinking and the evolving skill requirements in the aerospace and defence sectors.

He placed particular emphasis on the STK (Systems Tool Kit) software, highlighting its significance in mission analysis, space systems design, and defence applications.

The talk provided students with clarity on industry expectations and underscored how proficiency in advanced tools like STK can enhance employability and open promising career opportunities in the aerospace and defence domains.

GRADE
Accredited University

DEPARTMENT OF AEROSPACE ENGINEERING

Guest lecture

DESIGN INNOVATION FOR SUCCESSFUL CAREER IN THE FIELD OF AERONAUTICS, SPACE AND DEFENCE FOR AERONAUTICAL ENGINEERS

Your paragraph text

Expert in developing in all things C#-interfaced STK applications for mission planning and defense systems, complemented by extensive experience in conducting professional technical workshops.

Dhanish Abdul Khader

Space System Engineer (Analytics)

SS TECHNOLOGIES

23 Feb 2026 | 10;30 AM Onwards

Venue - Lecture hall 1

Two Days National Conference on Advances in Condensed Matter Physics (ACMP-2026)

Dr. Suresh Pittala delivered an invited talk at the Two Days National Conference on Advances in Condensed Matter Physics (ACMP-2026) organized by the Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya (GGV), Bilaspur, held on 20–21 February 2026. His presentation, titled “Substitution Driven Structural and Magnetic Properties in Sr-Doped Hexagonal $LuFeO_3$ Nanoparticles,” focused on understanding how controlled Sr substitution influences the structural stability and magnetic behavior of metastable hexagonal $LuFeO_3$ nanoparticles.

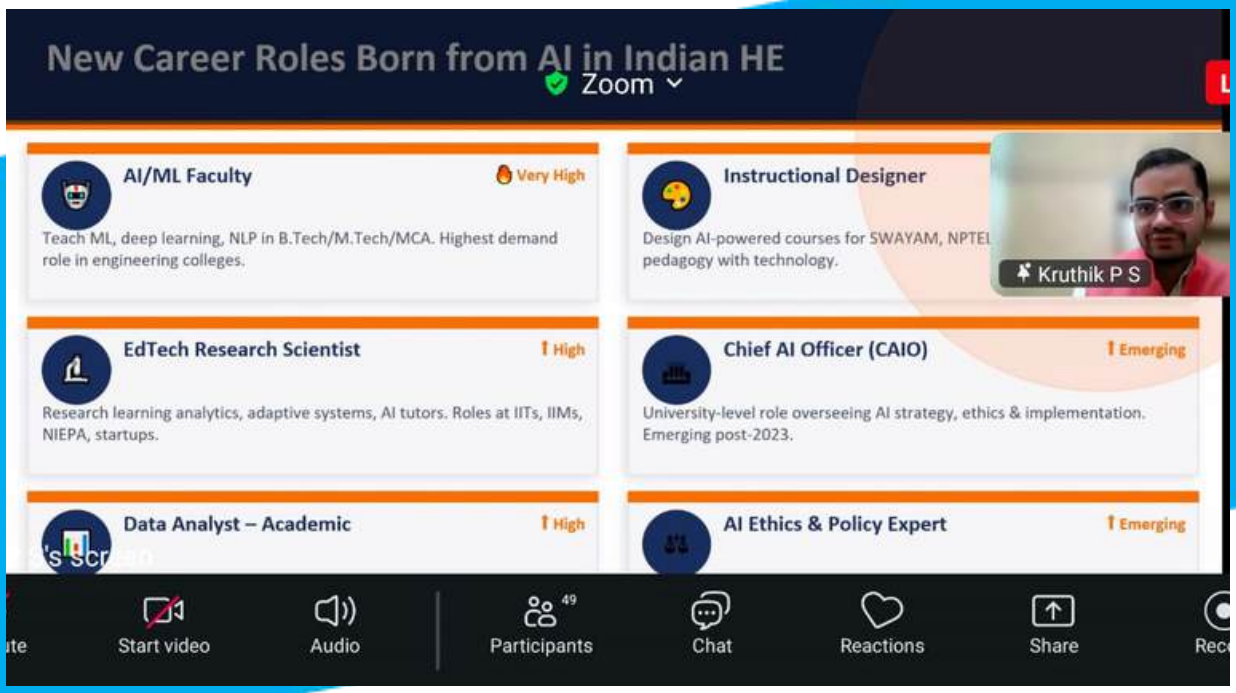
The talk highlighted the role of ionic substitution in tuning lattice parameters, modifying phase stability, and inducing significant changes in magnetic ordering. Emphasis was placed on the correlation between structural distortion and magnetic properties, demonstrating how strategic chemical doping can be employed to tailor multifunctional characteristics in rare-earth ferrites for potential spintronic and energy-efficient device applications.

Talk on Research Paper Writing and Journal Publication Support

Dr. A. V. Raghu, Professor in the Chemistry department, delivered an invited talk as a Resource Person at the Workshop on Research Paper Writing and Journal Publication Support, sharing his expertise in research papers and publications, on 23rd February 2026 at Sai Vidya Institute of Technology, Bangalore

Career Opportunities in Higher Education by Kruthik

Dr. Kruthik P S (Mathematics department) delivered one hour invited talk on the topic “Career Opportunities in Higher Education” by virtual mode on 25 Feb 2026, organised by SSGM College, Ahilyanagar, Maharashtra.



Alumni Talk by Mr. Sai Thanujj P

Mr. Sai Thanujj P, Hardware Design Engineer at Varchas Aerospace, delivered an insightful session to the II- and III-year students of the Department of Aerospace Engineering. During his interaction, he shared his professional journey and experiences from the aerospace industry, providing students with a practical understanding of industry expectations and work culture.

The talk was highly motivating, encouraging students to adopt a proactive approach toward skill development, continuous learning, and strategic career planning in alignment with industry needs. Overall, the session served as a meaningful platform to bridge academic learning with real-world aerospace applications.

Expert Lecture on Model Based System Engineering

On 25/2/26 Mr. Vinay Paliya, MBSE Capability Leader at Quest Global, and Mr. Ganesh, Chief Engineer at Quest Global, delivered an insightful session for the II and III year students on the fundamentals of Model-Based Systems Engineering (MBSE). Mr. Vinay Paliya conducted an engaging and hands-on demonstration using CATIA Magic, providing practical exposure to MBSE concepts and system modelling techniques.

The interactive nature of the session enabled students to better understand real-world applications of model-based system engineering approaches. Mr. Ganesh presented an informative talk on Surrogate Models for Condition-Based Monitoring (CBM), highlighting advanced analytical techniques used in industry. The session collectively offered students valuable exposure to MBSE methodologies and their practical relevance in engineering domains.

m

DEPARTMENT OF AEROSPACE ENGINEERING

EXPERT LECTURE

Model Based Systems Engineering(MBSE)

Eminent Speakers :

Mr Vinay Paliya
MBSE Capability leader
Quest Global

Mr Ganesh Hampapura Nagara
Chief Engineer
Quest Global

25TH FEB 2026

VENUE-LH-2
TIMINGS-10:30 ONWARDS

SCHOOL OF
ENGINEERING

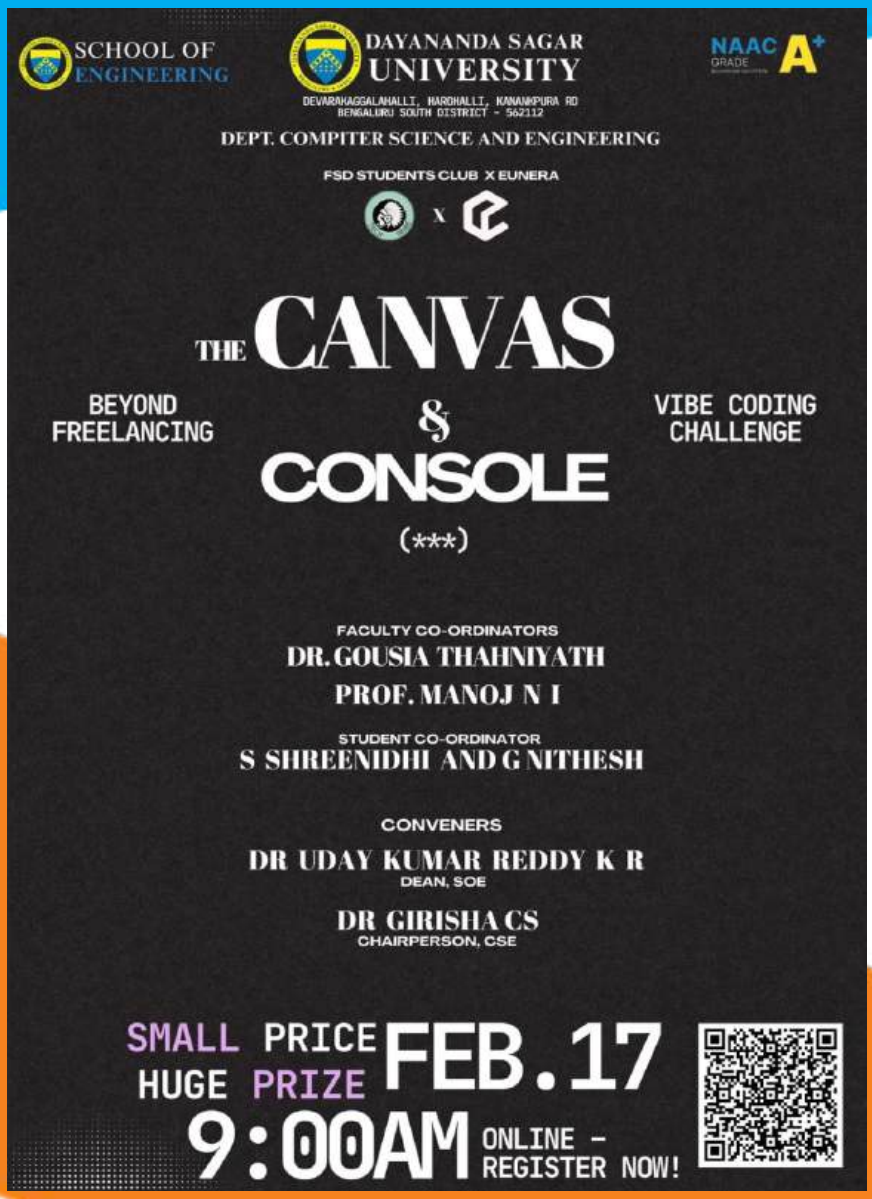
EVENTS: PROFESSIONAL SOCIETIES / CLUB ACTIVITIES

Club Activity- “The Canvas and Console: A New Chapter for Aurum – The Legion”

The Department of Computer Science & Engineering, School of Engineering, at Dayananda Sagar University successfully organized “The Canvas and Console” on 17 February 2026, marking a significant milestone with over 150 participants and announcing the rebranding of the FSD Club to Aurum – The Legion to usher in a new phase of specialized technical growth.

The event featured the “Beyond Freelancing” workshop led by Rajika Saha, Founder of Eunera, followed by an intensive three-hour “Vibe Coding” Challenge where teams competed across three tracks, solving unique problem statements using AI-assisted tools to demonstrate rapid execution and creative problem-solving.

The competition concluded with the recognition of three winners and three runners-up per track, highlighting strong student innovation. The initiative aligned with Sustainable Development Goals SDG 4 (Quality Education) and SDG 9 (Industry, Innovation, and Infrastructure), reinforcing DSU’s AI-first vision and Aurum – The Legion’s role in preparing students for an innovation-driven future.


SCHOOL OF ENGINEERING
DAYANANDA SAGAR UNIVERSITY
NAAC A+ GRADE
DEVARAKAGGALAHALLI, HARDHALLI, KANAKPURA RD
BENGALURU SOUTH DISTRICT - 562112
DEPT. COMPITER SCIENCE AND ENGINEERING
FSD STUDENTS CLUB X EUNERA
X
THE CANVAS
BEYOND FREELANCING
&
VIBE CODING CHALLENGE
CONSOLE
(***)
FACULTY CO-ORDINATORS
DR. GOUSIA THAHNIYATH
PROF. MANOJ N I
STUDENT CO-ORDINATOR
S SHREENIDHI AND G NITHESH
CONVENERS
DR UDAY KUMAR REDDY K R
DEAN, SOE
DR GIRISHA CS
CHAIRPERSON, CSE
SMALL PRICE
HUGE PRIZE
FEB.17
9:00AM
ONLINE - REGISTER NOW!

EUREKATHON 3.0 – 24 Hours Hackathon

The Department of Computer Science and Technology, School of Engineering, Dayananda Sagar University, successfully organized EUREKATHON 3.0 – 24 Hours Hackathon on 19th and 20th February 2026 under the leadership of Dr. M. Shahina Parveen, Chairperson, Department of Computer Science & Technology.

The hackathon began with registrations at 8:30 AM, followed by the inauguration at 9:30 AM on 19th February. Participants were given spot problem statements and engaged in 24 hours of continuous coding, innovation, and teamwork across five tracks. The event concluded on 20th February with final MVP presentations before a distinguished jury panel.

The esteemed jury members included are Mr. Rohan D Rendalkar - a seasoned leader who works at the intersection of platforms, commercial strategy, and execution, Mr. Srivant Varanasi, Founder and CEO of Propelix, San Francisco, and CEO of Surviant, Mr. Dhyuthidhar Saraswathula, Vice President of Technology at Propelix and CTO of Surviant, Mr. Vinod Shankar, CEO of AIC-DSU Innovation Foundation, Dr. Sudarshan T. S. B., Dean – Research & Innovation, DSU and Dr. Pradeep Desai, Co-Founder and CEO of Thalesat Innovations Private Limited.

EUREKATHON 3.0 – 24 Hours Hackathon

With a prize pool of ₹37,500+, EUREKATHON 3.0 provided a dynamic platform for students to transform ideas into impactful solutions, fostering innovation, collaboration, and entrepreneurial spirit in line with the vision to Build. Launch. Scale.

“HCF Hackathon – MARK 01”

The Department of CSE (AI & ML), School of Engineering, at Dayananda Sagar University, organized the HCF Hackathon – MARK 01 on 12 February 2026, bringing together students, academicians, and industry experts for a day of innovation aligned with SDGs 4, 8, 9, and 17.

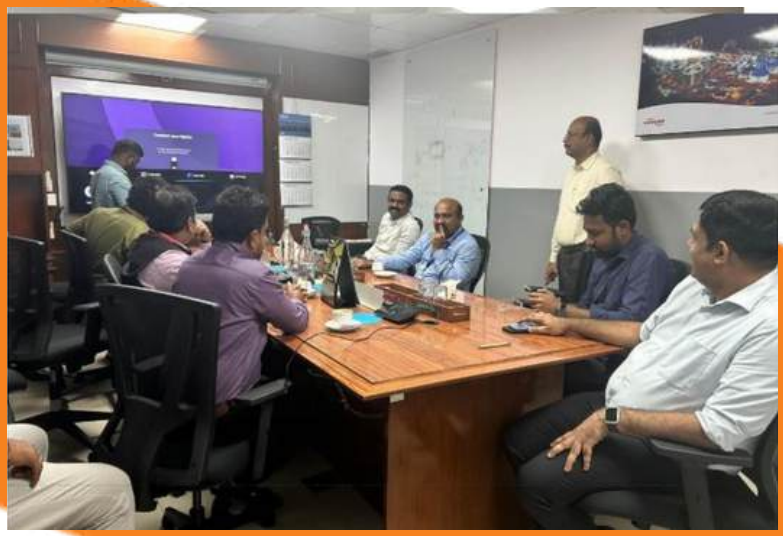
The event began with a welcome address by Dr. Jayavrinda Vrindavanam V, followed by opening remarks from Chief Guest Mr. Sachin Prasad, IBM USA, who encouraged participants to use emerging technologies to address real-world challenges, along with insights from the Dean (SOE) and Dean (Research) on interdisciplinary research and innovation.

The technical segment featured sessions by Dr. Jitendra Kumar Jaiswal on the IEEE Computational Intelligence Society and Dr. A. A. Nippun Kumar on the IEEE Robotics and Automation Society, followed by a hackathon orientation detailing problem statements and evaluation criteria. Participants engaged in intensive development sessions with mentoring support, culminating in final project evaluations, prize distribution, and networking, reinforcing the institution’s commitment to experiential learning and technological innovation.

Industry Interaction Report - FLOWSERVE

On 25 February 2026, faculty members Dr. Gangadhar T G and Dr. Raguvaran S, Associate Professors in AI & Robotics, along with a group of students, visited Flowserve to explore avenues for industry–academia collaboration. The interaction proved highly constructive, opening opportunities in industrial automation, safety enhancement, and intelligent inspection systems. Discussions centered on challenges in manual inspection within high-pressure valve testing chambers and the feasibility of deploying robotic solutions to mitigate risks.

A proposed quadruped robotic inspection framework was highlighted as a viable innovation for confined and extreme environments. The meeting also paved the way for joint research projects, consultancy engagements, and student development initiatives, including internships, industry-driven final-year projects, and potential placements. This collaboration marks a strategic step toward advancing industrial automation and fostering innovation-driven growth at DSU.



Python-Based Robotics Modeling, Simulation, and Control – Session 1

The Department of Artificial Intelligence and Robotics Engineering, School of Engineering, Dayananda Sagar University, successfully conducted the first session of the Value Added Course (VAC) titled Python-Based Robotics Modeling, Simulation, and Control on 04 and 13 February 2026 at Lecture Hall A341. Delivered by Dr. Bharath Kumar S, Assistant Professor, under the guidance of Dr. Pramod Kumar Naik, Chairperson, and Dr. Udaya Kumar Reddy K. R, Dean, the session introduced students to the fundamentals of robotics modeling using Python, covering mathematical foundations, kinematic representations, simulation environments, and basic control strategies.

Coordinated by a dedicated faculty team, the program emphasized bridging theoretical robotics with practical computational tools, equipping students with essential skills in software development, algorithm implementation, and simulation-driven experimentation. The enthusiastic participation of students reflected the department's commitment to fostering industry-relevant and research-oriented learning opportunities. The VAC series will continue with advanced modules focusing on deeper integration of modeling, simulation platforms, and control design methodologies in robotics.

Python-Based Robotics Modeling, Simulation, and Control – Session 1

Research Methodology and Conference Paper Writing with Introductory AI & Robotics Applications – Session 2

The Department of Artificial Intelligence and Robotics Engineering, School of Engineering, Dayananda Sagar University, successfully conducted Session 2 of the Value Added Course (VAC) titled Research Methodology and Conference Paper Writing with Introductory AI & Robotics Applications on 14 and 28 February 2026 at Lecture Hall A341. Delivered by Dr. Bharath Kumar S, Assistant Professor, under the guidance of Dr. Pramod Kumar Naik, Chairperson, and Dr. Udaya Kumar Reddy K.R, Dean, the session equipped students with essential skills in research methodology, including problem identification, literature review, hypothesis development, and structured experimentation.

Participants gained practical insights into drafting high-quality conference papers, citation practices, plagiarism awareness, and journal selection, while also exploring the integration of AI and Robotics applications in research. Coordinated by a dedicated faculty team, the session witnessed active student engagement and interactive discussions, reflecting the department's commitment to nurturing scholarly excellence and research orientation. The VAC series continues to empower students with technical expertise and academic writing skills aligned with global standards.

Expert Talk on Intellectual Property and Innovation

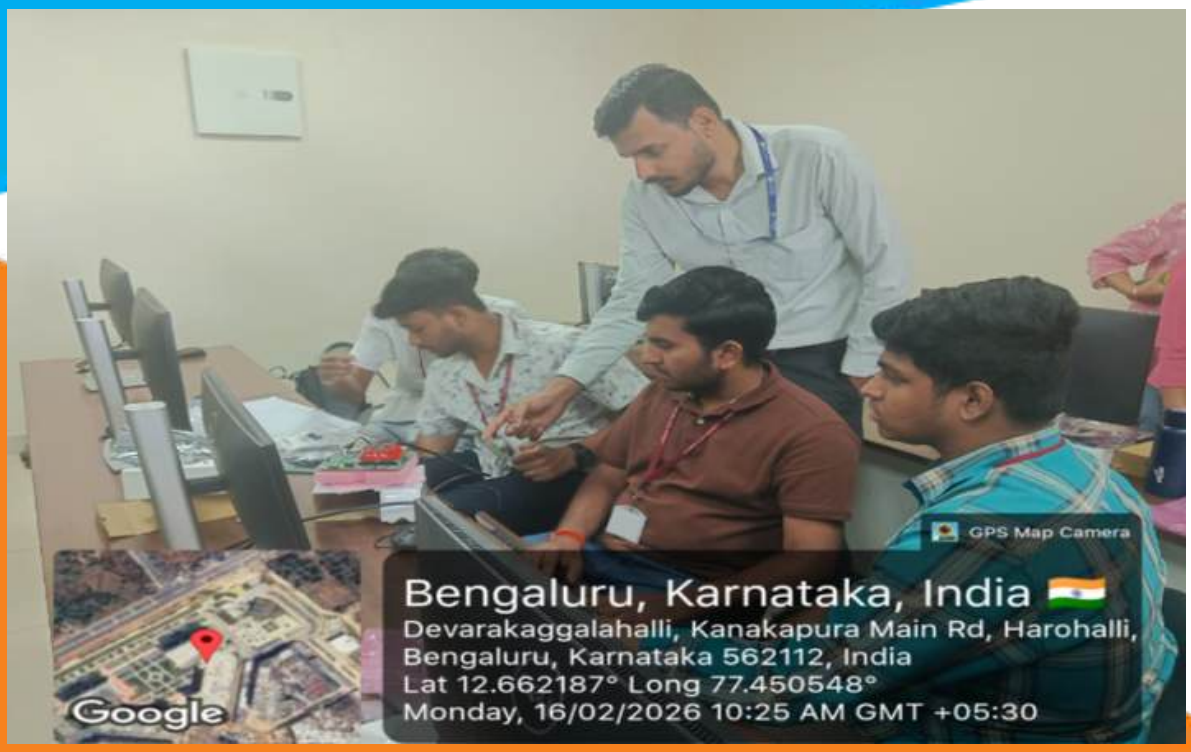
The Department of Artificial Intelligence and Robotics Engineering, School of Engineering, Dayananda Sagar University, organized an expert talk titled Process Innovation to Patent Protection: Mastering the IP Journey on 16 February 2026 at Lecture Hall A341. Delivered by Dr. Bharath Kumar S, Assistant Professor, under the guidance of Dr. Pramod Kumar Naik, Chairperson, and Dr. Udaya Kumar Reddy K.R, Dean, the session provided a comprehensive overview of the Intellectual Property (IP) journey—from identifying innovative ideas to securing patent protection.

Key topics included patentability criteria, prior art searches, claim drafting, filing procedures, and commercialization pathways. The talk emphasized the importance of safeguarding research outcomes, particularly in emerging domains such as Artificial Intelligence and Robotics, and offered practical insights on transforming academic projects into protected intellectual assets with commercial potential. The event witnessed enthusiastic participation from students and faculty, fostering a culture of innovation, entrepreneurship, and research-driven development within the department.

3-Day Intensive Training on AMD Kria™ K26 SOM & KR260 Platform

The Department of Artificial Intelligence & Robotics Engineering, Dayananda Sagar University, organized a 3-Day Intensive Training on AMD Kria™ K26 SOM & KR260 Platform as part of its Value-Added Course series on 14, 16, and 17 February 2026 at the Harohalli Campus. Coordinated by Prof. Lalit Ashutosh and Prof. Vikas Vishwakarma, the workshop provided students with hands-on experience in FPGA, Adaptive SoC, Embedded Linux, hardware acceleration, and AI deployment.

Across three intensive sessions, participants explored FPGA architecture, Vivado design flow, hardware accelerator development, and real-time AI applications, including face recognition, motion detection, and vision-based attendance monitoring. The training bridged academic learning with industrial applications, equipping students with practical skills in robotics, computer vision, and intelligent systems. With enthusiastic student participation, the program strengthened technical competencies and reinforced DSU's commitment to delivering industry-relevant, innovation-driven education.



3-Day Intensive Training on AMD Kria™ K26 SOM & KR260 Platform

AI IMPACT SUMMIT 2026, NEW DELHI

Dayananda Sagar University (DSU) marked a significant presence at the AI Impact Summit with an impressive pavilion that showcased the university's innovation-driven vision and technological advancements. The Department of AI & Robotics led the participation, highlighting cutting-edge research projects, student innovations, industry collaborations, and the department's commitment to building future-ready AI professionals.

The DSU pavilion attracted considerable attention from academicians, industry leaders, startups, and technology enthusiasts, reflecting the university's growing prominence in the field of Artificial Intelligence and Robotics. Dr. Pramod Kumar Naik, Chairman – AI & Robotics, and Dr. Rupam Bhaduri, Professor, AI & Robotics, represented the department at the summit, engaging with delegates, presenting departmental initiatives, and strengthening academic–industry connections. Their presence reinforced DSU's leadership role in advancing AI education, research, and real-world technological impact.


DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
(ARTIFICIAL INTELLIGENCE & MACHINE LEARNING)
presents
Chitraraga
Dancing
Singing
GPS Map Camera
Bengaluru, Karnataka, India
Devarakaggalahalli, Kanakapura Main Rd, Harohalli,
Bengaluru, Karnataka 562112, India
Lat 12.662199° Long 77.450209°
Thursday, 19/02/2026 03:20 PM GMT +05:30
Google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VISIT REPORT - EPSON

Dr. Puneeth N, Assistant Professor-AI&R, visited the Technical workshop at EPSON conducted on 13th February 2026 at Godrej Centre, Bengaluru, and offered valuable industrial exposure to the Department of AI & Robotics EPSON Workshop Report. The session focused on advanced industrial automation systems and contemporary robotic applications used in modern manufacturing environments. Detailed insights were provided on precision robotics deployed in electronics and automotive sectors.

The experts also explained the integration of vision systems, intelligent sensing, and smart factory concepts aligned with Industry 4.0 practices. The interaction created a strong academic–industry interface, enabling discussion on internships, training programs, and collaborative research opportunities. Faculty members gained clarity on current industrial expectations and technological trends. The workshop further opened avenues for joint programs, consultancy projects, and skill-oriented student development initiatives. Overall, the event significantly strengthened institutional collaboration with industry and enhanced practical learning orientation.

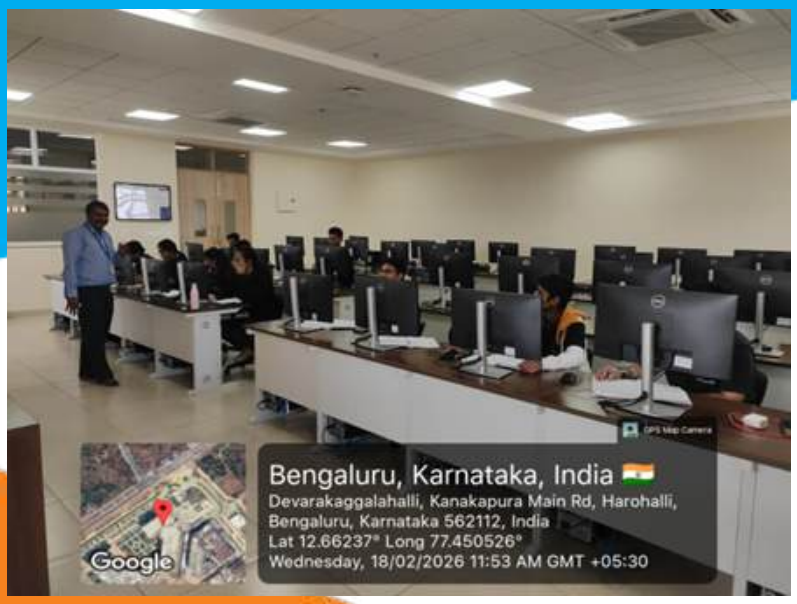
CHEMFUN Club

CHEMFUN Club successfully organized an inspiring CHEM TALK titled “Think Big, Start Small: Student Ideas to Startups,” along with engaging and interactive student activities. The technical session was delivered by Dr. K. Sudheendra Rao, Founder of Likhotronics Tech Pvt. Ltd. and Associate Professor at DSU, who shared valuable insights on innovation, entrepreneurship, and transforming student ideas into successful startups.

The event witnessed enthusiastic participation from students, fostering active discussions and making the session both informative and motivating

Training Program on Autodesk Inventor and AutoCAD

The Department of Mechanical Engineering, School of Engineering, DSU, successfully conducted a comprehensive Corporate Training Program on Autodesk Inventor and AutoCAD for Graduate Engineer Trainees from Bühler India from 16th February to 28th February 2026. The intensive two-week program was led by **Dr. Shashidhar L C,** Manager of the Autodesk Design & Innovation Lab, and **Dr. Vinay M S**, Assistant Professor, Department of Mechanical Engineering. The sessions were thoughtfully structured to enhance the trainees' expertise in advanced 3D modeling, parametric design, assembly modeling, and detailed drafting using Autodesk Inventor, along with precision 2D drafting and documentation practices in AutoCAD





Dr. Saravana Bavan (Chairperson), Dr.Rahul Kumar (Assistant Professor), and Mr. Karthik SB
Department of Mechanical Engineering

A faculty workshop and industrial interaction visit was organized at EPSON India Pvt Ltd, Bangalore, to strengthen faculty exposure to modern engineering and manufacturing practices. The visit was arranged by Dr. Rani M., Director – Corporate Relations, Dayananda Sagar University. Three faculty members from the Mechanical Engineering department—Dr. Saravana Bavan, Dr. Rahul Kumar, and Mr. Karthik SB participated in the program. The workshop focused on advanced manufacturing systems, automation, robotics, Industry 4.0 concepts, and sustainable production practices on 13th February 2026. Faculty gained valuable insights into industrial workflows, automation integration, and collaborative research opportunities.

“Chitraraga” – A Celebration of Art and Expression

The Department of CSE (AI & ML), School of Engineering, at Dayananda Sagar University, organized “Chitraraga” on 19 February 2026 as a vibrant cultural event celebrating creativity and artistic expression. The program featured competitions in Dancing, Singing, and Face Painting, drawing enthusiastic participation and creating an energetic atmosphere while emphasizing the importance of balancing technical excellence with cultural development. Convened by Dr. Jayavrinda Vrindavanam V, Professor & Chairperson, and coordinated by faculty members Prof. R. Rakshita, Prof. Bhuvana Mohini, and Prof. Kaviyaadharshani D, with support from student coordinators Achinth M, Dheeraj Kanduri, and Shreesha, the event successfully fostered holistic development and provided students with a platform to showcase their talents beyond academics.

Sports Event – “Dodgeball Showdown”

The Department of CSE (AI & ML), School of Engineering, at Dayananda Sagar University, organized a Sports Event on 20 February 2026 to promote physical fitness, teamwork, and sportsmanship among students.

The event featured Dodgeball played in an exciting three-way league format with three mixed-gender teams of eight members each, encouraging inclusivity, collaboration, and equal participation while fostering a strong competitive spirit. Conducted under the guidance of Prof. Sahil Pocker, Assistant Professor, CSE (AI & ML), along with dedicated student coordinators, the event concluded successfully, strengthening camaraderie and reinforcing the importance of maintaining an active and balanced lifestyle alongside academic pursuits.

Filmy Gapshap

Organised by the Echoes of Lumière, the Filmmaking Club, SOE

“Filmy Gapshap” was conducted on 13th February, 2026, with 80 enthusiastic students across all branches. This event included fun quiz questions about cinema and a karaoke session. It commenced with an introductory speech by Eepshitha, a second-semester student, followed by Rakshit Kumar, founder of the club, who emphasised the club’s objectives.

Cinema is a shared interest among us all. Discussing techniques, cinematography, and music excites students, enabling them to speak comfortably in English. The purpose of this event was to provide a relaxed platform for students to express their interests more freely. Current research in English Language Teaching (ELT) suggests that students communicate more effectively in environments free from the pressures typically associated with a boardroom. Such settings allow them to engage more actively and overcome language barriers.

The Echoes of Lumière, the filmmaking club at SOE, provides students with an opportunity to express themselves effectively in any circumstance. The participants appreciated the event's purpose and expressed their gratitude for the harmonious blend of improvisation and playfulness demonstrated by the club's newcomer core members.

SCHOOL OF
ENGINEERING

INDUSTRIAL VISITS/INDUSTRY–INSTITUTE INTERACTION
MoUs

MOU - Dept of Aerospace Engineering DSU and Quest Global Engineering Services PVT LTD

The Department of Aerospace Engineering DSU and Quest Global Engineering Services Private Limited signed an MoU on 28th Jan 2026, fostering collaboration in engineering education, research, and campus hiring. The partnership aims to establish joint programs, internships, and research projects under the aerospace engineering department, strengthening industrial-academic cooperation.

Visit to Tech Mahindra

Dr. Mathew Chacko, Professor of Practice, and Dr. B. V. N. Ramakumar, Professor in the Department of Aerospace Engineering, Dayananda Sagar University (DSU), visited Tech Mahindra on 17/02/2026 for an academic–industry interaction meeting.

The visit focused on discussions related to the Model-Based Systems Engineering (MBSE) course and the Aerospace Structures course, particularly with regard to syllabus alignment and industry relevance. Deliberations also included exploring potential internship opportunities for students in these specialized domains to strengthen practical exposure and industry integration.

Industrial Visit to ISRO SDSC Sriharikota

The students of the Department of Aerospace Engineering, currently pursuing the IV semester, visited the ISRO Satish Dhawan Space Centre (SDSC SHAR) on 26/02/2026 as part of an academic industrial visit. Dr Kartik S Tandel ,Dr Ajey Singh Prof Swagthika Pradhan, and Mr Harish KL from the department of Aerospace Engineering accompanied the students.

During the visit, the students gained valuable exposure to the Mission Control Centre (MCC) and various launch pad facilities, along with other critical infrastructure at SDSC SHAR. The visit provided them with practical insights into launch vehicle operations, mission management, and spaceport facilities, thereby enhancing their understanding of real-time space mission execution and large-scale aerospace operations.

SCHOOL OF
ENGINEERING

FACULTY ACHIEVEMENTS

Prof. Rupam Sah, Prof. Praveen Gopal Gaonkar, Prof. Manas Singha, Prof. Aman Aditya, Assistant Professors, Dr. Rupam Bhagawati, Associate Professor, and Dr. Vengatesan. K, Professor, Department of CSE, has presented a paper entitled “A Self-Supervised Learning Framework for Low-Resource Computer Vision Applications” in the 6th International Conference on Image Processing and Capsule Networks (ICIPCN-2026) organised by Kathmandu University, Dhulikhel, Nepal, during 27–29 January 2026.

Prof. Rupam Sah
Assistant Professor
Department of CSE


IEEE

ICIPCN

IEEE Computational Intelligence Society

CERTIFICATE OF PRESENTATION

This is to certify that

Rupam Sah

has successfully presented the paper titled

A Self-Supervised Learning Framework for Low-Resource Computer Vision Applications

at the 6th International Conference on Image Processing and Capsule Networks (ICIPCN 2026) organised by Kathmandu University, Dhulikhel, Nepal during 27-29, January 2026.

Session Chair

Dr. Gajendra Sharma
Conference Chair

Dr. Manish Pokharel
Patron

Prof. Praveen Gopal
Assistant Professor
Department of CSE


IEEE

ICIPCN

IEEE Computational Intelligence Society

CERTIFICATE OF PRESENTATION

This is to certify that

Praveen Gopal Gaonkar

has successfully presented the paper titled

A Self-Supervised Learning Framework for Low-Resource Computer Vision Applications

at the 6th International Conference on Image Processing and Capsule Networks (ICIPCN 2026) organised by Kathmandu University, Dhulikhel, Nepal during 27-29, January 2026.

Session Chair

Dr. Gajendra Sharma
Conference Chair

Dr. Manish Pokharel
Patron

Prof. Manas Singha
Assistant Professor
Department of CSE

IEEE ICIPCN IEEE Computational Intelligence Society

CERTIFICATE OF PRESENTATION

This is to certify that

Manas Singha

has successfully presented the paper titled

A Self-Supervised Learning Framework for Low-Resource Computer Vision Applications

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Session Chair | Dr. Gajendra Sharma, Conference Chair | Dr. Manish Pokharel, Patron

Prof. Rupam Bhagwati
Associate Professor
Department of CSE

IEEE ICIPCN IEEE Computational Intelligence Society

CERTIFICATE OF PRESENTATION

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Session Chair | Dr. Gajendra Sharma, Conference Chair | Dr. Manish Pokharel, Patron

Prof. Vengatesan. K
Professor
Department of CSE

IEEE ICIPCN IEEE Computational Intelligence Society

CERTIFICATE OF PRESENTATION

This is to certify that

Vengatesan K

has successfully presented the paper titled

A Self-Supervised Learning Framework for Low-Resource Computer Vision Applications

at the 6th International Conference on Image Processing and Capsule Networks (ICIPCN 2026) organised by Kathmandu University, Dhulikhel, Nepal during 27-29, January 2026.

Session Chair | Dr. Gajendra Sharma, Conference Chair | Dr. Manish Pokharel, Patron

Prof. Praveen Gopal Gaonkar, Prof. Manas Singha, Prof. Rupam Sah, Prof. Bikramjit Saha, Assistant Professors, Dr. Rupam Bhagawati, Associate Professor, and Dr. Vengatesan. K, Professor, Department of CSE has presented paper entitled “Graph Neural Networks for Real-Time Misinformation Detection in Social IoT” in 6th International Conference on Image Processing and Capsule Networks (ICIPCN-2026) organised by Kathmandu University, Dhulikhel, Nepal during 27–29 January 2026.

Prof. Praveen Gopal
Assistant Professor
Department of CSE

IEEE ICIPCN IEEE Computational Intelligence Society

CERTIFICATE OF PRESENTATION

This is to certify that

Praveen Gopal Gaonkar

has successfully presented the paper titled

Graph Neural Networks for Real-Time Misinformation Detection in Social IoT

at the 6th International Conference on Image Processing and Capsule Networks (ICIPCN 2026) organised by Kathmandu University, Dhulikhel, Nepal during 27-29, January 2026.

Session Chair — Dr. Gajendra Sharma, Conference Chair — Dr. Manish Pokharel, Patron

Prof. Manas Singha
Assistant Professor
Departm ent of CSE

IEEE ICIPCN IEEE Computational Intelligence Society

CERTIFICATE OF PRESENTATION

This is to certify that

Manas Singh

has successfully presented the paper titled

Graph Neural Networks for Real-Time Misinformation Detection in Social IoT

at the 6th International Conference on Image Processing and Capsule Networks (ICIPCN 2026) organised by Kathmandu University, Dhulikhel, Nepal during 27-29, January 2026.

Session Chair — Dr. Gajendra Sharma, Conference Chair — Dr. Manish Pokharel, Patron

Dr. Santosh Reddy P has successfully participated in the Faculty Development Program on Awarded to “Cloud Computing” held from 19th January 2026 to 23rd January 2026 for 10 hours, organized by Geetanjali Institute of Technical Studies, Udaipur Sri Siddhartha Institute of Technology (SSIT), Tumkur BNM Institute of Technology, Bangalore in collaboration with ExcelR Edtech Pvt. Ltd.

Dr. Santosh Reddy
Associate Professor
Department of CST

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Dr. Santosh Reddy P

has successfully participated in Faculty Development Program on

Cloud Computing

held from 19th January 2026 to 23rd January 2026 for 10 hours
We hereby acknowledge the dedication and effort shown by the participant.

Organized by Geetanjali Institute of Technical Studies Udaipur
Sri Siddhartha Institute of Technology (SSIT), Tumkur
BNM Institute of Technology, Bangalore
in collaboration with ExcelR Edtech Pvt. Ltd.

Cert No: EXCELR-FDP- 111450/02022026

Dr. Mukesh Choudhary
HOD, MCA
Geetanjali Institute of Technical Studies Udaipur

Dr. M C Chandrashekhar
Professor n HOD,
Dept Of ECE,
Sri Siddhartha Institute of Technology, Tumakuru

Dr. S Y Kulkarni
Additional Director & Principal,
BNM Institute of Technology, Bangalore

Ram Tavva
CEO,
ExcelR Edtech Pvt. Ltd.

Prof. Vinayaka V M has completed the Swayam Course conducted by IIM Bangalore on “Generative AI and Large Language Models” with a consolidated score of 86% marks in the proctored examination held by National Testing Agency

Prof. Vinayaka V M
Assistant Professor
Department of CST

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SWAYAM ONLINE COURSE CERTIFICATION

This certificate is awarded to

V M Vinayaka

KKZ0010507

for successfully completing Three credit course

Generative AI and Large Language Models

with a consolidated score of 76.2%

(proctored examination held on 12 Dec 2025) - July 2025 Semester

offered by **Indian Institute of Management Bangalore**

Issued on : 31/01/2026
To validate and check scores : https://swayam.gov.in/

Prof. Vasanthi Srinivasan
National Coordinator
Indian Institute of Management Bangalore

Yashaswini B V
Assistant Professor
Department of CST

Dr.Santosh Kumar J
Associate Professor
Department of CST

Yashaswini B V & Dr.Santosh Kumar J has published a Conference Paper :Smart Classroom and Timetable Scheduling System using Hybrid Graph Coloring and Cloud Optimization, 2025 9th International Conference on Electronics, Communication and Aerospace Technology (ICECA). DOI: 10.1109/ICECA66444.2025.11383150

Conferences > 2025 9th International Confer...

Smart Classroom and Timetable Scheduling System using Hybrid Graph Coloring and Cloud Optimization

Publisher: IEEE | Cite This | PDF

Bharath B ; Sudharsan V ; Yashaswini B. V ; M Chithambarathanu ; Santosh Kumar J ; Prolay Biswas All Authors

Abstract

Document Sections

1. Introduction
2. Literature Review
3. Methodology
4. EXPERIMENTAL EVALUATION
5. Discussion

Show Full Outline

Authors

Figures

References

Abstract:
Education timetabling is a widespread NP-hard problem with multiple constraints such as overlapping students, limited roon capacity and instructor availability. Scalability and flexibility to evolving academic needs are still an issue. We propose a Sm Classroom and Timetable Scheduling System (SCTSS) based on a hybrid optimization scheme that combines Greedy Grap Coloring and Constraint Programming (CP) in Google OR-Tools. The cloud-native microservices platform (Node) It uses MongoDB Atlas (a cloud version of the database) and js to link databases and applications. It surpassed both manual and standalone algorithmic methods with 95% constraint compliance in an average time of 2. 3 seconds for a 2,000-event set. According to the National Education Policy (NEP) 2020 goals for flexible and Trans disciplinary learning, administrative effor were reduced by about 60%. The approach being proposed offers a practical and repeatable timetable solution for the mode academic institution.

Published in: 2025 9th International Conference on Electronics, Communication and Aerospace Technology (ICECA)

Date of Conference: 05-07 November 2025

DOI: 10.1109/ICECA66444.2025.11383150

Date Added to IEEE *Xplore*: 13 February 2026

Publisher: IEEE

ISBN Information:

Conference Location: Coimbatore, India

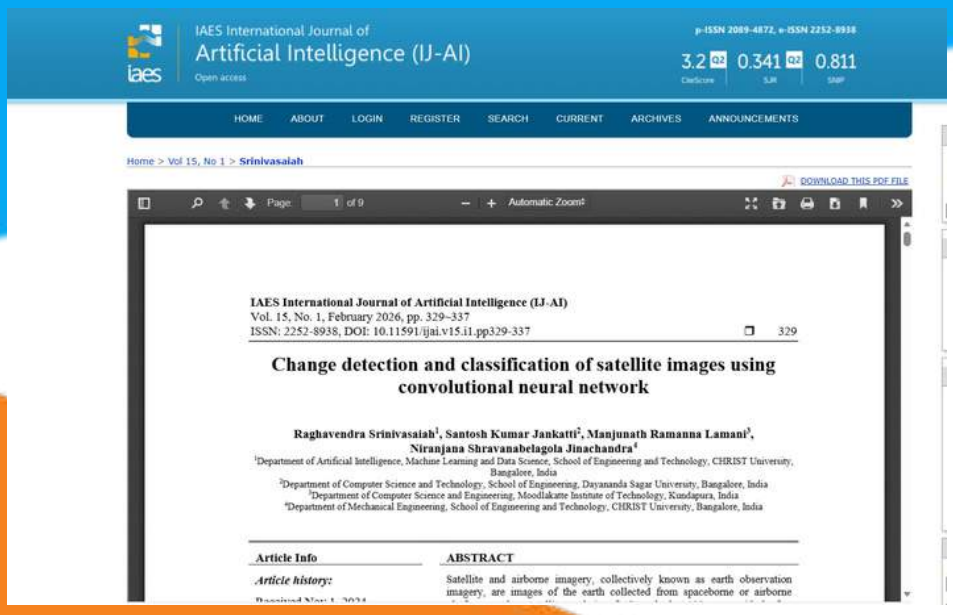
Dr.Ramandeep Kaur
Associate Professor
Department of CST

Book Chapter has been published, by Dr.Ramandeep Kaur, which she presented at a Conference with students: Un-pirate: Camcording piracy prevention, 2025 International Conference on Communication, Computer, and Information Technology (IC3IT). Published as a book chapter in Emerging Technologies in AI, Computation, Communication, and Cybersecurity (1st ed.). CRC Press. https://doi.org/10.1201/9781003739791

Dr.Santosh Kumar J
Associate Professor
Department of CST

1) Dr.Santosh Kumar J has published a Research Paper: Change detection and classification of satellite images using a convolutional neural network,IAES International Journal of Artificial Intelligence (IJ-AI) Vol. 15, No. 1, Q2 Journal DOI: 10.11591/ijai.v15.i1.pp329-337

2) Dr.Santosh Kumar J has published a Conference Paper with students: Worldcoin Market Analysis Using ETL Pipeline and Time-Series Data, 2025 International Conference on Communication, Computer, and Information Technology (IC3IT). DOI: 10.1109/IC3IT66137.2025.11341141 (Fig- 15, Fig- 13a)


IAES International Journal of Artificial Intelligence (IJ-AI)

p-ISSN 2089-4872, e-ISSN 2252-8938

3.2 Q2 0.341 Q2 0.811

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IAES International Journal of Artificial Intelligence (IJ-AI)
Vol. 15, No. 1, February 2026, pp. 329~337
ISSN: 2252-8938, DOI: 10.11591/ijai.v15.i1.pp329-337 329

Change detection and classification of satellite images using convolutional neural network

Raghavendra Srinivasaiah[1], Santosh Kumar Jankatti[2], Manjunath Ramanna Lamani[3], Niranjana Shravanabelagola Jinachandra[4]

[1]Department of Artificial Intelligence, Machine Learning and Data Science, School of Engineering and Technology, CHRIST University, Bangalore, India
[2]Department of Computer Science and Technology, School of Engineering, Dayananda Sagar University, Bangalore, India
[3]Department of Computer Science and Engineering, Moodlakatte Institute of Technology, Kundapura, India
[4]Department of Mechanical Engineering, School of Engineering and Technology, CHRIST University, Bangalore, India

Article Info

Article history:

ABSTRACT

Satellite and airborne imagery, collectively known as earth observation imagery, are images of the earth collected from spaceborne or airborne


Worldcoin Market Analysis Using ETL Pipeline and Time-Series Data

Publisher: IEEE Cite This PDF

Lokesh J ; Danesh H M ; Ahemad Talwar ; Junaid Mundichipparakkal ; Santosh Kumar J ; Nivetha NRP All Authors

7 Full Text Views

Abstract

Document Sections

I. Introduction

II. Related Works

III. Proposed Method

IV. Results and Discussion

V. Conclusion

Authors

Figures

References

Keywords

Abstract:

This paper presents an ETL framework tailored for high-frequency Worldcoin (WLD) market data, addressing limitations existing pipelines that rely on static datasets and lack integration of technical indicators. The system, implemented in Py with a MySQL backend, automates ingestion, preprocessing, feature engineering, and storage of over **193, 000** recor collected at **5**-minute intervals between July 2023 and May 2025. Data quality enhancements include treatment of miss values and noise reduction, while visualization modules support detailed monitoring of volatility, trading patterns, and liq shocks. Experimental results highlight strong correlations between price features, event-driven opening gaps, and discrepancies between actual and quote volumes. The pipeline is modular, scalable, and designed for seamless integra with predictive models such as LSTM, ARIMA, and Transformers. This work contributes the first ETL architecture optim high-frequency Worldcoin analytics, providing a reproducible and extensible foundation for cryptocurrency research and decentralized financial applications.

Published in: 2025 International Conference on Communication, Computer, and Information Technology (IC3IT)

Date of Conference: 24-25 October 2025 **DOI:** 10.1109/IC3IT66137.2025.11341141

Date Added to IEEE Xplore: 22 January 2026 **Publisher:** IEEE

Yashaswini B V
Assistant Professor
Department of CST

Yashaswini B V has published a Conference Paper :Real-Time Public Transport Tracking for Small Cities: An IoT and AI-based Approach, 2025 5th International Conference on Evolutionary Computing and Mobile Sustainable Networks(ICECMSN). DOI: 10.1109/ICECMSN68058.2025.11383231

Real-Time Public Transport Tracking for Small Cities: An IoT and AI-based Approach

Publisher: IEEE | Cite This | PDF

Institute of Electrical and Electronics Engineers

Bharath B ; Yashaswini B. V ; Sudharsan V ; Nur Alom Talukdar ; G. Santhosh ; Aniruddha Deka All Authors

Abstract
Document Sections
I. Introduction
II. Literature Review
III. Methodology
IV. Results
V. Discusion and recommendation
Show Full Outline
Authors
Figures
References
Keywords

Abstract:
In lesser Indian cities, rigid timings and inadequate communication about public transport usually force people to use their own cars. A new cost-efficient tracking system based on IoT and AI, utilizing GPS, infrared, and weight sensors plus LSTM and XGBoost models for bus arrival predictions and passenger flow monitoring in real-time has been introduced in this research. During the six-month experiment in Surat, Lucknow, and Coimbatore the results were quite encouraging. The forecasting system for buses was accurate with an average of just 1.4 minutes error. It also achieved 94% accuracy in passenger counting and the hardware was functioning 98.7% of the time. The tracking system that was put in place not only improved or made it more efficient but also cut down waiting times by 35%, raised on-time rate from 68% to 84%, reduced delays during peak hours by 42%, and eliminated 67% of passenger complaints, all with an initial investment of around INR 12,500 per bus and a payback period of only eight months. Besides, the passengers' happiness rating went up from 3.2 to 4.1 out of 5 and there was a 23% increase in bus ridership. All these results show that a chip, equipped with sensors, powered by AI system could remarkably improve the level of service in poor-resource areas. However, it should still be emphasized that growing this system to more extensive areas and making it work that way for a long time would be very hard.

Published in: 2025 5th International Conference on Evolutionary Computing and Mobile Sustainable Networks (ICECMSN)

Date of Conference: 24-26 November 2025
DOI: 10.1109/ICECMSN68058.2025.11383231
Date Added to IEEE *Xplore*: 17 February 2026
Publisher: IEEE
ISBN Information:
Conference Location: Coimbatore, India

Dr.Santosh Kumar J
Associate Professor
Department of CST

Patent Application (No. 202441059480), filed on 07/08/2024, titled “Electric Meter Reading Application that generates bills based on uploaded photo of the meter” has been published on 13/02/2026, by Dr. Santosh Kumar Jankatti

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
PATENTS | DESIGNS | TRADE MARKS | GEOGRAPHICAL INDICATIONS

Application Details	
APPLICATION NUMBER	202441059480
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	07/08/2024
APPLICANT NAME	1 . Santosh Kumar Jankatti 2 . Dayananda Sagar University
TITLE OF INVENTION	Electric Meter Reading Application that generates bills based on uploaded photo of the meter
FIELD OF INVENTION	PHYSICS
E-MAIL (As Per Record)	sjankatti@gmail.com
ADDITIONAL-EMAIL (As Per Record)	santoshkumar-ct@dsu.edu.in
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	13/02/2026

Application Status	
APPLICATION STATUS	Awaiting Request for Examination

View Documents

Filed → Published → RQ Filed → Under Examination → Disposed

Dr.Santosh Kumar J
Associate Professor
Department of CST

Patent Application (No. 202641011438), filed on 03/02/2026, titled “An IoT-Enabled Intelligent Aquaculture Monitoring and Automated Control System with Vision-Based Analysis and AI-Assisted Decision Support,” has been published on 13/02/2026, by Nandini K , Kavyashree,Arpita Paria ,Revathi V, Savitha Hiremath, Dr. Santosh Kumar J

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(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :03/02/2026

(21) Application No.202641011438 A

(43) Publication Date : 13/02/2026

(54) Title of the invention : An IoT-Enabled Intelligent Aquaculture Monitoring and Automated Control System with Vision-Based Analysis and AI-Assisted Decision Support

(51) International classification	:A01K 63/04, G06Q 50/02, A01K 61/80, G01N 33/18, A01K 63/00
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(86) International Application No Filing Date	: :01/01/1900
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

(71)**Name of Applicant :**
1)Dayananda Sagar University
Address of Applicant :Assistant Professor, Department of Computer Science and Engineering, Dayananda Sagar University, Bengaluru South, Karnataka, India. personal id:knandini804@gmail.com Contact Number:9110257767 Bengaluru South Karnataka India
2)Nandini K
3)Kavyashree
4)Arpita Paria
5)Revathi V
6)Savitha Hiremath
7)Dr. Santosh Kumar J

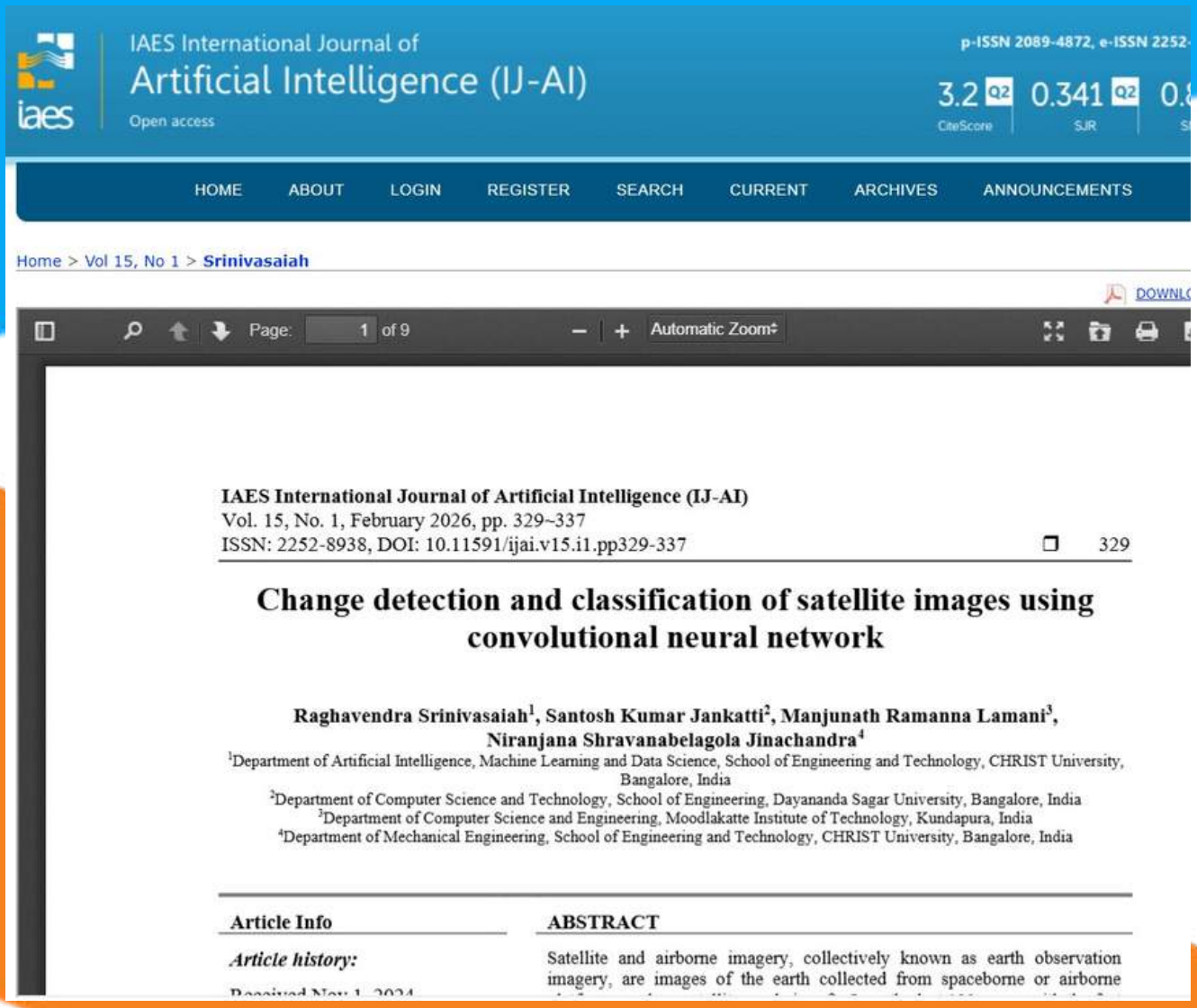
(72)**Name of Inventor :**
1)Nandini K
2)Kavyashree
3)Arpita Paria
4)Revathi V
5)Savitha Hiremath
6)Dr. Santosh Kumar J

(57) Abstract :
An IoT-enabled intelligent aquaculture monitoring system integrating sensors, automation, camera-based vision, and cloud analytics is disclosed. The system enables real-time monitoring of water quality parameters, automated feeding and aeration, and remote management. The architecture supports AI-based future enhancements for predictive analytics and sustainable aquaculture management. The present invention proposes an IoT-enabled smart aquaculture system that integrates multi-parameter water quality sensors, camera-based monitoring, cloud connectivity, and intelligent automation. The system continuously monitors pH level, water temperature, total dissolved solids (TDS), dissolved oxygen indicators, and water level. Based on real-time sensor data, the system automatically regulates feeding, aeration, and water circulation through servo motors and relay-controlled pumps. A camera module (ESP32-CAM) enables visual monitoring of fish activity and pond conditions. Data is transmitted to a cloud platform and mobile application, providing real-time alerts, analytics, and remote control. The architecture supports future AI/ML integration for predictive analytics and behavioural analysis.

No. of Pages : 11 No. of Claims : 6

Dr.Santosh Kumar J
Associate Professor
Department of CST

Dr.Santosh Kumar J has published a Research Paper : Change detection and classification of satellite images using convolutional neural network,IAES International Journal of Artificial Intelligence (IJ-AI) Vol. 15, No. 1, Q2 Journal DOI: 10.11591/ijai.v15.i1.pp329-337



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Vol. 15, No. 1, February 2026, pp. 329~337
ISSN: 2252-8938, DOI: 10.11591/ijai.v15.i1.pp329-337 329

Change detection and classification of satellite images using convolutional neural network

Raghavendra Srinivasaiah[1], Santosh Kumar Jankatti[2], Manjunath Ramanna Lamani[3], Niranjana Shravanabelagola Jinachandra[4]
[1]Department of Artificial Intelligence, Machine Learning and Data Science, School of Engineering and Technology, CHRIST University, Bangalore, India
[2]Department of Computer Science and Technology, School of Engineering, Dayananda Sagar University, Bangalore, India
[3]Department of Computer Science and Engineering, Moodlakatte Institute of Technology, Kundapura, India
[4]Department of Mechanical Engineering, School of Engineering and Technology, CHRIST University, Bangalore, India

Article Info

Article history:

ABSTRACT

Satellite and airborne imagery, collectively known as earth observation imagery, are images of the earth collected from spaceborne or airborne

Participation in 6-Day National Level FDP on Generative & Agentic AI – Tools & Demos

Dr. Puneeth N, Assistant Professor, Department of AI & Robotics, Dayananda Sagar University, successfully participated in a 6-Day National Level Faculty Development Program (FDP) on “Generative & Agentic AI – Tools & Demos” held from 16–21 February 2026. Organized by the Department of Computer Science and Engineering, Sardar Vallabhbhai National Institute of Technology (SVNIT), and technically co-sponsored by IEEE Gujarat Section in partnership with Pantech Solutions (India) Pvt. Ltd., the FDP provided hands-on exposure to advanced AI tools, frameworks, and real-time demonstrations. Key areas included foundations of Generative AI models, Agentic AI frameworks, autonomous agents, and practical strategies for integrating AI into research and academic applications. Dr. Puneeth’s participation reflects DSU’s commitment to continuous professional development, academic excellence, and staying aligned with cutting-edge advancements in Artificial Intelligence.

Dr. Puneeth N
Assistant Professor,
Department of AI&ROBOTICS

PANTECH SOLUTIONS Technology Beyond The Dreams / IEEE Gujarat Section

CERTIFICATE

OF COMPLETION

THIS IS TO CERTIFY THAT

Dr .PUNEETH.N

Dayananda Sagar University

has participated and successfully completed the
6 Days National Level Faculty Development Program (FDP) on
Generative & Agentic AI - Tools & Demo's
organized by Department of CSE,
Sardar Vallabhbhai National Institute of Technology(SVNIT)
Technically Co-sponsored by IEEE - Gujarat Section &
partnered with Pantech Solutions (India) Pvt., Ltd.
from 16th - 21st February 2026

Mr. Senthil Kumar M R, Director-Technical, Pantech eLearning Pvt. Ltd.

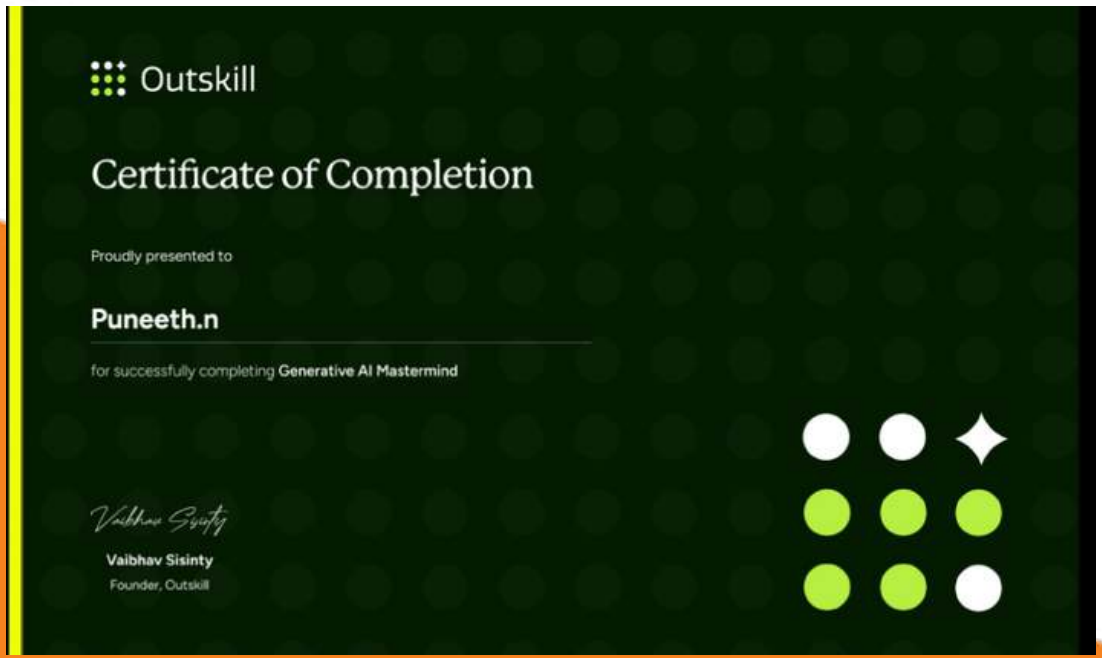
Dr. Anirban Bhattacharjee, Assistant Professor, CSE, SVNIT

Dr.Chirag N. Paunwala, Chairman, IEEE Gujarat Section

Cert No: PSSVNIT02_26_9076

Dr. Puneeth N
Assistant Professor, Department of AI&ROBOTICS

Dr. Puneeth N, Assistant Professor, AI&R received a Certificate of Completion from Outskill for successfully finishing the Generative AI Mastermind program. The certification recognizes the acquisition of practical knowledge and hands-on skills in generative AI technologies, tools, and applications. This achievement reflects continuous professional development and strengthens expertise in emerging AI trends, supporting ongoing academic and research activities within the department.



Mr. Biswajit Debnath
Assistant Professor, Department of Cyber Security

Mr. Biswajit Debnath successfully participated in a 5-Day International Faculty Development Program (FDP) on "Impact and Influence of AI in the Age of Generative and Agentic AI", organized by the Department of Computer Science, Sister Nivedita University, India, from 2–6 February 2026. The FDP provided valuable insights into emerging trends in Generative and Agentic AI, equipping participants with advanced knowledge of AI frameworks, tools, and applications. His active participation reflects Dayananda Sagar University's commitment to continuous professional development, academic excellence, and staying at the forefront of cutting-edge advancements in Artificial Intelligence.

SNU SISTER NIVEDITA UNIVERSITY

CERTIFICATE

Of Participation

This certificate is proudly presented to

Biswajit Debnath

Dayananda Sagar University

has participated in the **5 Days International Faculty Development Program** on

"Impact and Influence of AI in the Age of Generative and Agentic AI"

organized by the Department of Computer Science, Sister Nivedita University, held from 2nd – 6th February, 2026.

DIRECTOR, IQAC
SISTER NIVEDITA UNIVERSITY, INDIA

INSTITUTION'S INNOVATION COUNCIL

SNU IQAC

Abhishek Bhattacharya

HOD, DEPARTMENT OF COMPUTER SCIENCE
SISTER NIVEDITA UNIVERSITY, INDIA

Dr. Indushree M
Assistant Professor, Department of Cyber Security

Dr. Indushree M successfully participated in and completed the AICTE Training and Learning (ATAL) Academy Faculty Development Program on “Next GEN Computing: HPC, AI & Quantum Technologies”, conducted at G L Bajaj Group of Institutions from 09–14 February 2026. The FDP provided in-depth exposure to cutting-edge domains, including High-Performance Computing, Artificial Intelligence, and Quantum Technologies, equipping participants with advanced knowledge and practical insights into next-generation computational frameworks. Her successful completion of the program reflects Dayananda Sagar University’s commitment to continuous faculty development, academic excellence, and alignment with emerging technological advancements.

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AICTE Training and Learning (ATAL) Academy

Certificate

It is certified that ***Dr. Indushree M, Assistant Professor*** *of* ***Dayananda Sagar University*** *has successfully participated & completed AICTE Training And Learning (ATAL) Academy Faculty Development Program on* ***Next GEN Computing HPC, AI & Quantum Technologies*** *at* ***G L BAJAJ GROUP OF INSTITUTIONS*** *from* ***09/02/2026*** *to* ***14/02/2026.***

Vinai K. Singh
Professor Level (AICTE Institute), Coordinator
G L BAJAJ GROUP OF INSTITUTIONS

Dr. Sunil Luthra
Director & Bureau Head
Training and Learning Bureau, AICTE

Dr. Devi Priya V S
Assistant Professor, Department of Cyber Security

Dr. Devi Priya V S successfully participated in a 5-Day International Faculty Development Program (FDP) on “Impact and Influence of AI in the Age of Generative and Agentic AI”, organized by the Department of Computer Science, Sister Nivedita University, India, from 2–6 February 2026. The FDP provided valuable insights into the transformative role of Generative and Agentic AI, equipping participants with advanced knowledge of AI frameworks, tools, and applications. Her active participation reflects Dayananda Sagar University’s commitment to continuous faculty development, academic excellence, and staying at the forefront of cutting-edge advancements in Artificial Intelligence.

FDP/SNU/2026/853

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This certificate is proudly presented to

Devi Priya V S

Dayananda Sagar University

has participated in the **5 Days International Faculty Development Program** on

“Impact and Influence of AI in the Age of Generative and Agentic AI”

organized by the Department of Computer Science, Sister Nivedita University, held from 2nd – 6th February, 2026.

DIRECTOR, IQAC
SISTER NIVEDITA UNIVERSITY, INDIA

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Abhishek Bhattacharya

HOD, DEPARTMENT OF COMPUTER SCIENCE
SISTER NIVEDITA UNIVERSITY, INDIA

Mr. Joshe Raj S P
Assistant Professor, Department of Cyber Security

Mr. Joshe Raj S P successfully participated in a 5-Day International Faculty Development Program (FDP) on "Impact and Influence of AI in the Age of Generative and Agentic AI", organized by the Department of Computer Science, Sister Nivedita University, India, from 2–6 February 2026. The FDP provided valuable insights into the transformative role of Generative and Agentic AI, equipping participants with advanced knowledge of AI frameworks, tools, and applications. His active participation reflects Dayananda Sagar University's commitment to continuous faculty development, academic excellence, and staying aligned with cutting-edge advancements in Artificial Intelligence.

SNU SISTER NIVEDITA UNIVERSITY

CERTIFICATE

Of Participation

This certificate is proudly presented to

Joshe Raj SP

Dayananda sagar university

has participated in the **5 Days International Faculty Development Program** on

"Impact and Influence of AI in the Age of Generative and Agentic AI"

organized by the Department of Computer Science, Sister Nivedita University, held from 2nd – 6th February, 2026.

DIRECTOR, IQAC
SISTER NIVEDITA UNIVERSITY, INDIA

INSTITUTION'S INNOVATION COUNCIL

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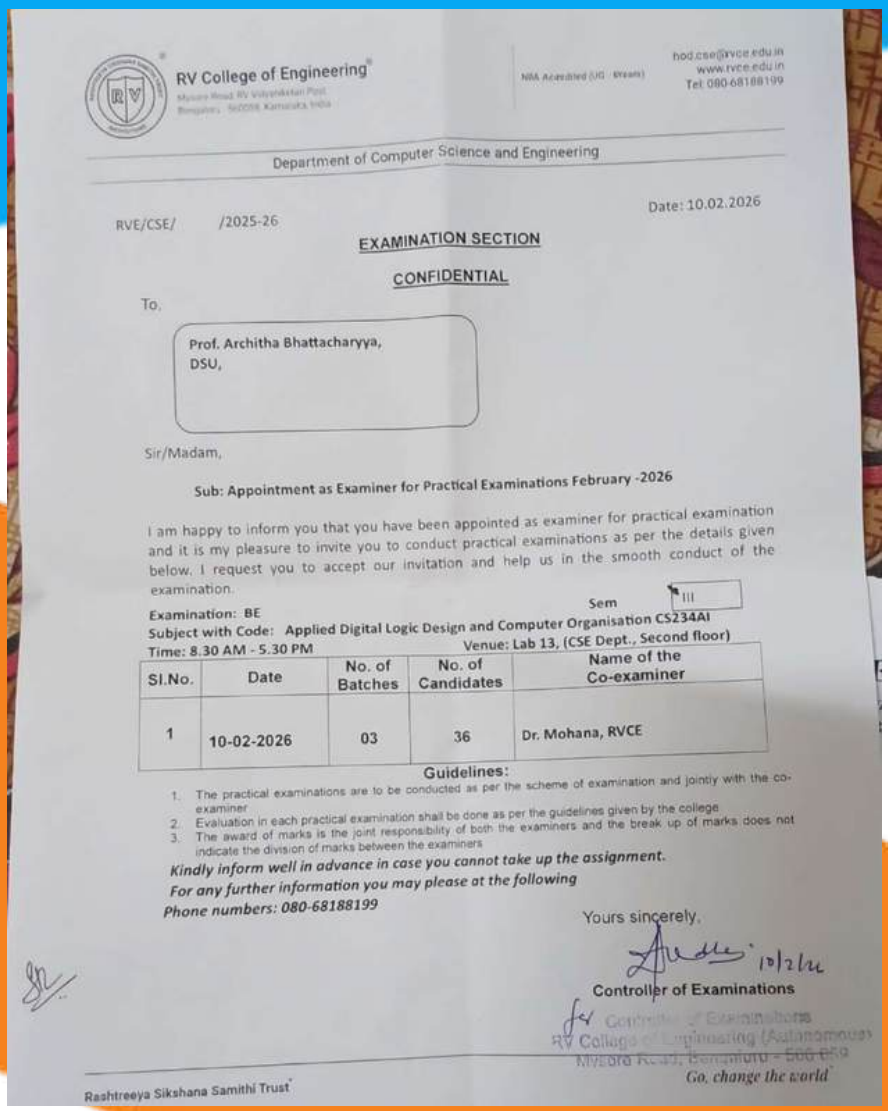
HOD, DEPARTMENT OF COMPUTER SCIENCE
SISTER NIVEDITA UNIVERSITY, INDIA

Ms. Archita Bhattacharyya
Assistant Professor, Department of Cyber Security

Ms. Archita Bhattacharyya served as an External Examiner for the subject Applied Digital Logic Design and Computer Organisation at R.V. College of Engineering (Autonomous), Bengaluru, during the Practical Examinations held on 10 February 2026. Her contribution reflects Dayananda Sagar University's commitment to academic collaboration and excellence, while also strengthening inter-institutional engagement in technical education and assessment practices.



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www.rvce.edu.in
Tel: 080-68188199

Department of Computer Science and Engineering

RVE/CSE/ /2025-26 Date: 10.02.2026

EXAMINATION SECTION

CONFIDENTIAL

To,

Prof. Architha Bhattacharyya,
DSU,

Sir/Madam,

Sub: Appointment as Examiner for Practical Examinations February -2026

I am happy to inform you that you have been appointed as examiner for practical examination and it is my pleasure to invite you to conduct practical examinations as per the details given below. I request you to accept our invitation and help us in the smooth conduct of the examination.

Examination: BE **Sem** III
Subject with Code: Applied Digital Logic Design and Computer Organisation CS234AI
Time: 8.30 AM - 5.30 PM **Venue: Lab 13, (CSE Dept., Second floor)**

Sl.No.	Date	No. of Batches	No. of Candidates	Name of the Co-examiner
1	10-02-2026	03	36	Dr. Mohana, RVCE

Guidelines:

1. The practical examinations are to be conducted as per the scheme of examination and jointly with the co-examiner
2. Evaluation in each practical examination shall be done as per the guidelines given by the college
3. The award of marks is the joint responsibility of both the examiners and the break up of marks does not indicate the division of marks between the examiners

Kindly inform well in advance in case you cannot take up the assignment.
For any further information you may please at the following
Phone numbers: 080-68188199

Yours sincerely,

10/2/26

Controller of Examinations

for Controller of Examinations
RV College of Engineering (Autonomous)
Mysore Road, Bengaluru - 560 059

Rashtreeya Sikshana Samithi Trust®

Go, change the world

Dr. Dilip Kumar Saini
Associate Professor & Chairperson, Cyber Security

Dr. Dilip Kumar Saini has been appointed as a Member of the Technical Program Committee (TPC) for the 2026 International Conference on Big Data, Machine Learning and Intelligent Computing (BDMLIC 2026), scheduled to be held from 28–30 September 2026 in Shenzhen, China. This prestigious appointment recognizes his expertise in advanced computing and artificial intelligence, and provides an opportunity to contribute to shaping the technical agenda of a globally significant conference. His achievement reflects Dayananda Sagar University's commitment to academic excellence, international collaboration, and leadership in cutting-edge research domains.

Certificate

awarded to

Dilip Kumar Saini

from Dayananda Sagar University, Bengaluru, India

as the **Technical Program Committees** of **BDMLIC 2026**

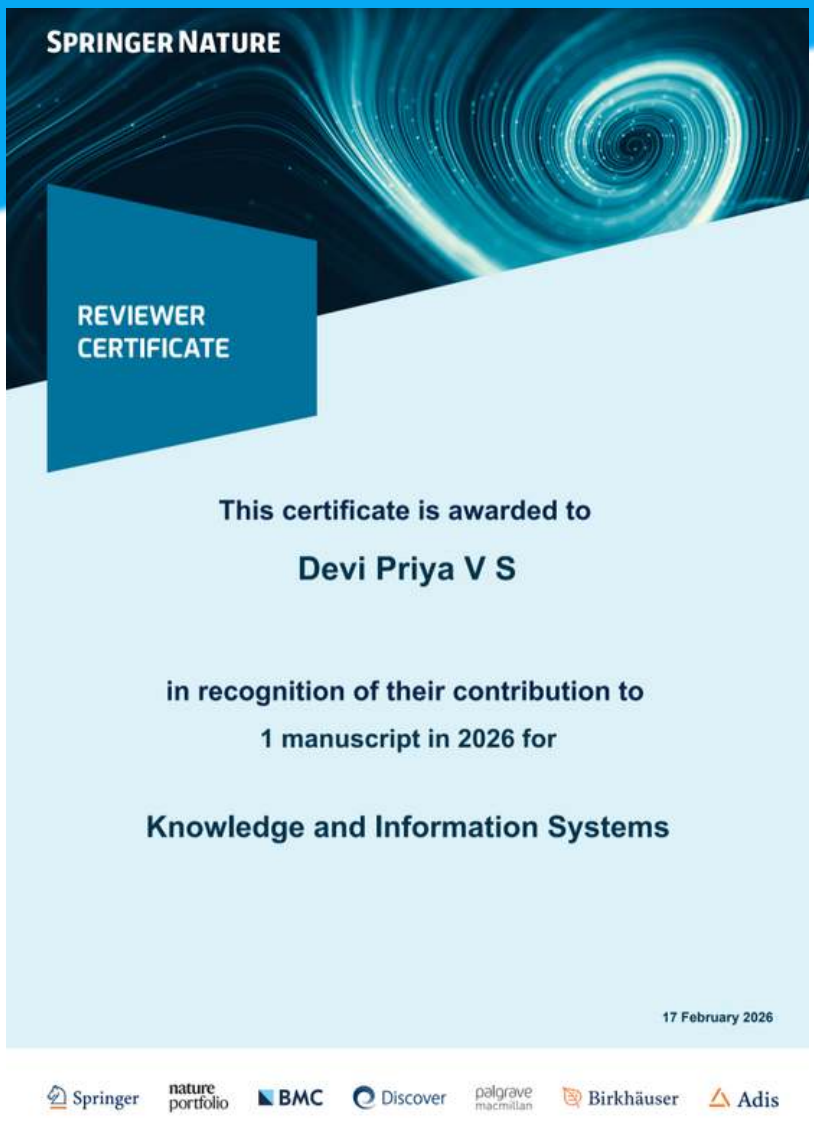
The 2026 International Conference on Big Data, Machine Learning and Intelligent Computing (BDMLIC 2026)
will be held on September 28–30, 2026 in Shenzhen, China
www.bdmlic.org

The Committee of BDMLIC 2026
February 24, 2026

BDMLIC

Dr. Devi Priya V S
Assistant Professor, Department of Cyber Security

Dr. Devi Priya V S has been awarded a Reviewer Certificate by Springer Nature in recognition of her valuable contribution as a peer reviewer for the journal Knowledge and Information Systems in 2026. This honor highlights her dedication to advancing scholarly research and maintaining high academic standards through rigorous peer review. Her achievement reflects Dayananda Sagar University's commitment to fostering faculty excellence, global academic engagement, and impactful contributions to the research community.



Sharanabasappa Tadkal
Assistant Professor, Department of Cyber Security

1. Mr. Sharanabasappa Tadkal has contributed as a co-author to the IEEE conference paper titled “Smart Farming with Low-Cost Sensors: Helping Indian Farmers Save Water, Improve Soil Health, and Increase Crop Yields.”

2. Mr. Sharanabasappa Tadkal co-authored the research paper titled “Sustainable IoT for Healthcare: An Energy-Aware Approach for Remote Patient Monitoring,” published in an IEEE International Conference in 2025


Conferences > 2025 6th International Confer...

Smart Farming with Low-Cost Sensors: Helping Indian Farmers Save Water, Improve Soil Health, and Increase Crop Yields

Publisher: IEEE

Cite This

M B Bharath ; B A Mala ; L V Vedashree ; H C Yashaswini ; H R Pooja Shree ; Sharanabasappa Tadkal

View Document

Abstract | Authors | Figures | References | Keywords | More Like This

Abstract:
Water shortage and poor irrigation techniques are also a burning issue in the Indian farming sector wit most farmers having to depend on the groundwater and the traditional system of irrigation. This norma leads to wastage of water, decrease in the fertility of the soil and poor yields in crops. To curb these problems, this paper suggest a smart irrigation model and mechanism, which combines real-time soil sensing, automated control, and decision making based on data. The system uses inexpensive device with IoT-related capabilities (soil moisture sensors, nutrient sensors), and facilitates the communicatio of data to a cloud server to schedule irrigation and recommend fertilizers with machine learning. The framework, as opposed to the traditional ones, is dynamic in adapting the water usage to the changes


Conferences > 2025 2nd International Confer...

Sustainable IoT for Healthcare: An Energy-Aware Approach for Remote Patient Monitoring

Publisher: IEEE

Cite This

<< Results | Next >

Bharath M B ; Pooja Shree H R ; Mala B A ; Sharanabasappa Tadkal ; Rakshitha R ; George Fernandez I

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Abstract:
The Internet of Things (IoT) is reshaping healthcare by enabling continuous patient monitoring, early diagnosis, and improved clinical decision-making. Despite its advantages, largescale IoT deployments often suffer from high energy consumption, increased latency, and network congestion, raising sustainability challenges. To address these issues, this paper proposes an energyaware IoT framework for remote patient monitoring that integrates Raspberry Pi as an edge processor with rduinobased biosensors for heart rate and temperature. The framework employs adaptive communication intervals using the MQTT protocol to optimize trade-offs between energy efficiency, latency, and monitoring accuracy. Experimental evaluation shows that higher transmission

Prof Bharath B.
Associate Professor
Department of CSE

Prof. Bharath B, Assistant Professor, Department of CSE has participated in One-Week Faculty Development Programme on “AI and Cybersecurity for a sustainable future: Innovation in health, Agriculture and smart cities” organized by E&ICT Academy IIT Guwahati held from 05th January – 09th January, 2026 in association with Department of Computer Science and Engineering, Global Academy of Technology, Bengaluru.

Ref. no: EICT/P-II/OF/25-26/008/257

Electronics & ICT Academy
Indian Institute of Technology Guwahati
Supported by Ministry of Electronics and Information Technology (MeitY), Govt. of India

Certificate of Participation

This is to certify that

Mr. Bharath B

of Dayananda Sagar University

has participated in One-Week Faculty Development Programme on “AI and Cybersecurity for a sustainable future: Innovation in health, Agriculture and smart cities” organized by E&ICT Academy IIT Guwahati held from 05th January – 09th January, 2026 in association with Department of Computer Science and Engineering, Global Academy of Technology, Bengaluru.

Prof. Gaurav Trivedi
PI, E&ICT Academy
IIT Guwahati

Dr. Srinivasan Krishnaswamy
Associate Professor, EEE Department
IIT Guwahati

Dr. Kumaraswamy S
Professor & HoD, Department of CSE
Global Academy of Technology, Bengaluru

Dr. H. B Balakrishna
Principal
Global Academy of Technology, Bengaluru

Prof Bharath M.B
Assistant Professor
Department of CSE

Prof Mala B A
Assistant Professor
Department of CSE

Prof Yashaswini
Assistant Professor
Department of CSE

Prof Pooja Shree
Assistant Professor
Department of CSE

Prof. Bharath M B, Prof. Mala B A, Prof. Yashaswini H C, Prof. Pooja Shree H R, Assistant Professors, Department of CSE has published a paper in IEEE titled “Smart Farming with Low-Cost Sensors: Helping Indian Farmers Save Water, Improve Soil Health and Increase Crop Yields” during 03rd February 2026 which was presented at the 2025 6th International Conference on Communication, Computing & Industry 6.0 (C2I6), in association with the IEEE Bangalore Section, organized by CMR Institute of Technology, Bengaluru.

Smart Farming with Low-Cost Sensors: Helping Indian Farmers Save Water, Improve Soil Health, and Increase Crop Yields

Publisher: IEEE Cite This PDF

M B Bharath ; B A Mala ; L V Vedashree ; H C Yashaswini ; H R Pooja Shree ; Sharanabasappa Tadkal **All Authors**

Abstract:
Water shortage and poor irrigation techniques are also a burning issue in the Indian farming sector with most farmers having to depend on the groundwater and the traditional system of irrigation. This normally leads to wastage of water, decrease in the fertility of the soil and poor yields in crops. To curb these problems, this paper suggest a smart irrigation model and mechanism, which combines real-time soil sensing, automated control, and decision making based on data. The system uses inexpensive devices with IoT-related capabilities (soil moisture sensors, nutrient sensors), and facilitates the communication of data to a cloud server to schedule irrigation and recommend fertilizers with machine learning. The framework, as opposed to the traditional ones, is dynamic in adapting the water usage to the changes in soil conditions, weather conditions, and needs of crops. The experimental assessment showed a maximum of 45% decrease in water use and an almost 25% increase in index of crop growth compared to traditional irrigation. These findings open the prospect of the proposed system and make it a sustainable solution to precision farming, providing a farmer with quality tools to maximize resource utilization, maximize the yield, and add to the long-term food and water security.

Published in: 2025 6th International Conference on Communication, Computing & Industry 6.0 (C2I6)

Date of Conference: 05-06 December 2025 **DOI:** 10.1109/C2I666499.2025.11366962

Date Added to IEEE *Xplore*: 03 February 2026 **Publisher:** IEEE

ISBN Information: **Conference Location:** Bengaluru, India

SECTION I.
Introduction

2025 6th International Conference on Communication, Computing & Industry 6.0 (C2I6) | 979-8-3315-0240-9/25/$31.00 ©2025 IEEE | DOI: 10.1109/C2I666499.2025.1134

Bharath M B
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Sharanabasappa Tadkal
Computer Science [Cyber Security]
Dayananda Sagar University
Bangaluru South, India
Email: sharanutadkal17@gmail.com

***Abstract*—Water shortage and poor irrigation techniques are also a burning issue in the Indian farming sector with most farmers having to depend on the groundwater and the traditional system of irrigation. This normally leads to wastage of water, decrease in the fertility of the soil and poor yields in crops. To curb these problems, this paper suggest a smart irrigation model and mechanism, which combines real-time soil sensing, automated control, and decision making based on data. The system uses inexpensive devices with IoT-related capabilities (soil moisture sensors, nutrient sensors), and facilitates the communication of data to a cloud server to schedule irrigation and recommend fertilizers with machine learning. The framework, as opposed to the traditional ones, is dynamic in adapting the water usage to the changes in soil conditions, weather conditions, and needs of crops. The experimental assessment showed a maximum of 45 % decrease in water use and an almost 25 % increase in index of crop growth compared to traditional irrigation. These findings open the prospect of the proposed system and make it a sustainable solution to precision farming, providing a farmer with quality tools to maximize resource utilization, maximize the yield, and add to the long-term food and water security.**

***Index Terms*—Precision Agriculture, IoT, Smart Irrigation, Water Conservation, Edge Computing, Machine Learning, Sustainable Farming**

I. Introduction

The Indian economy still depends on agriculture, which supports over 50 percent of the population as well as playing a crucial role in the national food security provision in the country [1]. Nevertheless, the industry has been plagued with to be adopted in the near future [3]. The emerging trends in Internet of Things (IoT), wireless sensor networks have made it possible to monitor the soil, crop, and environmental conditions in real-time [4]. In particular, smart irrigation systems are systems that integrate sensing, control, and communication to improve the distribution of water and reduce the wastage of water [5]. These strategies have shown encouraging results worldwide but their widespread implementation in India is hampered by the factors of cost, availability as well as the absence of solutions targeting the farmers [6].Edge computing also enhances these structures by computing data on these devices like Raspberry Pi and ESP32, thus decreasing the latency, growing speediness of the systems, and minimizing dependence on constant network connectivity to the cloud servers [7]. Recently, IoT-based irrigation systems delivered significant water efficiency gains and enhanced crop yields in semi-arid areas [8]. IoT-based irrigation systems provided significant water savings and enhanced crop productivity in semi-arid areas [9], [10]. IoT-based irrigation systems brought significant water cutting and helped improve crop productivity in semi-arid regions of the world [11], [13]. Recently On the same note, adaptive irrigation which is based on soil moisture levels was also discovered to considerably lower water use without yield loss being compromised [14]. However, majority of the current solutions are either insufficiently scalable or inadequate to solve region specific agricultural problems,

Prof Pooja Shree
Assistant Professor
Department of CSE

Prof Yashaswini
Assistant Professor
Department of CSE

Prof Gaurav Kumar
Assistant Professor
Department of CSE

Prof Kavyashree
Assistant Professor
Department of CSE

Prof Bharath M.B
Assistant Professor
Department of CSE

Prof Mala B A
Assistant Professor
Department of CSE

Prof. Pooja Shree H R, Prof. Yashaswini H C, Prof. Gaurav Kumar, Prof. Kavyashree I Pattan, Prof. Bharath M B, Prof. Mala B A, Assistant Professors, Department of CSE has published an Indian patent titled “Multi-Stream Gradient Boosting LIGHTGBM Framework for Alzheimer’s Disease Diagnosis Using MRI and PET Datasets” with the application number 202641007107 during 06th February 2026 under the applicant name DSU in collaboration with DSATM.

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :24/01/2026

(21) Application No.202641007107 A

(43) Publication Date : 06/02/2026

(54) Title of the invention : Multi-Stream Gradient Boosting LIGHTGBM Framework for Alzheimer's Disease Diagnosis Using MRI and PET Datasets

(51) International classification	:A61B 5/055, G16H 50/20, A61B 5/00, G06T 7/00, G06N 3/04	(71)Name of Applicant : 1)Dayananda Sagar University Address of Applicant :Assistant Professor Department of Computer Science and Engineering, Dayananda Sagar University Devarkagganahalli Bengaluru South District, Karnataka, India 562112 bharath-cse@dsu.edu.in Bengaluru South Karnataka India 2)Dayananda Sagar Academy of Technology and Management
(31) Priority Document No	:NA	(72)Name of Inventor :
(32) Priority Date	:NA	1)Prof. Pooja Shree H R
(33) Name of priority country	:NA	2)Dr. G Manjula
(86) International Application No Filing Date	:01/01/1900	3)Lavanya K
(87) International Publication No	: NA	4)Prof. Yashaswini H C
(61) Patent of Addition to Application Number Filing Date	:NA :NA	5)Prof. Gaurav Kumar
		6)Prof. Kavyashree I Pattan
(62) Divisional to Application Number Filing Date	:NA :NA	7)Prof. Bharath M B
		8)Prof. Mala B A

(57) Abstract :
Alzheimer's disease is a progressive neurodegenerative disorder that requires early and reliable detection to enable timely clinical intervention. Traditional diagnostic methods often fail to identify subtle early-stage changes, creating the need for automated imaging-based solutions. Prior research indicates that MRI captures structural atrophy while PET identifies early metabolic abnormalities, and combining both modalities significantly enhances diagnostic accuracy. Building on these findings, this project aims to develop an automated system that analyzes MRI and PET scans from the ADNI-3 dataset to detect Alzheimer's disease with improved precision. The objective is to investigate multimodal feature extraction, test deep-learning–based CNN embeddings, and evaluate LIGHTGBM classification performance after fusing MRI and PET features. The methodology includes DICOM-TO NIFTI conversion, preprocessing through intensity normalization and resizing, and extraction of high-dimensional embeddings using convolutional neural networks. These fused features are then classified to determine the presence of Alzheimer's disease. A FASTAPI backend and web-based frontend are incorporated to enable user-friendly scan uploads and real-time predictions. Overall, the project seeks to assess the effectiveness of multimodal imaging and machine learning in supporting early, scalable, and efficient Alzheimer's detection.

No. of Pages : 14 No. of Claims : 10

Government of India

Application Details	
APPLICATION NUMBER	202641007107
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	24/01/2026
APPLICANT NAME	1 . Dayananda Sagar University 2 . Dayananda Sagar Academy of Technology and Management
TITLE OF INVENTION	Multi-Stream Gradient Boosting LIGHTGBM Framework for Alzheimer's Disease Diagnosis Using MRI and PET Datasets
FIELD OF INVENTION	BIO-MEDICAL ENGINEERING
E-MAIL (As Per Record)	bharath-cse@dsu.edu.in
ADDITIONAL-EMAIL (As Per Record)	
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	06/02/2026

Application Status	
APPLICATION STATUS	Awaiting Request for Examination

View Documents

Filed → Published → RQ Filed → Under Examination → Disposed

Prof. Vengatesan. K
Professor
Departm ent of CSE

Dr. Vengatesan. K, Professor, Department of CSE has served as a resource person for a one day seminar on machine learning techniques during 06th February 2026 at Kongunadu College of Engineering and Technology, Trichy.

Kongunadu
College of Engineering & Technology
(Autonomous)

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Tiruchirappalli Dt, Tamil Nadu, India – 621 215
Email: principalkncet@gmail.com | Phone: 04326 – 277571
www.kongunadu.ac.in

06th Feb 2026

Letter of Appreciation

Kongunadu College of Engineering and Technology extends its heartfelt gratitude and sincere appreciation to Dr.**Vengatesan Krishnasamy**, Professor, Department of Computer Science and Engineering, School of Engineering, Dayananda Sagar University, Bangalore, for delivering insightful and engaging sessions on **"Machine Learning Techniques"** during the Guest Lecture Programme, organized by the Department of Computer Science and Engineering, held on 6th Feburary,2026.

Head of the Department
Department of Computer Science and Engineering
Kongunadu College of Engineering and Technology
Tholurpatti (Po), Thottiam (Tk), Trichy (Dt)-621 215,
Tamilnadu.

Prof Mala B A
Assistant Professor
Department of CSE

Prof. Mala B A, Assistant Professor, Department of CSE has served as a Reviewer for the paper(s) submitted to the International Conference on Communication, Computing and Emerging Technologies - IC3ET 2026, (IEEE Conference Record #64989), held on 9–10 February 2026 at Vidyavardhini's College of Engineering and Technology (VCET), Vasai, and technically co-sponsored by IEEE and IEEE Maharashtra Section.

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IC3ET 2026

CERTIFICATE OF APPRECIATION

is proudly presented to

Mala B A

from Dayananda Sagar University for successfully reviewing the paper(s) submitted to the International Conference on Communication, Computing and Emerging Technologies - IC3ET 2026, (IEEE Conference Record #64989), held on 9–10 February 2026 at Vidyavardhini's College of Engineering and Technology (VCET), Vasai, and technically co-sponsored by IEEE and IEEE Maharashtra Section.

Dr. Thaksen Parvat
Technical Program Chair

Dr. Rakesh Himte
General Conference Chair

Prof Mala B A
Assistant Professor
Department of CSE

Prof Bharath M.B.
Assistant Professor
Department of CSE

Prof. Mala B A, Prof. Bharath M B, Assistant Professors, Department of CSE are participated in the 5 Days International Faculty Development Program on “Impact and Influence of AI in the Age of Generative and Agentic AI” organized by the Department of Computer Science, Sister Nivedita University, held from 2nd – 6th February, 2026.

FDP/SNU/2026/808

SNU
SISTER NIVEDITA UNIVERSITY

CERTIFICATE

Of Participation

This certificate is proudly presented to

Bharath M B

Dayananda Sagar University

has participated in the **5 Days International Faculty Development Program** on

“Impact and Influence of AI in the Age of Generative and Agentic AI”

organized by the Department of Computer Science, Sister Nivedita University, held from 2nd – 6th February, 2026.

DIRECTOR, IQAC
SISTER NIVEDITA UNIVERSITY, INDIA

HOD, DEPARTMENT OF COMPUTER SCIENCE
SISTER NIVEDITA UNIVERSITY, INDIA

SNU
SISTER NIVEDITA UNIVERSITY

CERTIFICATE

Of Participation

This certificate is proudly presented to

Mala B A

School of Engineering, Dayananda Sagar University

has participated in the **5 Days International Faculty Development Program** on

“Impact and Influence of AI in the Age of Generative and Agentic AI”

organized by the Department of Computer Science, Sister Nivedita University, held from 2nd – 6th February, 2026.

DIRECTOR, IQAC
SISTER NIVEDITA UNIVERSITY, INDIA

HOD, DEPARTMENT OF COMPUTER SCIENCE
SISTER NIVEDITA UNIVERSITY, INDIA

Prof Mala B A
Assistant Professor
Department of CSE

Prof. Mala B A, Assistant Professor, Department of CSE has successfully participated & completed AICTE Training And Learning (ATAL) Academy Faculty Development Program on Next GEN Computing HPC, AI & Quantum Technologies at G L BAJAJ GROUP OF INSTITUTIONS from 09/02/2026 to 14/02/2026.

ATAL/2026/1769750755

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AICTE Training and Learning (ATAL) Academy

Certificate

It is certified that Mrs. Mala B A, Assistant Professor of Dayananda Sagar University has successfully participated & completed AICTE Training And Learning (ATAL) Academy Faculty Development Program on Next GEN Computing HPC, AI & Quantum Technologies at G L BAJAJ GROUP OF INSTITUTIONS from 09/02/2026 to 14/02/2026.

Vinai K. Singh
Professor Level (AICTE Institute), Coordinator
G L BAJAJ GROUP OF INSTITUTIONS

Dr. Sunil Luthra
Director & Bureau Head
Training and Learning Bureau, AICTE

Prof Mala B A
Assistant Professor
Department of CSE

Prof Pooja Shree
Assistant Professor
Department of CSE

Prof Bharath M.B
Assistant Professor
Department of CSE

Prof. Pooja Shree H R, Prof. Bharath M B, Prof. Mala B A, Assistant Professors, Department of CSE are presented a paper entitled "Privacy-Preserving Multi-Cloud Federated Digital Twin for Real-Time Stress Monitoring Using Multimodal Wearable Biosensors" online at the International Conference on Emerging Technologies and Future Innovations (ETFI-2026) held from 12 - 14 February 2026 at the School of Engineering and Technology, DES Pune University, Pune.

Deccan Education Society, Pune

DES PUNE UNIVERSITY

IEEE Pune Section

IEEE INSTRUMENTATION & MEASUREMENT SOCIETY Pune Section

School of Engineering and Technology

CERTIFICATE

This is to certify that

Bharath M B

of Dayananda Sagar University Bengaluru South, India attended the

International Conference on Emerging Technologies and Future Innovations (ETFI-2026)

held from 12th - 14th February 2026 at the

School of Engineering and Technology, DES Pune University, Pune and presented a paper entitled

Privacy-Preserving Multi-Cloud Federated Digital Twin for Real-Time Stress Monitoring Using Multimodal Wearable Biosensors

Prof. Prachi Joshi — Chair, ETFI-2026

Prof. Vivek Deshpande — IEEE. Instrumentation & Mesurement Soc. Pune section

Dr. Amar Buchade — Chair, IEEE Pune section

Prof. Rajesh Ingle — Vice Chancellor, DES Pune University, Pune

Deccan Education Society, Pune

DES PUNE UNIVERSITY

IEEE Pune Section

IEEE INSTRUMENTATION & MEASUREMENT SOCIETY Pune Section

School of Engineering and Technology

CERTIFICATE

This is to certify that

Pooja Shree H R

of *Computer Science and Engg Dayananda Sagar University Bengaluru South, India* attended the

International Conference on Emerging Technologies and Future Innovations (ETFI-2026)

held from 12th - 14th February 2026 at the

School of Engineering and Technology, DES Pune University, Pune and presented a paper entitled

Privacy-Preserving Multi-Cloud Federated Digital Twin for Real-Time Stress Monitoring Using Multimodal Wearable Biosensors

Prof. Prachi Joshi	**Prof. Vivek Deshpande**	**Dr. Amar Buchade**	**Prof. Rajesh Ingle**
Chair ETFI-2026	IEEE, Instrumentation & Mesurement Soc. Pune section	Chair IEEE Pune section	Vice Chancellor DES Pune University, Pune

Deccan Education Society, Pune

DES PUNE UNIVERSITY

IEEE Pune Section

IEEE INSTRUMENTATION & MEASUREMENT SOCIETY Pune Section

School of Engineering and Technology

CERTIFICATE

This is to certify that

Mala B A

of *Dayananda Sagar University* attended the

International Conference on Emerging Technologies and Future Innovations (ETFI-2026)

held from 12th - 14th February 2026 at the

School of Engineering and Technology, DES Pune University, Pune and presented a paper entitled

Privacy-Preserving Multi-Cloud Federated Digital Twin for Real-Time Stress Monitoring Using Multimodal Wearable Biosensors

Prof. Prachi Joshi	**Prof. Vivek Deshpande**	**Dr. Amar Buchade**	**Prof. Rajesh Ingle**
Chair ETFI-2026	IEEE, Instrumentation & Mesurement Soc. Pune section	Chair IEEE Pune section	Vice Chancellor DES Pune University, Pune

Dr. Tanvir Habib
Associate Professor
Department of CSE

Dr. Tanvir Habib Sardar, Associate Professor, Department of CSE has successfully completed a Postdoctoral Research Fellowship in the Department of Intelligent Systems and Cybersecurity under the supervision of Dr Laura Aldasheva, Deputy Director, School of Cybersecurity, and the co-supervision of Dr. Bishwajeet Kumar Pandey, Professor, School of Cybersecurity, Astana IT University, Astana, Kazakhstan, during March 2025 – February 2026.

2 of 7,715

Congratulations on Certificate of Completion – Postdoctoral Research Fellowship, Astana IT University

Inbox x

Summarize this email

Laura Aldasheva 10:49 AM (15 minutes ago)
to me

Dear Dr. Tanvir Habib Sardar,

Greetings from Astana IT University!

I hope this email finds you in good health and high spirits. It is with great pleasure that I write to you on behalf of the School of Cybersecurity, Astana IT University, Astana, Kazakhstan.

Please find attached herewith your Certificate of Completion for the Postdoctoral Research Fellowship undertaken in the Department of Intelligent Systems and Cybersecurity during the period from March 2025 to February 2026, under my supervision and the co-supervision of Prof. (Dr.)

Dr. Tanvir Habib
Associate Professor
Department of CSE

Dr. Tanvir Habib Sardar, Associate Professor, Department of CSE has presented a research papers titled “LLM-Powered Autonomous Security Agents for Next - Generation Cyber Defence” and “AI-Driven Detection of AI-Generated Cyber Attacks: A Framework for Defending Against Generative Adversarial Threats” at the IEEE International Conference on AI in Cybersecurity (ICAIC), University of Houston, Houston, Texas, USA on 20th February 2026.

IEEE 5th International Conference on AI in Cybersecurity (ICAIC)
University of Houston, Houston, Texas, USA
18-20 FEBRUARY 2026

Certificate of Presentation

This is to certify that **Tanvir H. Sardar, Dayananda Sagar University Bengaluru, India**, has presented a research paper at the IEEE International Conference on AI in Cybersecurity (ICAIC) on 20 February 2026.
Paper ID: **750**
Paper Title: **LLM-Powered Autonomous Security Agents for Next-Generation Cyber Defence**
Author Order: **Tanvir H. Sardar, Bishwajeet Pandey, Laura Aldasheva**

Hardik Gohel, Conference Chair
University of Houston, USA

IEEE

IEEE 5th International Conference on AI in Cybersecurity (ICAIC)
University of Houston, Houston, Texas, USA
18-20 FEBRUARY 2026

Certificate of Presentation

This is to certify that **Tanvir H. Sardar, Dayananda Sagar University Bengaluru, India**, has presented a research paper at the IEEE International Conference on AI in Cybersecurity (ICAIC) on 20 February 2026.
Paper ID: **772**
Paper Title: **AI-Driven Detection of AI-Generated Cyber Attacks: A Framework for Defending Against Generative Adversarial Threats**
Author Order: **Tanvir H. Sardar, Bishwajeet Pandey, Laura Aldasheva**

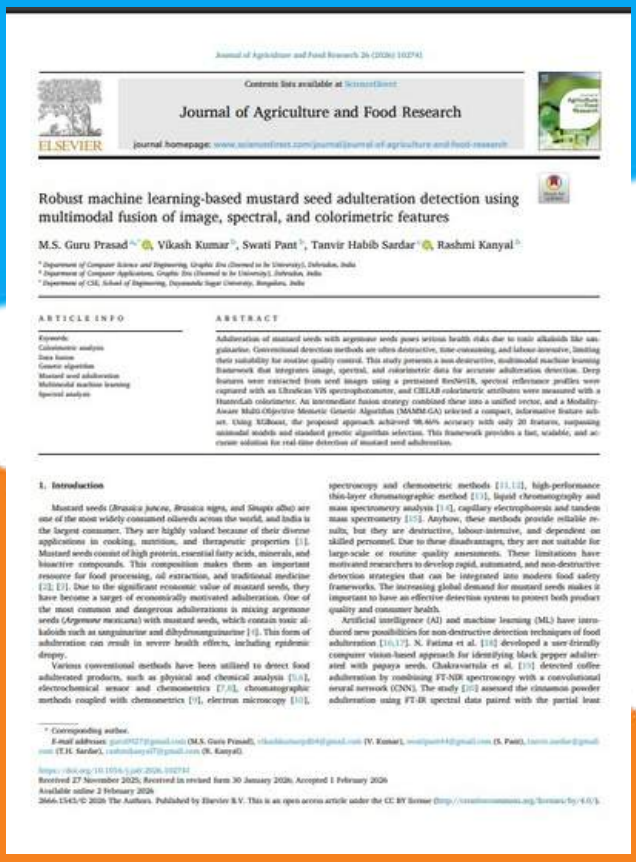
Hardik Gohel, Conference Chair
University of Houston, USA

IEEE

Dr. Tanvir Habib
Associate Professor
Department of CSE

1) Dr. Tanvir Habib Sardar, Associate Professor, Department of CSE, has published a paper titled “Robust machine learning-based mustard seed adulteration detection using multimodal fusion of image, spectral, and colorimetric features” at the Journal of Agriculture and Food Research, a Q1 journal, in February 2026

2) Dr. Tanvir Habib Sardar, Associate Professor, Department of CSE, has published a paper in IEEE Access titled “Quantum-Secured Fully Distributed Drone Swarm Coordination Using DC-GHZ Keying and Continuous-Time Quantum Walk Routing,” a Q1 journal on 26th January 2026.



Journal of Agriculture and Food Research

Robust machine learning-based mustard seed adulteration detection using multimodal fusion of image, spectral, and colorimetric features

IEEE Access

RESEARCH ARTICLE

Quantum-Secured Fully Distributed Drone Swarm Coordination Using DC-GHZ Keying and Continuous-Time Quantum Walk Routing

Prof. Sweta Chopdar,
Assistant Professor
Department of CSE

Prof.Soumadip Mondal
Assistant Professor
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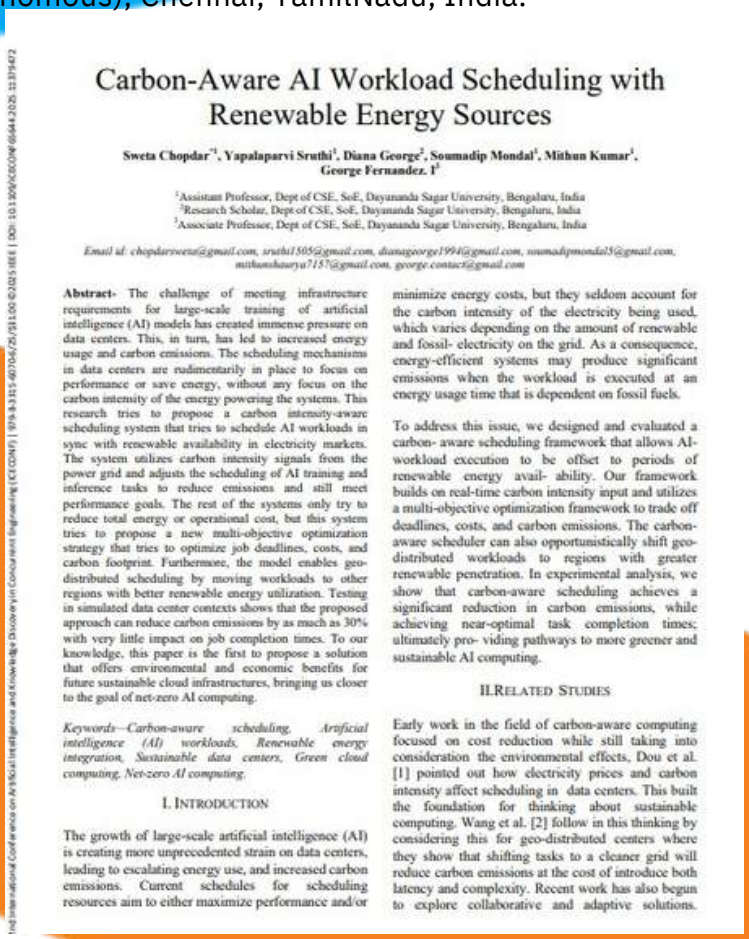
Prof. Sweta Chopdar, Prof. Soumadip Mondal, Prof. Mithun Kumar, Prof. Sruthi Y, Prof. Diana George, Assistant Professor and Dr. George Fernandez I, Associate Professor, Department of CSE published a paper in IEEE titled “Carbon-Aware AI Workload Scheduling with Renewable Energy Sources” during 17th February 2026 , which was presented at the IEEE Technical sponsored Second International Conference on Artificial Intelligence and Knowledge Discovery in Concurrent Engineering (ICECONF2025) held at St. Joseph’s Institute of Technology (Autonomous), Chennai, TamilNadu, India.



Carbon-Aware AI Workload Scheduling with Renewable Energy Sources

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Abstract- The challenge of meeting infrastructure requirements for large-scale training of artificial intelligence (AI) models has created immense pressure on data centers. This, in turn, has led to increased energy usage and carbon emissions. The scheduling mechanisms in data centers are rudimentarily in place to focus on performance or save energy, without any focus on the carbon intensity of the energy powering the systems. This research tries to propose a carbon intensity-aware scheduling system that tries to schedule AI workloads in sync with renewable availability in electricity markets. The system utilizes carbon intensity signals from the power grid and adjusts the scheduling of AI training and inference tasks to reduce emissions and still meet performance goals. The rest of the systems only try to reduce total energy or operational cost, but this system tries to propose a new multi-objective optimization strategy that tries to optimize job deadlines, costs, and carbon footprint. Furthermore, the model enables geo-distributed scheduling by moving workloads to other regions with better renewable energy utilization. Testing in simulated data center contexts shows that the proposed approach can reduce carbon emissions by as much as 30% with very little impact on job completion times. To our knowledge, this paper is the first to propose a solution that offers environmental and economic benefits for future sustainable cloud infrastructures, bringing us closer to the goal of net-zero AI computing.

Keywords—Carbon-aware scheduling, Artificial intelligence (AI) workloads, Renewable energy integration, Sustainable data centers, Green cloud computing, Net-zero AI computing.

I. Introduction

The growth of large-scale artificial intelligence (AI) is creating more unprecedented strain on data centers, leading to escalating energy use, and increased carbon emissions. Current schedules for scheduling resources aim to either maximize performance and/or minimize energy costs, but they seldom account for the carbon intensity of the electricity being used, which varies depending on the amount of renewable and fossil- electricity on the grid. As a consequence, energy-efficient systems may produce significant emissions when the workload is executed at an energy usage time that is dependent on fossil fuels.

To address this issue, we designed and evaluated a carbon- aware scheduling framework that allows AI-workload execution to be offset to periods of renewable energy avail- ability. Our framework builds on real-time carbon intensity input and utilizes a multi-objective optimization framework to trade off deadlines, costs, and carbon emissions. The carbon-aware scheduler can also opportunistically shift geo-distributed workloads to regions with greater renewable penetration. In experimental analysis, we show that carbon-aware scheduling achieves a significant reduction in carbon emissions, while achieving near-optimal task completion times; ultimately pro- viding pathways to more greener and sustainable AI computing.

II.Related Studies

Early work in the field of carbon-aware computing focused on cost reduction while still taking into consideration the environmental effects, Dou et al. [1] pointed out how electricity prices and carbon intensity affect scheduling in data centers. This built the foundation for thinking about sustainable computing. Wang et al. [2] follow in this thinking by considering this for geo-distributed centers where they show that shifting tasks to a cleaner grid will reduce carbon emissions at the cost of introduce both latency and complexity. Recent work has also begun to explore collaborative and adaptive solutions.

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Dr. George Fernandez I, Associate Professor and Prof. Diana George, Assistant Professor, Department of CSE published a paper in IEEE titled “Pattern-Driven Multimodel Brain Imaging Fusion for Early Vision Defect Detection”during 17th February 2026 , which was presented at the IEEE Technical sponsored Second International Conference on Artificial Intelligence and Knowledge Discovery in Concurrent Engineering (ICECONF2025) held at St. Joseph’s Institute of Technology (Autonomous), Chennai, TamilNadu, India

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Pattern-Driven Multimodal Brain Imaging Fusion for Early Vision Defect Detection

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Abstract- Many neurology related vision disorders like cortical visual impairment (CVI), hemianopia, and visual agnosia and many more pose diagnostic challenges because of the varied manifestations across the structural, functionaland the vascular domains of the brain. Conventional clinical practicessolelyrely only on single imaging modalities but most of the time itfails to capture the complex connections between these dimensions. Hence, in this regardthis paper proposes a pattern-driven AI framework that synthesis main four brain imaging modalitiessuch as MRI, fMRI, DTIand MRAinto a unified diagnostic space pipeline. The proposed system efficiently addresses the key barriers to effective integration, including modality heterogeneity, spatial and temporal misalignment, missing modalities, and the complexity of fusion strategy design. Through modality-specific pre-processingnormalized feature representationand attention-based fusion, the proposed framework captures clinically relevant patterns by maintaining the interpretability. Also, evaluated on benchmark and simulated datasets, the system had shown improved diagnostic accuracy and robustnessoffering a promising direction for early vision defect detection.

Keywords: Artificial intelligence,machine learning,neuro-ophthalmology, multimodal brain imaging, vision defects, MRI, neuro-visual rehabilitation.

I. Introduction

The prevalent neuro related vision impairments like cortical visual impairment (CVI), hemianopia, as well as visual agnosia are left undiagnosed or misclassified frequently due to the fragmented nature of the current systems. These disorders are originating from disruptions across multiple brain parts, including structural lesions, impaired connectivity, abnormal functional or vascular activity and many more. Traditional neuroimaging techniques seems to be effective in isolation but many at times it provides an incomplete picture when used alone, leading to missed or delayed diagnoses.

Multimodal neuroimaging’s like structural MRI, functional MRI (fMRI), diffusion tensor imaging (DTI), and magnetic resonance angiography (MRA)provides alternative perspectives on brain health. MRI captures structural details, FMRI detects functional activation visualizes white matter pathwaysand MRA reveals vascular flow. Despite this richness, real-world clinical implementation is limited by several integration challenges like modality heterogeneity, spatial and temporal misalignment, data incompleteness, noise, and the complexity of designing an effective fusion strategy.

This research proposes a pattern-driven multimodal fusion framework for early vision defect detection. The formulated framework incorporates dedicated pre-processing pipelines, temporal alignment, feature normalization, and an attention-based fusion mechanism to generate a clinically interpretable representation of brain health and explain in detail in the subsequent sections. This new approach aims to reduce the gap between multimodal imaging potential and practical, robust AI-assisted diagnostics.

II. Literature Survey

The integration of numerous brain imaging modalities has been at the pioneer of the recent research about neurological diagnostics. In a studies Khan [1] exploredbrain pattern analysis approach by combining neuroimaging data for the advancedeffectiveness. This work highlights the importance and advantages of softwaredriven statistical approach in facilitating cross-modal analysis of fMRI and MRI data. In another more complex implementation, Qiu et al. [2] developed a 3D fusion network that have the capability to introduces disease-induced joint learning by demonstrating notable accuracy in detecting early stages of Alzheimer’s disease. That method

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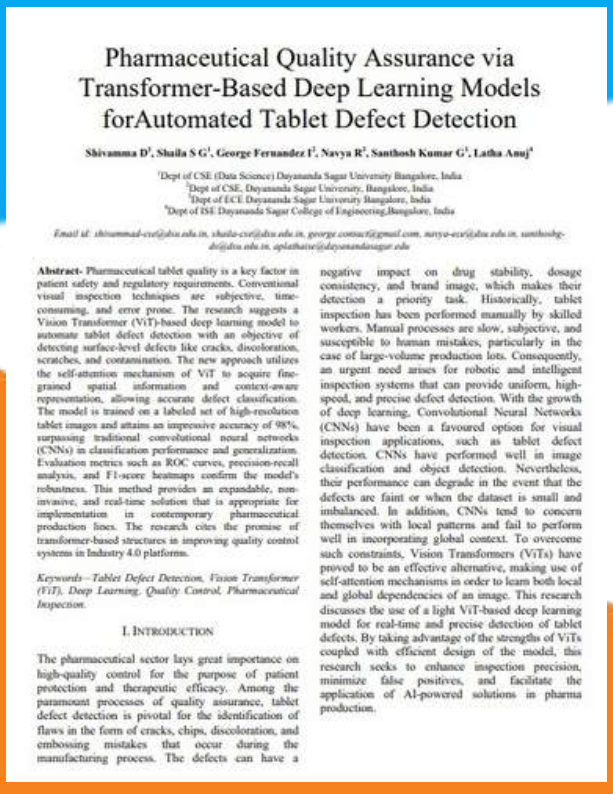
1) Dr. George Fernandez I, Associate Professor, Department of CSE published a paper in IEEE titled “Pharmaceutical Quality Assurance via Transformer-Based Deep Learning Models for Automated Tablet Defect Detection” during 17th February 2026 , which was presented at the IEEE Technical sponsored Second International Conference on Artificial Intelligence and Knowledge Discovery in Concurrent Engineering (ICECONF2025) held at St. Joseph’s Institute of Technology (Autonomous), Chennai, TamilNadu, India

2) 1.Dr. George Fernandez I, Associate Professor, Department of CSE published a paper in IEEE titled “TDP-QIMLE: A Novel Temporal Differential Privacy with Quantum-Inspired Multi-Layer Encryption Framework for Secure EHR Data Storage in Cloud Computing” during 17th February 2026 , which was presented at the IEEE Technical sponsored Second International Conference on Artificial Intelligence and Knowledge Discovery in Concurrent Engineering (ICECONF2025) held at St. Joseph’s Institute of Technology (Autonomous), Chennai, TamilNadu, India.



Pharmaceutical Quality Assurance via Transformer-Based Deep Learning Models forAutomated Tablet Defect Detection

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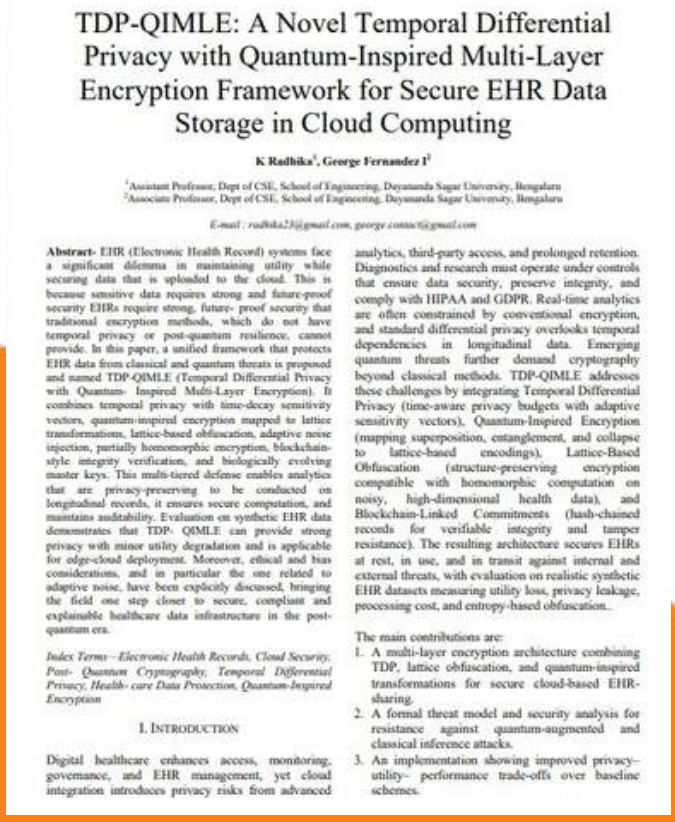
Abstract- Pharmaceutical tablet quality is a key factor in patient safety and regulatory requirements. Conventional visual inspection techniques are subjective, time-consuming, and error prone. The research suggests a Vision Transformer (ViT)-based deep learning model to automate tablet defect detection with an objective of detecting surface-level defects like cracks, discoloration, scratches, and contamination. The new approach utilizes the self-attention mechanism of ViT to acquire fine-grained spatial information and context-aware representation, allowing accurate defect classification. The model is trained on a labeled set of high-resolution tablet images and attains an impressive accuracy of 98%, surpassing traditional convolutional neural networks (CNNs) in classification performance and generalization. Evaluation metrics such as ROC curves, precision-recall analysis, and F1-score heatmaps confirm the model's robustness. This method provides an expandable, non-invasive, and real-time solution that is appropriate for implementation in contemporary pharmaceutical production lines. The research cites the promise of transformer-based structures in improving quality control systems in Industry 4.0 platforms.

Keywords—Tablet Defect Detection, Vision Transformer (ViT), Deep Learning, Quality Control, Pharmaceutical Inspection.

I. INTRODUCTION

The pharmaceutical sector lays great importance on high-quality control for the purpose of patient protection and therapeutic efficacy. Among the paramount processes of quality assurance, tablet defect detection is pivotal for the identification of flaws in the form of cracks, chips, discoloration, and embossing mistakes that occur during the manufacturing process. The defects can have a negative impact on drug stability, dosage consistency, and brand image, which makes their detection a priority task. Historically, tablet inspection has been performed manually by skilled workers. Manual processes are slow, subjective, and susceptible to human mistakes, particularly in the case of large-volume production lots. Consequently, an urgent need arises for robotic and intelligent inspection systems that can provide uniform, high-speed, and precise defect detection. With the growth of deep learning, Convolutional Neural Networks (CNNs) have been a favoured option for visual inspection applications, such as tablet defect detection. CNNs have performed well in image classification and object detection. Nevertheless, their performance can degrade in the event that the defects are faint or when the dataset is small and imbalanced. In addition, CNNs tend to concern themselves with local patterns and fail to perform well in incorporating global context. To overcome such constraints, Vision Transformers (ViTs) have proved to be an effective alternative, making use of self-attention mechanisms in order to learn both local and global dependencies of an image. This research discusses the use of a light ViT-based deep learning model for real-time and precise detection of tablet defects. By taking advantage of the strengths of ViTs coupled with efficient design of the model, this research seeks to enhance inspection precision, minimize false positives, and facilitate the application of AI-powered solutions in pharma production.



TDP-QIMLE: A Novel Temporal Differential Privacy with Quantum-Inspired Multi-Layer Encryption Framework for Secure EHR Data Storage in Cloud Computing

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Abstract- EHR (Electronic Health Record) systems face a significant dilemma in maintaining utility while securing data that is uploaded to the cloud. This is because sensitive data requires strong and future-proof security EHRs require strong, future- proof security that traditional encryption methods, which do not have temporal privacy or post-quantum resilience, cannot provide. In this paper, a unified framework that protects EHR data from classical and quantum threats is proposed and named TDP-QIMLE (Temporal Differential Privacy with Quantum- Inspired Multi-Layer Encryption). It combines temporal privacy with time-decay sensitivity vectors, quantum-inspired encryption mapped to lattice transformations, lattice-based obfuscation, adaptive noise injection, partially homomorphic encryption, blockchain-style integrity verification, and biologically evolving master keys. This multi-tiered defense enables analytics that are privacy-preserving to be conducted on longitudinal records, it ensures secure computation, and maintains auditability. Evaluation on synthetic EHR data demonstrates that TDP- QIMLE can provide strong privacy with minor utility degradation and is applicable for edge-cloud deployment. Moreover, ethical and bias considerations, and in particular the one related to adaptive noise, have been explicitly discussed, bringing the field one step closer to secure, compliant and explainable healthcare data infrastructure in the post-quantum era.

Index Terms—Electronic Health Records, Cloud Security, Post- Quantum Cryptography, Temporal Differential Privacy, Health- care Data Protection, Quantum-Inspired Encryption

I. INTRODUCTION

Digital healthcare enhances access, monitoring, governance, and EHR management, yet cloud integration introduces privacy risks from advanced analytics, third-party access, and prolonged retention. Diagnostics and research must operate under controls that ensure data security, preserve integrity, and comply with HIPAA and GDPR. Real-time analytics are often constrained by conventional encryption, and standard differential privacy overlooks temporal dependencies in longitudinal data. Emerging quantum threats further demand cryptography beyond classical methods. TDP-QIMLE addresses these challenges by integrating Temporal Differential Privacy (time-aware privacy budgets with adaptive sensitivity vectors), Quantum-Inspired Encryption (mapping superposition, entanglement, and collapse to lattice-based encodings), Lattice-Based Obfuscation (structure-preserving encryption compatible with homomorphic computation on noisy, high-dimensional health data), and Blockchain-Linked Commitments (hash-chained records for verifiable integrity and tamper resistance). The resulting architecture secures EHRs at rest, in use, and in transit against internal and external threats, with evaluation on realistic synthetic EHR datasets measuring utility loss, privacy leakage, processing cost, and entropy-based obfuscation..

The main contributions are:

1. A multi-layer encryption architecture combining TDP, lattice obfuscation, and quantum-inspired transformations for secure cloud-based EHR-sharing.
2. A formal threat model and security analysis for resistance against quantum-augmented and classical inference attacks.
3. An implementation showing improved privacy–utility– performance trade-offs over baseline schemes.

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Ms. Sharvari J N, Research Scholar and Dr. Revathi V, Associate Professor, Department of CSE published a paper in IEEE titled “Predictive Modeling for Alzheimer's Disease:A Survey of Machine Learning and Deep Learning Techniques” during 17th February 2026 , which was presented at the IEEE Technical sponsored Second International Conference on Artificial Intelligence and Knowledge Discovery in Concurrent Engineering (ICECONF2025) held at St. Joseph’s Institute of Technology (Autonomous), Chennai, TamilNadu,

Predictive Modeling for Alzheimer's Disease:A Survey of Machine Learning and Deep Learning Techniques

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Abstract: Alzheimer's Disease (AD) is a progressive chronic neurodegenerative disease. It is a brain disorder which is categorized by a decline in thinking ability, memory power and performing day to day tasks in patients suffering from AD. The time of diagnosis plays a very crucial role in preventing the human brain from the effects that AD has on brain tissues, behaviour, memories and neurons that impair the senses. Even though AD has no remedy, prediction and early diagnosis can help in reduction of development of the disease. Magnetic Resonance Imaging (MRI) is used as a tool with the scanned brain images for visualizing changes associated with AD. Different approaches for early detection and prediction of AD have been proposed and this work has summarized the various ML and DL techniques that help in contributing the same. Various classifiers used in identifying AD have been explored and the necessary improvements required for enhancing the performance are also discussed in the paper.

Keywords: Alzheimer's Disease (AD), Magnetic Resonance Imaging (MRI),Mild Cognitive Impairment (MCI), Principal Component Analysis (PCA),Machine Learning (ML) and Deep Learning (DL).

I. Introduction

AD is a chronic progressive neurodegenerative disease with symptoms such as gradual memory loss and decline in cognitive skills of the human brain causing deterioration in thinking abilities. AD is often diagnosed in patients in their mid-60's. It is usually caused by neuronal cells dying due to two irregular protein particles namely clumps and pegs. Humans suffering from AD initially start with small symptoms such as minimal adjustments in behavior, trouble searching for words and eventually facing mortality in day-to-day activities. The performance of the human brain decreases significantly and gradually over time.

MRI is one technique through which the changes in patients suffering from AD can be monitored. The progression of the disease can be slowed down by early detection and diagnosis thus reducing the expenses incurred for treating the same.

Alzheimer's disease can be categorized into several stages beginning with Mild Cognitive Impairment (MCI)[1], progress Mild Cognitive Impairment (pMCI) and stable Mild Cognitive Impairment (sMCI). The age of the patient, level of methylation in the DNA are some of the factors that help in identifying AD. One of the techniques for predicting AD is by using Long Short-Term Memory (LSTM) a neural network [2, 3] that is recurrent [4] and could use past information to connect to the current task. Another method of predicting the disease[5] is by using Ordered Core Features (OCF) which reveals the connectivity of the functional human brain and its relationships with different categories of AD[6]. Prediction of AD [7] can also be done using Machine Learning Techniques[8] using Principal Component Analysis (PCA) and Artificial Intelligence techniques [9, 10] and biomedical methods[11] such as DNA Methylation and genetic analysis. Transfer learning techniquesand their architectures can also be integrated with other methods related to Computer vision and their types which help in recognition of images effectively.

II. Related Work

This section presents some of the recent methodologies documented in the area of prediction and detection of AD.

Xin Hong, et al [12] have suggested a method to predict AD using LSTM. This technique uses both

Dr. Joshuva Arockia Dhanraj
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Dr. Joshuva Arockia Dhanraj, Professor, CSE (AI & ML), successfully presented his research paper titled “Privacy-Preserving Federated Blockchain with Adaptive Merkle Compression for Cross-Hospital EHR and AI Model Exchange” at the International Conference on Communication, Computing and Emerging Technologies (IC3ET 2026)

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Dr. Abdul Haq Nalband
Associate Professor
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Dr. Abdul Haq Nalband, Associate Professor, CSE (AI & ML), has published a research article in IEEE Access, a prestigious Q1, SCIE-indexed journal published by the Institute of Electrical and Electronics Engineers (Impact Factor: 3.6). The paper, titled "Design and Implementation of an Annotation-Driven Drone Autonomy Tool Using YOLOv8–V11 Architectures for Real-Time Object Detection and Distance Estimation," presents an innovative framework for drone autonomy using advanced YOLOv8–V11 models for real-time object detection and distance estimation. This achievement reflects Dr. Nalband's research excellence and contributes significantly to advancements in intelligent aerial systems and autonomous technologies, bringing recognition to the institution.

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Design and Implementation of an Annotation-Driven Drone Autonomy Tool Using YOLOv8–V11 Architectures for Real-Time Object Detection and Distance Estimation

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ABSTRACT Autonomous UAV perception under Size–Weight–Power (SWaP) constraints is hindered by architectural fragmentation, where annotation, detection, and ranging modules are optimized independently, leaving cross-module synergies underexploited. This research introduces a unified framework that eliminates fragmentation through coordinated, cross-stage optimization for embedded deployment. An adaptive annotation engine combining Datumaro sparse encodings with foundation-model distillation reduces memory usage by 92.3% and labeling effort by 68.7%, while maintaining segmentation quality (mIoU = 0.891 ± 0.023). A mission-aware detection pipeline—featuring YOLO architecture benchmarking (v8–v11) and TensorRT INT8 quantization with kernel fusion—achieves 84.7% mAP@0.5 at 30.6 FPS on Jetson Orin NX (75 W), representing a 10.3-point gain over modular baselines. A hybrid ranging policy adaptively switches between Vincenty geodesics (GNSS-enabled, 2.8 m RMSE) and calibrated monocular geometry (GNSS-denied, 0.48 m RMSE), reducing drift by 67.3%. Replicated factorial analysis on 16,266 scene-disjoint aerial images reveals statistically significant cross-module interactions ($\delta_{12} = 0.23$, $\delta_{13} = 0.31$, $\delta_{23} = 0.18$; $p < 0.001$), yielding a 29.3% end-to-end performance amplification over additive optimization. The framework generalizes robustly, maintaining 94.2% cross-dataset retention on VisDrone/COCO/UAV benchmarks and achieving 99.84% collision-free operation across 847 autonomous sorties, establishing a reproducible pathway toward SWaP-constrained UAV autonomy.

INDEX TERMS Annotation-driven Autonomy, Autonomous Drones, Camera Calibration, Distance Estimation, Embedded Perception Systems, Human-in-the-Loop Annotation, Memory-efficient Segmentation, Multimodal Annotation, Real-time Inference, Segment Anything Model (SAM), TensorRT Optimization, Vincenty Geodesics, YOLOv8-v11 Architectures

I. INTRODUCTION

Autonomous UAV perception faces critical system-level integration challenge, where mature component advances in detection, annotation, and ranging operate in isolation, creating deployment barriers for real-world autonomous operations.

A. PROBLEM CONTEXT AND MISSION REQUIREMENTS

Autonomous unmanned aerial vehicle (UAV) navigation faces a Size-Weight-and-Power (SWaP) trilemma that couples annotation efficiency, detection accuracy, and distance estimation (ranging)—a challenge which is not fully resolved in current literature [1]. Mission drivers include time-critical search-and-rescue and infrastructure inspection, which demand sub-second perception and centimeter-level distance estimates; recent UAV detection advancements highlight the pace and stakes of progress [2]–[6]. The on-board detect-analyze-act loop must meet strict latency and throughput budgets as multi-modal signals (RGB/thermal/LiDAR) flow from sensing to control under stringent SWaP constraints, where deterministic timing is mandatory for safe autonomy [7]–[11]. **FIGURE. 1** previews our solution framework, sketching an end-to-end pipeline that links a hybrid annotation engine, SWaP-aware YOLO selection, and a dual-path (Tx/non-Tx) distance-estimation module, foreshadowing the system architecture detailed in **Section D**.

B. BACKGROUND AND FUNDAMENTAL CHALLENGES

This section explores the algorithms, models, datasets, and system constraints that shape today's UAV perception stack, highlighting where laboratory advancement diverges from SWaP-limited deployment.**Object Detection at the Edge:** The YOLO family has evolved from unified single-stage pipelines to feature-rich, trainable designs suitable for embedded execution [12]–[18]. However, many results are presented under laboratory conditions that do not reflect embedded SWaP limits or mission-level throughput targets, particularly for UAVs [19]–[26]. Understanding the model's components and efficiency levers that affect deployability is crucial

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Dr. Prateek Verma, Associate Professor, CSE (AI & ML) has successfully published a research paper in an SCIE-indexed Q2 journal, the International Journal of Computational Intelligence Systems, published by Springer Nature. The paper, titled "A Review on the Applications and Implications of Artificial Intelligence and Machine Learning in Oncology," presents a comprehensive exploration of the transformative role of Artificial Intelligence (AI) and Machine Learning (ML) in the field of oncology. The study critically examines advancements in AI-driven cancer diagnosis, predictive modeling, personalized treatment strategies, and research innovations that are reshaping modern healthcare systems.

International Journal of Computational Intelligence Systems

REVIEW

A Review on the Applications and Implications of Artificial Intelligence and Machine Learning in Oncology

Kunal Hiwase · Prateek Verma · Nikita Zade · Praveen Kumar · Induni Nayodhara Weerarathna · Swapnil Gundewar

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Abstract
The use of Artificial Intelligence (AI) and Machine Learning (ML) has rapidly gained popularity in the treatment of oncology, bringing about a significant shift in approaches to initial screening, cancer detection, therapy, and control. This study aims to discuss basic developments in AI and ML, specifically Deep Learning (DL), Natural Language Processing, Radiomics, and multi-omics analysis in Oncology. The use of DL in the diagnosis of various medical images and genomic data has greatly improved diagnostic results and treatment planning. Radiomics contains detailed features of the tumor and its response to the treatment. Multi-omics analysis, which encompasses genomics, proteomics, transcriptomics, and metabolomics, provides a comprehensive understanding of cancer biology and facilitates the development of personalized medicine therapies. However, the use of AI in oncology also presents some ethical and societal concerns, including patients' privacy, biased algorithms, and the implementation of technology. Addressing these problems is imperative to help in better implementation of the use of AI in Healthcare. The current review also foregrounds the ethical, clinical, and societal implications of AI adoption, emphasizing the need for robust governance, representative datasets, and interdisciplinary collaboration. The future research can be addressed towards the explainability of developed AI models and improvement in the quality of data. Overcoming the mentioned challenges, the efficient use of AIML can offer various benefits such as enhanced accuracy, better treatment and timely intervention for the patients worldwide.

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1) Dr. M. Lakshmanan, Assistant Professor, CSE (AI & ML), presented a research paper at the 1st International Conference on Intelligent Computing and Automation for Sustainable Solutions (ICASS–2026). The paper titled “Federated Augmented Random Search Reinforcement Learning for Edge-Private Autonomous Driving Systems” focuses on federated learning for autonomous driving.

2) Dr. M. Lakshmanan, Assistant Professor, CSE (AI & ML), presented a research paper at ICASS–2026 held at Manav Rachna University. The paper titled “Hybrid Heuristic and Zero-Knowledge Proof Framework for Patient Data Sanitization and Selective Disclosure in Smart Contracts” addresses secure healthcare data sharing.


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in 1st International Conference on Intelligent Computing and Automation for Sustainable Solutions (ICASS-2026) organized by School of Engineering, Manav Rachna University on 12th–13th February, 2026
Prof.(Dr.) Dipali Bansal
General Chair, ICASS-2026
Dean, School of Engineering, Manav Rachna University
Prof. (Dr.) Deependra Kumar Jha
Vice Chancellor,
Manav Rachna University

Dr. M. Lakshmanan
Assistant Professor
Department of AI&ML

3) Dr. M. Lakshmanan, Assistant Professor, CSE (AI & ML), presented a research paper at the International Conference on Communication, Computing and Emerging Technologies (IC3ET–2026). The paper titled "Privacy-Preserving Federated Blockchain with Adaptive Merkle Compression for Cross-Hospital EHR and AI Model Exchange" focuses on secure medical data exchange.

4) Dr. M. Lakshmanan, Assistant Professor, CSE (AI & ML), Dr. M. Lakshmanan presented the paper "Federated Augmented Random Search Reinforcement Learning for Edge-Private Autonomous Driving Systems" at ICASS–2026. The paper was adjudged as the Best Paper in Track 10: Artificial Intelligence and Data-Driven Automation for Sustainable Development

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IC3ET 2026

CERTIFICATE OF PRESENTATION

is proudly presented to

M.Lakshmanan

for successfully presenting the paper titled **Privacy-Preserving Federated Blockchain with Adaptive Merkle Compression for Cross-Hospital EHR and AI Model Exchange** at the **International Conference on Communication, Computing and Emerging Technologies - IC3ET 2026**, (IEEE Conference Record #64989), held on 9-10 February 2026 at **Vidyavardhini's College of Engineering and Technology (VCET), Vasai**, and technically co-sponsored by IEEE and IEEE Maharashtra Section.

Dr. Thaksen Parvat
Technical Program Chair

Dr. Rakesh Himte
General Conference Chair

1st International Conference on
Intelligent Computing and Automation for Sustainable Solutions
(ICASS-2026) Conference Record #69550
12th – 13th February, 2026

Best Paper Award

This is to certify that the paper

Federated Augmented Random Search Reinforcement Learning for Edge-Private Autonomous Driving Systems (PaperID-907)
in Track 10 : Artificial Intelligence and Data-Driven Automation for Sustainable Development

Presented By
M. Lakshmanan

has been adjudged as Best Paper in 1st International Conference on Intelligent Computing and Automation for Sustainable Solutions (ICASS-2026) organized by School of Engineering, Manav Rachna University on 12th–13th February, 2026

Prof.(Dr.) Bipali Bansal
General Chair, ICASS-2026
Dean, School of Engineering, Manav Rachna University

Prof. (Dr.) Deependra Kumar Jha
Vice Chancellor,
Manav Rachna University

Dr. Govind Kumar Pandey
Assistant Professor
Department of AI&ML

Dr. Govind Kumar Pandey, Assistant Professor, CSE (AI & ML), has successfully published a research article in the reputed journal Microsystem Technologies (Springer Nature). The research work focuses on the design and performance analysis of quad-port graphene-based MIMO antennas for terahertz (THz) applications, addressing emerging challenges in high-speed indoor wireless communication systems. The study presents innovative antenna structures with enhanced bandwidth, gain, and reconfigurability, contributing significantly to next-generation THz communication technologies.

Microsystem Technologies (2026) 32:30
https://doi.org/10.1007/s00542-025-06010-z

TECHNICAL PAPER

Performance analysis of quad-port graphene-based MIMO antennas on silicon nitride and quartz substrates for terahertz applications

Govind Kumar Pandey[1] · Rama Rao Thipparaju[2] · Rupesh Kumar[2] · Uday Kumar Singh[3]

Received: 25 September 2025 / Accepted: 17 December 2025

Abstract

This study presents the performance analysis of designed Graphene based Octagonal Short Angular Circular (GBOSAC) microstrip antennas for short-range wireless communication at terahertz (THz) frequencies. The antennas are developed with 2 distinct silicon-based substrate materials: Silicon Nitride (Si_3N_4) with thickness of 15 µm and Quartz (SiO_4) with the thickness of 96.5 µm. The proposed antenna structure comprises four layers: a gold ground plane, a silicon-based substrate (Si_3N_4 or SiO_4), an octagonal gold patch, and an uppermost graphene layer with the thickness of 10 nm. The graphene layer is deposited onto the octagonal shape gold patch to enhance antenna performance at THz frequencies. Comparative analysis of the two substrate materials is conducted to evaluate their suitability for THz applications, focusing on key performance metrics such as reflection coefficient (S_{11}) of -29.83 dB for the Si_3N_4 substrate antenna and −24.3 dB for the SiO_4 substrate antenna, realized gain, bandwidth and radiation pattern. The results demonstrate the potential of these graphene based microstrip antennas for high-performance short-range THz communication systems. Based on the promising performance of the GBOSAC antenna unit cell, the design was extended to a quad-port MIMO antenna configuration to further enhance the overall antenna performance for indoor communication scenarios. In the quad-port (QP) MIMO configuration, the antenna elements are arranged orthogonally. The total cross-sectional area of the THz quad-port MIMO antenna is 1232 × 1232 µm² for the Si_3N_4-based design (MIMO (SN)) and 1450 × 1450 µm² for the SiO_4-based design (MIMO (Q)). The proposed MIMO antennas achieve a bandwidth of 71 GHz and 54.1 GHz for the Si_3N_4 and SiO_4 substrates, respectively. Additionally, the mutual-coupling coefficient remains below −15 dB for both designs. Moreover, the diversity performance of the proposed THz MIMO antennas is analysed, revealing a diversity gain of <9.999 dB for MIMO (SN) and <9.9 dB for MIMO (Q). The envelope correlation coefficient (ECC) is found to be less than 0.0000025 for MIMO (SN) and less than 0.02 for MIMO (Q), Furthermore, the diversity performance analysis demonstrates a diversity gain of <9.999 dB for MIMO (SN) and <9.9 dB for MIMO (Q). The envelope correlation coefficient (ECC) remains below 0.0000025 for MIMO (SN) and 0.02 for MIMO (Q), accompanied by a total active reflection coefficient (TARC) of −17.31 dB and −19.32 dB, and a channel capacity loss (CCL) of 0.035 bps/Hz and 0.05 bps/Hz for MIMO (SN) and MIMO (Q), respectively, at the resonant frequency of 0.3 THz. Further, a detailed performance analysis of wireless link is carried out by evaluating the path loss, signal-to-noise ratio (SNR), received power and Shannon channel capacity (SCC) for both MIMO antenna configurations under indoor line-of-sight (LoS) conditions at 0.3 THz. These outcomes highlight the effectiveness of the proposed antenna designs for reliable short-range THz wireless communication.

✉ Govind Kumar Pandey
cugovind@gmail.com

✉ Rama Rao Thipparaju
ramaraotr@gmail.com

[1] Department of CSE- AI and ML , Dayananda Sagar University , South Bangaluru District, Harohalli, Karnataka 562112, India

[2] Department of Electronics & Communication Engineering, SRM University-AP, Amaravati,Neerukonda, Guntur District, Andhra Pradesh 522240, India

[3] Department of Electronics & Communication Engineering , SR University , Warangal, Telangana 506371, India

Published online: 20 February 2026

Springer

Prof. Sriramkumar R
Assistant Professor
Department of AI&ML

Prof. Sriramkumar R, Assistant Professor, CSE (AI & ML), presented a research paper titled “Transformer-Driven Hybrid Training Framework for Robust ICU Mortality and Sepsis Prediction with Privacy Risk Reduction using MIMIC-IV v3.1” at the International Conference on Emerging Technologies and Future Innovations (ETFI–2026)

Deccan Education Society, Pune
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IEEE Pune Section
IEEE INSTRUMENTATION & MEASUREMENT SOCIETY Pune Section

School of Engineering and Technology

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This is to certify that

Sriramkumar R

of *Dayananda Sagar University* attended the

International Conference on Emerging Technologies and Future Innovations (ETFI-2026)

held from 12th - 14th February 2026 at the

School of Engineering and Technology, DES Pune University, Pune and presented a paper entitled

Transformer-Driven Hybrid Training Framework for Robust ICU Mortality and Sepsis Prediction with Privacy Risk Reduction using MIMIC-IV v3.1

Prof. Prachi Joshi	Prof. Vivek Deshpande	Dr. Amar Buchade	Prof. Rajesh Ingle
Chair ETFI-2026	IEEE, Instrumentation & Mesurement Soc. Pune section	Chair IEEE Pune section	Vice Chancellor DES Pune University, Pune

Prof. Nivetha R,
Assistant Professor
Department of AI&ML

Prof. Nivetha R, Assistant Professor, CSE (AI & ML), successfully completed the Faculty Development Program on “Recent Trends in Artificial Intelligence and Data Science,” conducted by the AICTE Training and Learning (ATAL) Academy under the All-India Council for Technical Education from 12th to 17th January 2026. This accomplishment highlights her continuous efforts to enhance expertise in emerging AI and data science domains and her commitment to academic and professional growth.

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It is certified that ***Miss Nivetha R, Assistant Professor*** *of* ***Dayananda Sagar University*** *has successfully participated & completed AICTE Training And Learning (ATAL) Academy Faculty Development Program on* ***Recent Trends in Artificial Intelligence and Data Science*** *at* ***COLLEGE OF ENGINEERING*** *from* ***12/01/2026*** *to* ***17/01/2026.***

Deepali Sandeep Hirolikar
Assistant Professor Level (AICTE Institute), Coordinator
COLLEGE OF ENGINEERING

Dr. Sunil Luthra
Director & Bureau Head
Training and Learning Bureau, AICTE

Prof. Sindhua A,
Assistant Professor
Department of DS

1) Sindhu A has successfully presented the research paper titled “Efficient Secure Aggregation in Federated Learning for Edge Computing” at the 6th International Conference on Image Processing and Capsule Networks (ICIPCN 2026), organized by Kathmandu University, Dhulikhel, Nepal, held during 27–29 January 2026.

2) Sindhu A has published a research paper titled “Exploratory Analysis and Temporal Dynamics of Air Pollution in Bengaluru” in the proceedings of the 6th International Conference on Communication, Computing & Industry 6.0. The paper was published on IEEE Xplore on 03 February 2026.


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CERTIFICATE OF PRESENTATION

This is to certify that

Sindhu A

has successfully presented the paper titled

Efficient Secure Aggregation in Federated Learning for Edge Computing

at the 6th International Conference on Image Processing and Capsule Networks (ICIPCN 2026) organised by Kathmandu University, Dhulikhel, Nepal during 27-29, January 2026.

Session Chair

Dr. Gajendra Sharma
Conference Chair

Dr. Manish Pokharel
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Exploratory Analysis and Temporal Dynamics of Air pollution in Bengaluru

Publisher: IEEE | Cite This | PDF

A Suresh ; M N Saroja ; S Kannan ; A Sindhu ; A Esakkiammal All Authors

Abstract

Document Sections

I. Introduction (Heading 1)

II. Litreature Review

III. Methodology

IV. Usiexploratory Analysis

V. Results and Discussion

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Keywords

Abstract:
The Indian cities have established air pollution as a critical environmental and health concern which affects the entire nation. The study evaluates Bengaluru's Air Quality Index (AQI) data from 2017 to 2024 through detailed timebased and statistical methods. The research demonstrates that air pollution levels reach their peak during winter months from December to February but decrease substantially during the monsoon period from June to August. The 2020 COVID-19 lockdown resulted substantial reductions of AQI values because of reduced human activity. The highest pollution levels occurred in 2019, but the AQI readings stayed mostly between 75 and 135 which falls under the 'Moderate' category. The pollution levels show a patter of higher readings on weekdays because of vehicle and industrial emissions. The research demonstrates how urban growth interacts with weather conditions and human-made pollution sources to produce air quality changes. The research findings establish a data-based framework which enables urban planners to create effective sustainable air-quality management strategies for Bengaluru

Published in: 2025 6th International Conference on Communication, Computing & Industry 6.0 (C2I6)

Date of Conference: 05-06 December 2025

DOI: 10.1109/C2I666499.2025.11366987

Date Added to IEEE *Xplore*: 03 February 2026

Publisher: IEEE

ISBN Information:
Electronic ISBN:979-8-3315-0240-9
Print on Demand(PoD) ISBN:979-8-3315-0241-6

Conference Location: Bengaluru, India

Dr.Suresh Arumugam
Associate Professor
Department of DS

1) Dr.Suresh Arumugam successfully presented the research paper titled “Efficient Secure Aggregation in Federated Learning for Edge Computing” at the 6th International Conference on Image Processing and Capsule Networks (ICIPCN 2026), organized by Kathmandu University, Dhulikhel, Nepal, held during 27–29 January 2026.

2. Dr. Suresh Arumugam published a research paper titled “Exploratory Analysis and Temporal Dynamics of Air Pollution in Bengaluru” in the proceedings of the 6th International Conference on Communication, Computing & Industry 6.0. The paper was published on IEEE Xplore on 03 February 2026.


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This is to certify that

Suresh A

has successfully presented the paper titled

Efficient Secure Aggregation in Federated Learning for Edge Computing

at the 6th International Conference on Image Processing and Capsule Networks (ICIPCN 2026) organised by Kathmandu University, Dhulikhel, Nepal during 27-29, January 2026.

Session Chair

Dr. Gajendra Sharma
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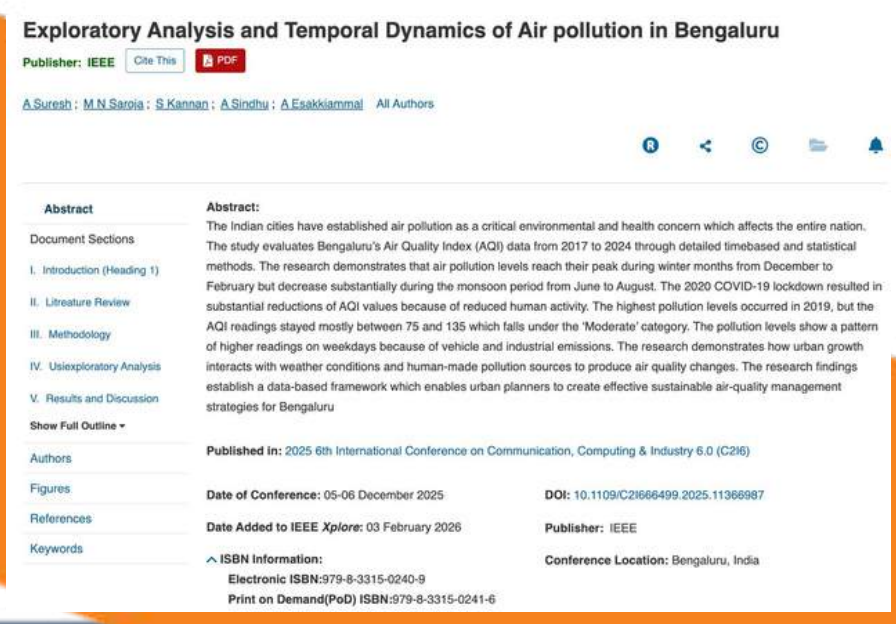
Exploratory Analysis and Temporal Dynamics of Air pollution in Bengaluru

Publisher: IEEE | Cite This | PDF

A Suresh ; M N Saroja ; S Kannan ; A Sindhu ; A Esakkiammal All Authors

Abstract

Document Sections

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Abstract:
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Published in: 2025 6th International Conference on Communication, Computing & Industry 6.0 (C2I6)

Date of Conference: 05-06 December 2025

DOI: 10.1109/C2I6649.2025.11366987

Date Added to IEEE *Xplore*: 03 February 2026

Publisher: IEEE

ISBN Information:
Electronic ISBN:979-8-3315-0240-9
Print on Demand(PoD) ISBN:979-8-3315-0241-6

Conference Location: Bengaluru, India

Dr.Suresh Arumugam
Associate Professor
Department of DS

Dr. Suresh Arumugam published a research paper titled “Adaptive Deep Reinforcement Learning for Effective Spectrum Sensing in Cognitive Radio Networks” in the SCI-indexed (Q2) journal Wireless Personal Communications (P-ISSN: 0929-6212, E-ISSN: 1572-834X).

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Adaptive Deep Reinforcement Learning for Effective Spectrum Sensing in Cognitive Radio Networks

Research | Published: 16 February 2026

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Suresh Arumugam

Department of CSE–Data science, Dayananda Sagar university, Karnataka, 562112, Harohalli, Bangalore , India

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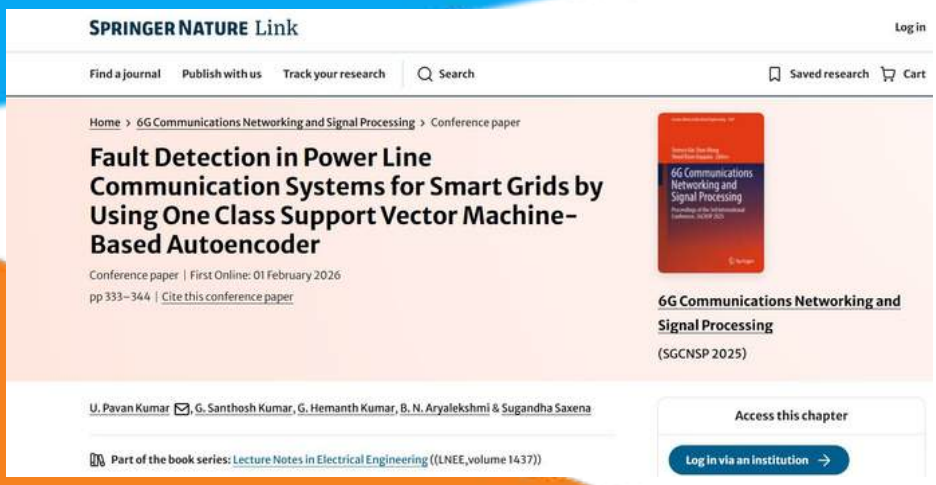
Dr. U. Pavan Kumar
Assistant Professor
Department of DS

Dr. Santhosh Kumar G
Associate Professor
Department of DS

1) Dr. U. Pavan Kumar and Dr. Santhosh Kumar G published a paper titled “Fault Detection in Power Line Communication Systems for Smart Grids by Using One Class Support Vector Machine-Based Autoencoder” in 6G Communications Networking and Signal Processing (SGCNSP 2026), Lecture Notes in Electrical Engineering, Vol. 1437, Springer, Singapore

2) Dr. Santhosh Kumar G and Dr. U. Pavan Kumar published a paper titled “Improved Wild Horse Optimization-Based Deep Neural Network for Speaker Identification and Verification” in 6G Communications Networking and Signal Processing (SGCNSP 2026), Lecture Notes in Electrical Engineering, Vol. 1437, Springer, Singapore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Conference paper | First Online: 01 February 2026

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(SGCNSP 2025)

U. Pavan Kumar, G. Santhosh Kumar, G. Hemanth Kumar, B. N. Aryalekshmi & Sugandha Saxena

Part of the book series: Lecture Notes in Electrical Engineering ((LNEE,volume 1437))

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G. Santhosh Kumar, G. Hemanth Kumar, B. N. Aryalekshmi, Sugandha Saxena & U. Pavan Kumar

Part of the book series: Lecture Notes in Electrical Engineering ((LNEE,volume 1437))

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Dr. Santhosh Kumar G
Associate Professor
Department of DS

Dr. U. Pavan Kumar
Assistant Professor
Department of DS

1) Dr. U. Pavan Kumar and Dr. Santhosh Kumar G published a paper titled “Signal Processing Approaches for Secure Channel Estimation and Data Transmission in 5G/6G” in 6G Communications, Networking and Signal Processing (SGCNSP 2026), Lecture Notes in Electrical Engineering, Vol. 1437, Springer, Singapore.

2) Dr. Santhosh Kumar G and Dr. U. Pavan Kumar published a paper titled “Speech Emotion Recognition Using Acoustic Feature Extraction with Relief and Hidden Markov Model” in 6G Communications Networking and Signal Processing (SGCNSP 2026), Lecture Notes in Electrical Engineering, Vol. 1437, Springer, Singapore

Dr. U. Pavan Kumar
Assistant Professor
Department of DS

1) Dr. U. Pavan Kumar successfully completed a five-day Faculty Development Programme on “Artificial Intelligence with Machine Learning” conducted from 9th to 13th February 2026. The programme was jointly organized by the Departments of Computer Science and Engineering, Artificial Intelligence & Data Science, and Artificial Intelligence & Machine Learning.

@) Dr. U. Pavan Kumar presented a paper titled “ViT-based Triplet Embeddings with Metric Learning and Lightweight Classifiers for Fingerprint Recognition” at the International Conference on Advanced Scientific Computing & Machine Learning (ASCML 2026) held from 10th to 12th February 2026 at BITS Pilani, K. K. Birla Goa Campus, Goa, India


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(An Autonomous Institution, Accredited by NAAC and NBA
Affiliated to Anna University)

Certificate of Participation

This is to certify that Dr. / Mr. / Ms. Dr. U. Pavan Kumar
Dayananda Sagar University
has successfully completed the **Faculty Development Programme** on **“Artificial Intelligence with Machine learning”** jointly organized by the **Departments of Computer Science and Engineering, Artificial Intelligence & Data Science and Artificial Intelligence & Machine Learning** from 9th to 13th Feb. 2026 [Five days].
This was a virtual programme conducted through Gmeet / Zoom.

DR. M. VARGHEESE
HOD/CSE

DR. Amirdha Sher Gill
PRINCIPAL

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BITS Pilani
K K Birla Goa Campus

International Conference on
Advanced Scientific Computing & Machine Learning
10th - 12th February 2026 | BITS Pilani, K. K. Birla Goa Campus, Goa, India

ASCML

This is to certify that **U. Pavan Kumar**, Dayananda Sagar University, has successfully participated and presented a paper titled “ViT-based Triplet Embeddings with Metric Learning and Lightweight Classifiers for Fingerprint Recognition” in ASCML 2026.

Prof. Jajati Keshari Sahoo
Organizing Chair

Dr.T.Poongodi
Chairperson
Department of AI&DS

Dr.B.Sarada,
Assistant Professor
Department of AI&DS

Dr. T. Poongodi published a research paper in the 2025 International Conference on Electrical, Electronics, and Computer Science with Advanced Power Technologies – A Future Trends (ICE2CPT), organized by IEEE on 29 October 2025.

Dr. B. Sarada has completed the Five-day National Training Program on "Mastering MLOPS: A Complete Lifecycle Approach" organised by the Department of Complete Science, University of Kerala, held from 16th to 20th February 2026.

Dr. Poongodi T

Questionnaire Generator Using Tinyllama Sentence Transformer and LangChain

Authors: Bilal Ahmed NK, M Devesh, Harmayni Khandal, T Poongodi

Publication date: 2025/10/29

Conference: 2025 International Conference on Electrical, Electronics, and Computer Science with Advance Power Technologies-A Future Trends (ICE2CPT)

Pages: 1-6

Publisher: IEEE

Description: The increasing demand for scalable, high-quality educational content has put e-learning platforms under significant pressure, particularly in generating diverse, pedagogically sound assessment materials. Traditional manual question creation is often time-consuming and inconsistent in quality, coverage, and issues that are amplified in dynamic learning environments such as online classrooms, automated tutoring systems, and competitive exam platforms. This study addresses these challenges by presenting an AI-powered pipeline that automatically generates structured multiple-choice and fill-in-the-blank questions from PDF content. The solution integrates the TinyLlama-1.1B model which is an optimized version of the LLaMA 2 architecture with LangChain for orchestration and Sentence Transformers for semantic understanding, ensuring context-aware and accurate question generation. A key novelty of this …

Scholar articles: Questionnaire Generator Using Tinyllama Sentence Transformer and LangChain
BA NK, M Devesh, H Khandal, T Poongodi - … International Conference on Electrical, Electronics, and …, 2025
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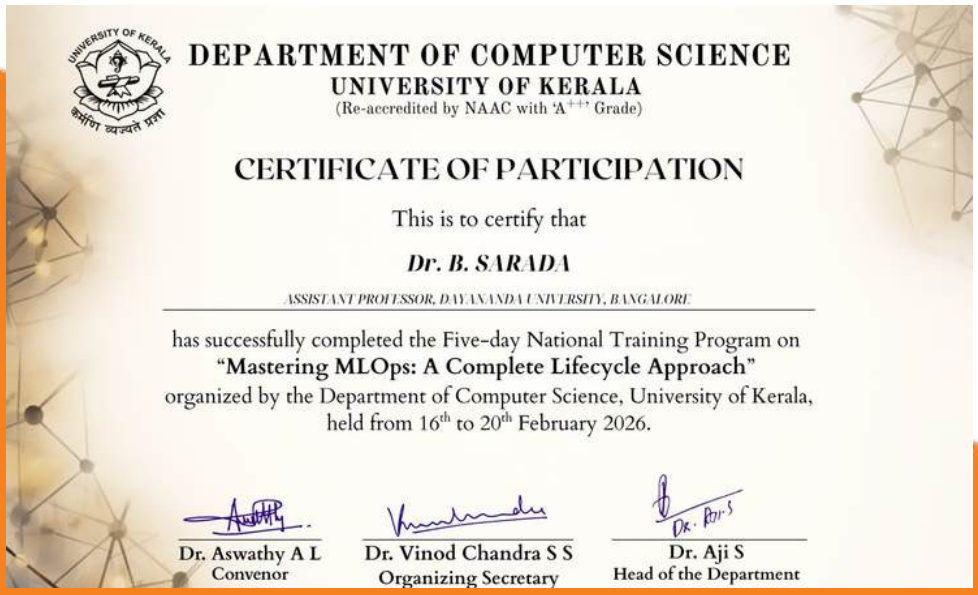

DEPARTMENT OF COMPUTER SCIENCE
UNIVERSITY OF KERALA
(Re-accredited by NAAC with 'A^{++}' Grade)

CERTIFICATE OF PARTICIPATION

This is to certify that

Dr. B. SARADA

ASSISTANT PROFESSOR, DAYANANDA UNIVERSITY, BANGALORE

has successfully completed the Five-day National Training Program on
"Mastering MLOps: A Complete Lifecycle Approach"
organized by the Department of Computer Science, University of Kerala,
held from 16th to 20th February 2026.

Dr. Aswathy A L
Convenor

Dr. Vinod Chandra S S
Organizing Secretary

Dr. Aji S
Head of the Department

Dr. Pushpa Mala S,
Department of Electronics and Communication Engineering,

The IEEE Bangalore Section Outreach and Humanitarian Activities Committee hosted the **IEEE Outreach Summit** on Saturday, 21st February 2026, at the prestigious Indian Institute of Science, Chellekere Campus. The summit brought together technologists, researchers, and humanitarian leaders to foster meaningful dialogue on emerging technologies and their transformative role in outreach and humanitarian initiatives.

As part of this inspiring gathering, **Dr. Pushpa Mala S**, Department of Electronics and Communication Engineering, delivered a talk on *"Use of AI Tools and Digital Pedagogy,"* sharing her expertise with a vibrant community committed to leveraging innovation for societal impact. Her session highlighted the effective integration of AI-driven tools in education and outreach to enhance learning outcomes and expand humanitarian engagement.

Dr. Dinah Ann Varughese,
Assistant Professor, Department of Electronics and Communication

Dr. Dinah Ann Varughese, Assistant Professor, Department of Electronics and Communication Engineering, Dayananda Sagar University, served as a Technical Session Resource Person at VIT Vellore for the Value-Added Course (VAC) titled *"Implementation of ML Algorithms on FPGA"* conducted by the Department of Micro and Nano Electronics, School of Electronics Engineering (February–April 2026). She handled technical sessions on 22nd and 23rd February 2026.

Her sessions focused on bridging deep learning concepts with hardware-efficient FPGA deployment, covering CNN fundamentals, hardware-aware neural network architecture design, efficient BRAM utilization, model compression techniques such as pruning and weight sharing, and key design trade-offs in FPGA-based ML systems. The engagement provided valuable insights into AI hardware acceleration and strengthened academic collaboration in emerging technology domains.

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DEPARTMENT OF MICRO & NANO ELECTRONICS

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This is to certify that **Ms. DINAH ANN VARUGHESE, Asst. Professor, Dayananda Sagar University** served as a resource person for the value-added course **on "Implementation of ML Algorithms on FPGA"** held on 22-**02-2026 and** 23-**02-2026**.

Coordinators
Dr. Prachi Shrama
Dr Rajeev Pankaj Nelapati

Head of the Department
Department of Micro and Nano electronics

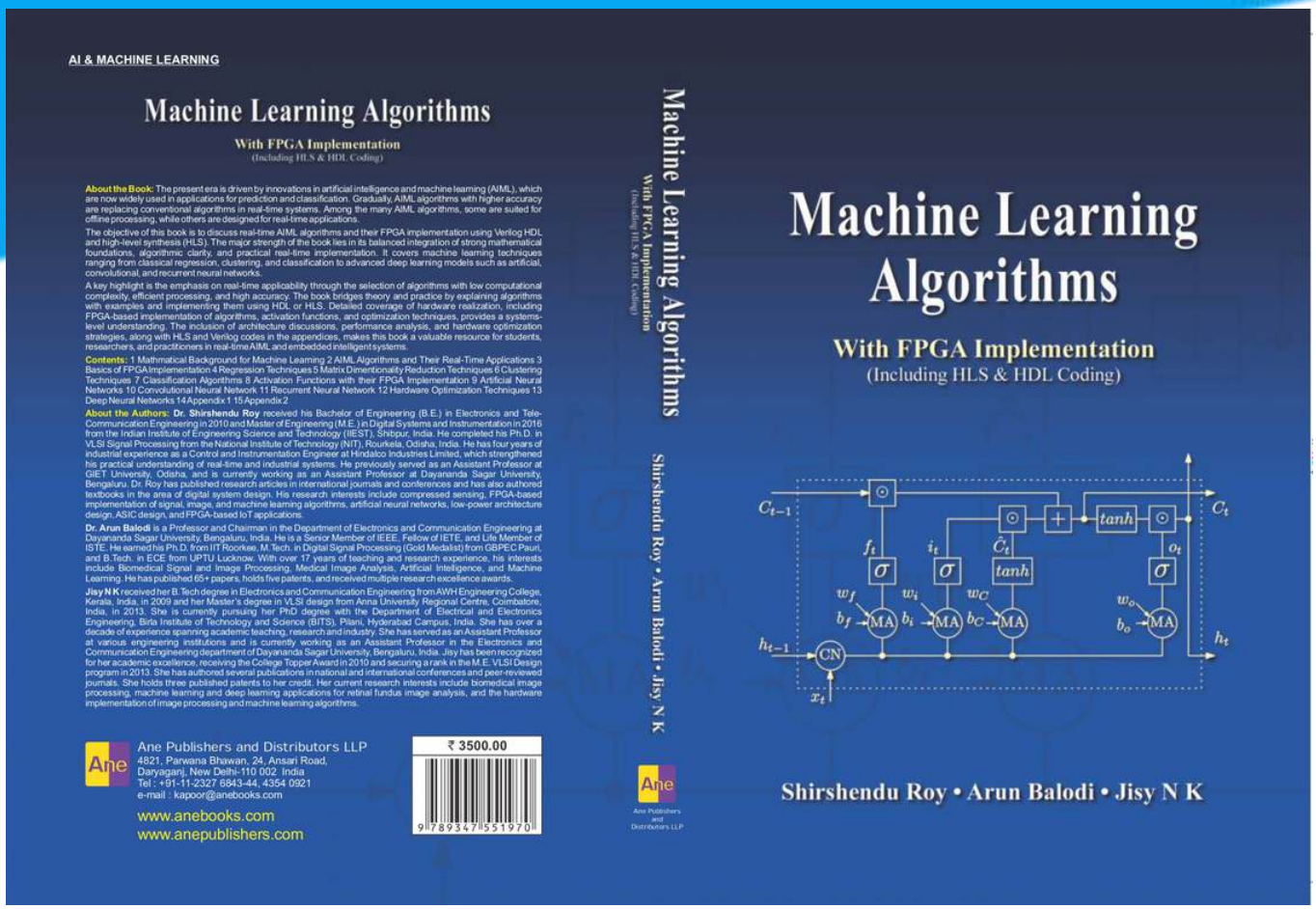
Dean, SENSE

VIT – A Place to learn; A Chance to grow



Dr. Shirshendu Roy, Dr. Arun Balodi and **Prof. Jisy N K**

Dr. Shirshendu Roy, Dr. Arun Balodi and **Prof. Jisy N K** published a book titled "Machine Learning Algorithms with FPGA Implementation" with Ane Books Private Ltd, India, on February 20th, 2026. The book covers all major topics like mathematical background, FPGA programming, AIML applications, Regression, Clustering, Classification, Dimension Reduction, Activation Functions, ANN, CNN, RNN, DNNs, and Hardware optimizations with example designs for each chapter, along with appendices for coding examples (HLS, HDL).
Web link: https://www.anepublishers.com/
ISBN: 978-93-47551-97-0



Dr. Shirshendu Roy

Prof. Jisy N K

Dr. Shirshendu Roy and **Prof. Jisy N K** published a research article titled “A Survey on Different Strategies for Hardware Implementation of Activation Functions” in Journal of Embedded and Digital System Design on January 29th, 2026. This publication presents a comprehensive overview of various hardware-based techniques for implementing activation functions in neural networks.

Web link: https://www.jedsd.com/paper/JEDSD-P-416548-2956

DOI: https://doi.org/10.5281/zenodo.18397422

Journal of Embedded & Digital System Design
2025, VOL. 01, NO. 1, 1–10
http://dx.doi.org/xx.xxxxx/jedsd/XXXXXX

A Survey on Different Strategies for Hardware Implementation of Activation Functions

Shirshendu Roy[1] and Jisy N K[1]

[1]Electronics and Communication Engineering, Dayananda Sagar University, Bengaluru

Abstract

Activation functions (AFs) are fundamental components of neural networks (NNs), introducing nonlinearity that enables models to learn complex representations and decision boundaries. With the growing adoption of NNs in real-time and embedded systems, there is an increasing demand for efficient hardware implementations. Implementing AFs on hardware poses significant challenges due to the presence of nonlinear operations and transcendental functions, especially exponential computations required by commonly used AFs such as sigmoid, hyperbolic tangent, and softmax. Efficient approximation and computation techniques for exponential functions (EFs) are essential to enable practical and high-performance hardware realizations of AFs.

This paper presents a comprehensive survey of techniques for implementing AFs on digital hardware. The contributions include a concise review of widely used and emerging AFs, a survey of major EF computation methods such as lookup tables, polynomial and piecewise approximations, COordinate Rotation DIgital Compute (CORDIC) based approaches, and iterative algorithms, and a detailed examination of hardware-oriented implementation strategies for AFs. The surveyed techniques are analyzed in terms of accuracy, resource utilization, latency, and power efficiency. This survey aims to provide valuable insights and design guidelines for researchers and practitioners developing efficient NN accelerators on field gate programmable array (FPGA) and other digital hardware platforms.

Keywords: Field Programmable Gate Array (FPGA), Activation Function Architectures, Exponential Function Architectures, Sigmoid Functions, Hyperbolic Tangent.

1 Introduction

Activation functions (AFs) are fundamental components of artificial NNs (ANNs) that introduce nonlinearity into the model. Mathematically, an AF maps the weighted sum of inputs and bias of a neuron to an output signal, thereby determining the activation state of the neuron. Without AFs, a NN would effectively behave as a linear model irrespective of the number of layers, significantly limiting its ability to learn complex patterns.

The output of a neuron in a feedforward ANN is given by

$$\boldsymbol{a}^{(l+1)} = \phi\left(\mathbf{W}^{(l)}\boldsymbol{a}^{(l)} + \boldsymbol{b}^{(l)}\right), \quad (1)$$

where $\boldsymbol{a}^{(l)}$ and $\boldsymbol{a}^{(l+1)}$ are input and output activations at layer l and $l+1$ respectively, $\phi(\cdot)$ is the AF, $\mathbf{W}$ is the weight matrix, and $\boldsymbol{b}$ is the bias vector.

AFs are employed to enable neural networks (NNs) to model complex and nonlinear relationships inherent in real-world data. By introducing nonlinearity, they allow deep networks to approximate arbitrary functions and learn hierarchical feature representations across multiple layers. Furthermore, AFs strongly influence training behavior, including gradient propagation, convergence speed, numerical stability, and susceptibility to issues such as vanishing or exploding gradients. Consequently, the selection of an appropriate AF plays a crucial role in determining network performance, training efficiency, and implementation feasibility.

AFs are used across a wide range of NN architectures and in many machine learning algorithms. They are integral to feedforward NNs, convolutional NNs (CNNs), recurrent NNs (RNNs), transformers, and spiking NNs (SNN). Real-time applications demand for efficient implementation of these networks on digital hardware like field programmable gate array (FPGA). Thus numerous research works have been carried to find efficient techniques to implement the AFs.

Major contributions of this manuscript are

1. All kinds of AFs are briefly discussed.
2. A detailed survey on different techniques to implement exponential function (EF) is presented.
3. Different techniques to implement AFs are discussed in details.

The manuscript is organized in seven sections. Section II discusses about different AFs used in NN architectures. A brief study on techniques to implement EF is discussed in Section III. Section IV discusses about different techniques to implement different AFs. Section V discusses about different estimation metrics and performance analysis of different architectures. Conclusive remarks are made in Section VI.

2 Different Activation Functions

2.1 Binary Activation Functions

Binary AFs limits the output of a node to one of two values. They also called as threshold AFs or Heaviside function. These kind of functions are used in single layer

Manuscript received XX February XXXX; accepted XX March XXXX. Date of publication XX March XXXX; date of current version XX May XXXX.
(Corresponding author: Shirshendu Roy.)
Email ID: (e-mail: shirshendu988@gmail.com; jisyrkiva1@gmail.com).

Prof. Jisy N K
Assistant Professor, Department of Electronics and Communication

Prof. Jisy N K presented a research paper titled “Voice and Gesture-Controlled File Management Using Computer Vision” at the 7th International Conference on Mobile Computing and Sustainable Informatics (ICMCSI-2025) organised by Purbanchal University, Nepal, held during 7th – 9th January 2026. The publication is co-authored by Sivasankari S S, K Ganesh Koushik, K Chakridhar Reddy, Indra Kaarthikeya C H, and N Vardhan Reddy.

IEEE

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ICMCSI

Certificate of Presentation

This certificate is presented to

Jisy N K

for the successful presentation of the paper titled

Voice & Gesture-Controlled File management using Computer Vision

at 7th International Conference on Mobile Computing and Sustainable Informatics (ICMCSI 2026) held during 7-9, January 2026 at Purbanchal University, Nepal

Session Chair

Dr. Gopal Sharma
Publication Chair

Prof. Dr. Pawan Kumar Jha
Conference Chair

Dr. Pushpa Mala
Associate Professor, Department of Electronics and Communication

Dr. Pushpa Mala S successfully attended the IEEE Conference Organizers Education Workshop organized by IEEE Bangalore Section at Hotel Hilton on 2 Feb, 2026. Your dedication to mastering the standards of global academic excellence ensures the continued success and impact of future IEEE technical programs. We look forward to seeing your leadership shape the next generation of innovation.

IEEE BANGALORE SECTION

Conference Organizers Education Workshop - 2026

CERTIFICATE

OF PARTICIPATION

This Certificate is presented to

Pushpa Mala S.

from *Dayananda Sagar University*

for participating in the **Conference Organizers Education Workshop (COEW) - 2026**
organized by **IEEE Bangalore Section** on 2nd February 2026

Dr. S. V. Sathyanarayana
Vice Chair (Technical Activities)
IEEE Bangalore Section

Dr. Prasant Misra
Chair
IEEE Bangalore Section

Dr. Arun Balodi
Chairman & Professor, Department of ECE

Dr. Arun Balodi, Department of ECE, Dayananda Sagar University, has been appointed as the **Technical Program Committee (TPC) Chair** for the **International Conference on Big Data, Machine Learning and Intelligent Computing (BDMLIC 2026)** to be held in Shenzhen, China.

In this role, he will oversee the technical review process and contribute to shaping a high-quality conference program. This prestigious appointment highlights his research leadership and the university's global academic engagement.

Certificate

awarded to

Arun Balodi

from Dayananda Sagar University, Bengaluru, India

as the **Technical Program Committee Chair** of **BDMLIC 2026**

The 2026 International Conference on Big Data, Machine Learning and Intelligent Computing (BDMLIC 2026)
will be held on September 28–30, 2026 in Shenzhen, China
www.bdmlic.org

The Committee of BDMLIC 2026
February 9, 2026

Dr. Navya R

Assistant Professor, Department of Electronics and Communication

Dr. Navya R, Assistant Professor, Department of ECE, Dayananda Sagar University, has secured the publication of an Indian patent titled “Noise-Resilient Handwritten Language Recognition Method Integrating Handcrafted and Deep Spatial-Temporal Features.”

The invention enhances handwritten language recognition using a hybrid deep learning approach, demonstrating her continued contribution to research and innovation in machine learning applications.

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :06/12/2025

(21) Application No.202541123092 A

(43) Publication Date : 02/01/2026

(54) Title of the invention : Noise-Resilient Handwritten Language Recognition Method Integrating Handcrafted and Deep Spatial-Temporal Features

(51) International classification	:G06V 30/10, G06N 3/04, G06K 9/62, G06K 9/00, G06N 3/08
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(86) International Application No Filing Date	: :01/01/1900
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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3)Vinitha.V
4)Dr. Navya .R
5)Santhosh kumar R
6)K.Sudha deepthi
7)Shivamma D
8)Kavyashree I pattan
9)Dharmendra D P
10)Dr. Santosh Kumar J

(57) Abstract :

The invention relates to a noise-resilient method for handwritten language recognition using a hybrid feature-extraction framework that combines handcrafted descriptors with deep spatial-temporal learning. The method includes pre-processing handwritten input images through noise filtering, binarization, skew correction, and normalization. Handcrafted features comprising Histogram of Oriented Gradients (HOG), Scale-Invariant Feature Transform (SIFT), and Zernike Moments are extracted to capture structural and shape-based properties. In parallel, spatial and temporal features are learned using a Convolutional Neural Network (CNN) and Long Short-Term Memory (LSTM) architecture. The outputs from the handcrafted and deep-learning pathways are fused to generate a composite feature vector, which is subsequently classified to identify the script or language of the handwritten data. The method provides improved recognition accuracy in the presence of noise, distortions, illumination variations, and inconsistent handwriting styles. The invention is applicable to multilingual handwritten document processing, digitization, and integration with OCR systems.

No. of Pages : 13 No. of Claims : 9

Dr. G. Santhosh, Assistant Professor,
Department of Electronics and Communication Engineering,

Dr. G. Santhosh, Assistant Professor, Department of Electronics and Communication Engineering, School of Engineering, Dayananda Sagar University, successfully completed a five-day online Faculty Development Program on **"Power Quality Challenges and Mitigation Techniques in EV Charging and Renewable-Rich Distribution Systems (EVRD-2026)"** from 16th to 20th February 2026.

The program focused on emerging challenges in power quality, EV charging infrastructure, and renewable energy–integrated distribution systems. His participation reflects the department's commitment to continuous learning and staying updated with advancements in sustainable power and energy systems.


CIN: U80302BR2018PTC038026

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Certificate

This is to certify that

DR. G. SANTHOSH

Assistant Professor, ECE, School of Engineering, Dayananda Sagar University, Harohalli, Karnataka
Participated and successfully completed five-days online "Faculty Development Program" on the topic
"Power Quality Challenges and Mitigation Techniques in EV Charging and Renewable-Rich Distribution Systems" [EVRD-2026]
[From 16th February to 20th February 2026]

Amar Nath Dubey
Founder & Director

Date: 27th February 2026

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Dr. Sai Prasad Nayak,
Assistant Professor, Department of Chemistry

Dr. Sai Prasad Nayak, Assistant Professor, Department of Chemistry, School of Engineering, Dayananda Sagar University, has published a research article titled "Vacuum Impregnated Silver–Halloysite Nanocomposites for the Electrochemical Detection of Dopamine and Uric Acid" in the international journal Ionics, Q2, Impact factor: 2.7, (Springer Nature) on February 9, 2026. DOI: 10.1007/s11581-026-06997-z

Home > Ionics > Article

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Research | Published: 13 February 2026

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Abstract

Halloysite (HS), a naturally occurring low-cost nanomaterial, holds significant potential as a biosensor platform. However, enhancing its surface characteristics for effective

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Dr. A.V. Raghu,
Professor, Department of Chemistry

Dr. A.V. Raghu, Professor in the Department of Chemistry has published a paper in a Q2 Scopus-indexed journal titled “Green Production of Black Pepper Leaves Extract Doped PVA/Guar Gum Blend Films for Promising Sustainable Food Packaging Applications” in Journal of Food Process Engineering, Impact factor is 2.9, H Index is 64.

Journal of Food Process Engineering

WILEY

Journal of Food Process Engineering

ORIGINAL ARTICLE

Green Production of Black Pepper Leaves Extract Doped PVA/Guar Gum Blend Films for Promising Sustainable Food Packaging Applications

Vanita Ghatti[1] | Shrishail Pattadkal[1] | Sharanappa Chapi[2] | Vidya Gopi[3] | Gangasagara Thimmappa Vidyavathi[4] | Deepak R. Kasai[1,5] | Anjanapura V. Raghu[6]

[1]Department of Chemistry, Faculty of Engineering and Technology, Jain (Deemed-To-Be University), Bengaluru, India | [2]Department of Physics, B. M. S. College of Engineering, Bengaluru, India | [3]Department of Chemistry, Dayananda Sagar College of Engineering, Bengaluru, India | [4]Department of Chemistry, RNS Institute of Technology, Bengaluru, India | [5]Department of Chemistry, K.L.E. Society's, Nijalingappa College, Bengaluru, India | [6]Department of Chemistry, School of Engineering, Dayananda Sagar University, Bengaluru, India

Correspondence: Deepak R. Kasai (dr.inorg@gmail.com) | Anjanapura V. Raghu (avraghu23@gmail.com)

Received: 12 May 2025 | **Revised:** 15 December 2025 | **Accepted:** 30 January 2026

Keywords: black pepper leaf extract | Guar gum | morphology | PVA | thermomechanical

ABSTRACT

This study aims to prepare black pepper leaf extract (BPL)-doped poly(vinyl alcohol) (PVA) and Guar gum (GG) (PGBPL) blend

Dr. Shreeganesh Subraya Hegde,
Assistant Professor, Department of Chemistry

Dr. Shreeganesh Subraya Hegde, Assistant Professor in the Department of Chemistry, has published a new research article titled "Hydrogel-Derived Hierarchical Porous Cosmic Weblike Carbon for High-Performance Supercapacitors in Aqueous Electrolytes." The work appears in the prestigious Q1 journal Energy & Fuels, published by the American Chemical Society (ACS), which has an Impact Factor of 5.3 and a CiteScore of 9.5.

energy&fuels

pubs.acs.org/EF Article

Hydrogel-Derived Hierarchical Porous Cosmic Weblike Carbon for High-Performance Supercapacitors in Aqueous Electrolytes

Published as part of Energy & Fuels special issue "Celebrating Authors of Energy and Fuels Most-impactful Articles (2023)".

Phyu Phyu Mon, Phyu Phyu Cho, Shreeganesh Subraya Hegde, Saiyam Dobhal, Asha Ramesh, Kiran Kumar Garlapati, Surendra K. Martha, and Challapalli Subrahmanyam*

Cite This: https://doi.org/10.1021/acs.energyfuels.5c05867 Read Online

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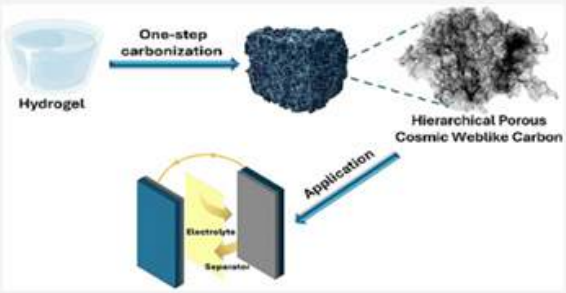
ABSTRACT: Molecular-modification-based hydrogel precursors have been established as a potential approach for the generation of hierarchical porous carbon material. This paper utilized chitosan as a carbon precursor to produce insoluble gels through the introduction of an aqueous NaOH solution, followed by a one-step carbonization method to prepare three-dimensional porous carbon structures. This material comprises numerous interconnected cosmic web-like networks that facilitate the migration of the electrolyte within the carbon material. The electrochemical energy storage performances of hydrogel-derived hierarchical porous cosmic weblike carbon (HGC) electrodes were measured in various aqueous electrolytes, including 1 M H_2SO_4, 1 M KOH, and 1 M Na_2SO_4. In these aqueous electrolytes, the HGC electrode, in a three-electrode configuration, demonstrated high specific capacitances of 475 F g^{-1}, 312 F g^{-1}, and 79 F g^{-1}, respectively, at a current density of 0.5 A g^{-1}. The symmetric supercapacitor, using 1 M H_2SO_4 electrolyte, exhibited a specific capacitance of 244 F g^{-1}, an energy density of 30.6 Wh kg^{-1}, and a power density of 476 W kg^{-1} at an operating voltage of 1.0 V. This electrode exhibited a capacitance retention of 98% even after 5000 charge–discharge cycles at a current density of 5 A g^{-1}, demonstrating exceptional cycling stability. The results reveal that supercapacitors exhibit distinct capacitive characteristics across different electrolytes, with optimal electrochemical performance observed in 1 M H_2SO_4. These findings underscore the potential of HGC as a versatile electrode material for advanced energy storage applications, highlighting its adaptability across various electrolytes and exceptional performance in acidic environments.



Dr. Shreeganesh Subraya Hegde,
Assistant Professor, Department of Chemistry

1) Dr. Shreeganesh Subraya Hegde has successfully completed a five-day Faculty Development Programme (FDP) on “Research Methodology and Advanced Materials Technology (RMAMT-2026)”, organised by Sai Vidya Institute of Technology, Bangalore, from 27 to 31 Jan 2026.

2) Dr. Shreeganesh Hegde has served as a reviewer for several reputed Q1 Elsevier and Springer Nature journals, including Results in Engineering (Impact Factor 7.9, CiteScore of 14.9), Waste Management (Impact Factor 7.1, CiteScore of 15.1), Journal of Nanoparticle Research (Impact Factor 2.6), and Nanotechnology for Environmental Engineering (CiteScore 7.7)

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CERTIFICATE OF PARTICIPATION

This is to certify that Mr./Ms./Dr. DR. SHREEGANESH SUBRAYA HEGDE Of DAYANANDA SAGAR UNIVERSITY, BANGALORE has participated in a 5-days FDP on "Research Methodology and Advanced Materials Technology (RMAMT-2026)" organised by the Department of Mechanical Engineering /Civil Engineering/ Chemistry & Physics, Sai Vidya Institute of Technology, Bengaluru from 27th to 31st January 2026.

Dr. Lakshiminarayanachari K
Vice Principal

Dr. Manjunath T N
Principal

Dr. A M Padma Reddy
Director

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Certificate of Reviewing

Awarded for 45 reviews between October 2025 and February 2026
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SHREEGANESH SUBRAYA HEGDE

in recognition of the review contributed to the journal

The Editors of Results in Engineering

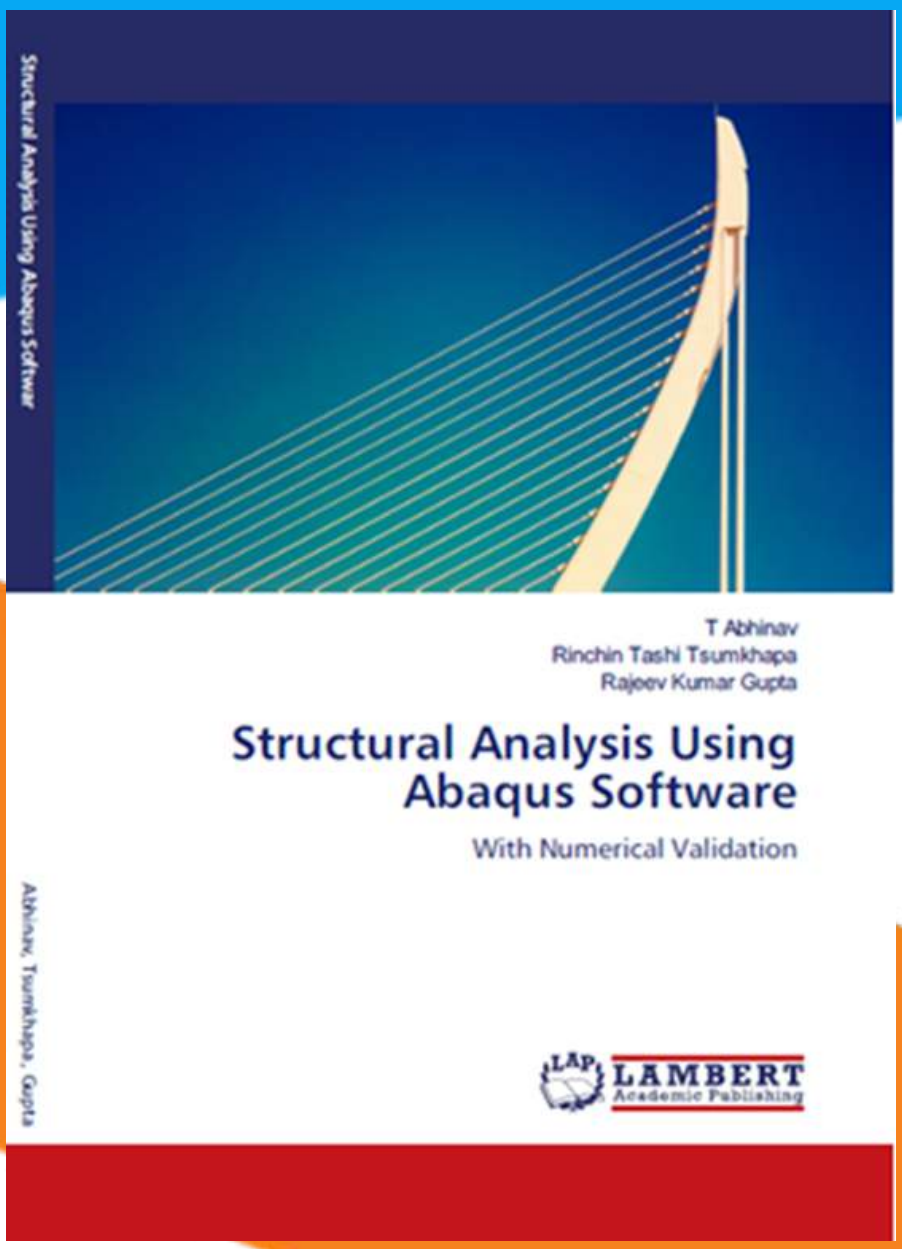
Elsevier Reviewer Recognition

Dr. Rajeev Kumar Gupta,
Assistant Professor, Department of Mechanical Engineering

Dr. Rajeev Kumar Gupta, Assistant Professor, Mechanical Engineering Department Published his 1st book titled "Composite Design and Analysis Using ABAQUS Software" in collaboration with DSATM.This book offers a comprehensive and practical approach to composite material modeling, simulation, and structural analysis using ABAQUS, blending strong theoretical foundations with real-world applications. It serves as a valuable resource for researchers, postgraduate students, and industry professionals working in composite design and finite element analysis.

Dr. Rajeev Kumar Gupta,
Assistant Professor, Department of Mechanical Engineering

Dr. Rajeev Kumar Gupta, Assistant Professor, Mechanical Engineering Department published his 2nd book entitled "Structural Analysis Using Abaqus Software with Numerical Validation" collaboration with DSATM Bengaluru and Rajiv Gandhi Government Polytechnic College, Itanagar has been published. This book provides fundamental structural analysis concepts through seven core problems in Mechanics of Materials with detailed simulations using Abaqus and analytical validation.



Dr. Manish Kumar Mishra
Assistant Professor, Department of Mechanical Engineering

D The paper titled “Exploring Fractional Calculus Operators in Context with Extended Hypergeometric and Confluent Hypergeometric Function”(1-02-2026 Published) by Ankita Chandola and Manish Kumar Mishra, published in the TWMS Journal of Applied and Engineering Mathematics (Vol. 16, Issue 2, 2026, pp. 214–235), investigates generalized fractional calculus operators and their applications to extended hypergeometric and confluent hypergeometric functions. The study develops new integral representations, image formulas, and operational properties that connect fractional operators with special functions. The results contribute to analytical solutions of differential and integral equations arising in applied mathematics, physics, and engineering, offering broader computational flexibility and theoretical advancement in fractional modeling frameworks.

EXPLORING FRACTIONAL CALCULUS OPERATORS IN CONTEXT WITH EXTENDED HYPERGEOMETRIC AND CONFLUENT HYPERGEOMETRIC FUNCTION: IMAGE FORMULAS AND APPLICATIONS

A. CHANDOLA[1], M. KUMAR MISHRA[2*], §

ABSTRACT. Fractional calculus in mathematics has various applications in engineering and science, inequality theory and is also used in solving various integral equations. In the past few years, fractional calculus operators that contains different special functions have been discussed by many researchers. In our paper, our objective is to discuss image formulas for different fractional integral and differential operators using the extended hypergeometric and extended confluent hypergeometric function involving Appell series and Lauricella function. Fractional calculus operators that has Appell function in the kernel and Saigo fractional operator are used in this paper. The results investigated in this manuscript are general, novel and are used to discuss various special cases and more fascinating results involving other special functions and fractional calculus operators. We have also discussed the application and future scope along with a brief comparison with the existing literature.

Keywords: Image formula, Extended hypergeometric function, Extended confluent hypergeometric function, Fractional calculus, Saigo fractional operator.

AMS Subject Classification: 26A33, 33B15, 33C05, 33C15, 33C99

1. INTRODUCTION

Fractional Calculus in mathematics involves the investigation of derivatives and integrals of any arbitrary order, real or complex. The subject has gained a lot of admiration and acceptance in last few decades because of its different applications in the areas of science and engineering like visco-elasticity, optics, oscillation, diffusion, electrochemistry, wave propagation and various others. (see, e.g., [1, 2, 6, 7, 4, 3, 5]). It was around eighteenth century when several mathematicians, namely Fourier, Abel, Liouville, and Riemann were

[1] School of Computer Science and Engineering, R V University, RV Vidyanikethan Post, 8th Mile, Mysore Road, Mailasandra, Bengaluru, 560059, Karnataka, India.
e-mail: achandola95@gmail.com; https://orcid.org/0000-0002-0768-4332.
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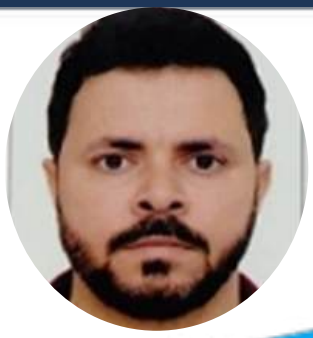
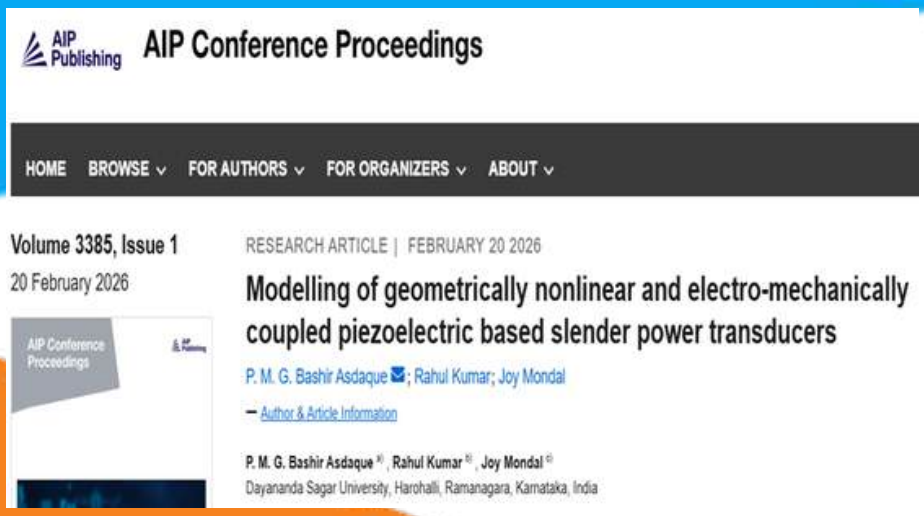
* Corresponding author.
§ Manuscript received: December 30, 2024; accepted: April 28, 2025.



Dr. P M G Bashir Asdaque
Assistant Professor, Department of Mechanical Engineering

1) Dr. P M G Bashir Asdaque, Assistant Professor in the Department of Mechanical Engineering, has published a research article on a slender power-transducer in the AIP Conference Proceedings (SCOPUS-indexed). The paper was communicated through the conference MEICON-1.0 organized by O P Jindal University. Coauthors are Dr. Rahul Kumar and Dr. Joy Mondal of the Mechanical Engineering Department.

2) Dr. P M G Bashir Asdaque, Assistant Professor in the Department of Mechanical Engineering has attended the 5-day FDP on “Application of AI/ML in Mechanical Engineering” from Feb-02-06, 2026 organized by reputed central government institute IIEST, Kolkata.



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Volume 3385, Issue 1
20 February 2026

RESEARCH ARTICLE | FEBRUARY 20 2026

Modelling of geometrically nonlinear and electro-mechanically coupled piezoelectric based slender power transducers

P. M. G. Bashir Asdaque; Rahul Kumar; Joy Mondal

Author & Article Information

P. M. G. Bashir Asdaque, Rahul Kumar, Joy Mondal
Dayananda Sagar University, Harohalli, Ramanagara, Karnataka, India

ভারতীয় প্রকৌশল বিজ্ঞান এবং প্রযুক্তিবিদ্যা প্রতিষ্ঠান, শিবপুর
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INDIAN INSTITUTE OF ENGINEERING SCIENCE AND TECHNOLOGY, SHIBPUR
Erstwhile B E College (Estd 1856)

Certificate of Participation

This is to certify that **P M G Bashir Asdaque,** from **Dayananda Sagar University Bangalore** has attended the Five-Day Online Faculty Development Program on “**Application of AI/ML in Mechanical Engineering**” from February 02 - 06, 2026, organised by the Department of Mechanical Engieeirng, Indian Institue of Engineering Science and Technology Shibpur, Howrah, West Bengal, India-711103.

Prof. Subhas Chandra Mondal
Coordinator

Dr. Mukesh Kumar
Coordinator

Dr. Kush Kumar Dewangan
Coordinator

Dr. Ravitej Y P
Assistant Professor, Department of Mechanical Engineering

Dr. Ravitej Y P, Mechanical Engineering Department, Dayananda Sagar University provided outstanding peer-review contributions to Physical Science International Journal during the 2025–2026 academic year. It acknowledges dedication to maintaining research quality, supporting scholarly publication standards, and advancing physical science research through rigorous and responsible reviewing.

Certificate No: PRPSIJ152523RAV
Academic Year: 2025-2026
Month: February - 2026

Physical Science International Journal

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Dr. M. B. Mondal
Chief Managing Editor

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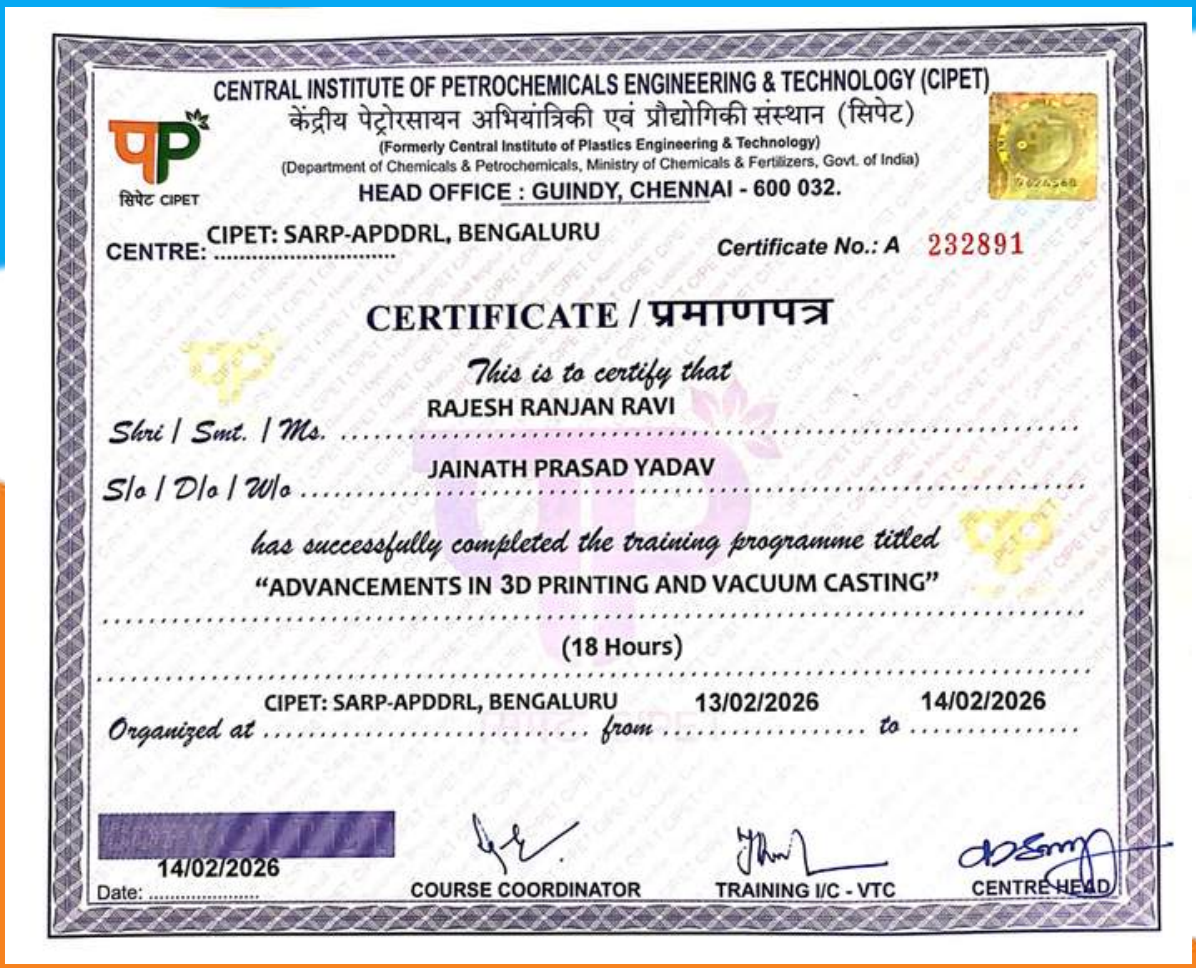
UK: Third Floor, 207 Regent Street, London, W1B 3HH, UK. Fax: +44 20-3031-1429

Dr. Rajesh Ranjan Ravi
Assistant Professor, Department of Mechanical Engineering

Dr. Rajesh Ranjan Ravi, Assistant professor, Mechanical Engineering Department successfully participated in the FDP focused on advanced concepts and industrial practices in Additive Manufacturing (AM) and rapid tooling. It comprehensively covered the 3D printing workflow, including CAD model preparation, slicing, machine setup, parameter selection, and optimization of part orientation, layer height, and infill density (13.02.2026 – 14.02.2026 at CIPET: SARP - APDDRL, Bengaluru).



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S/o / D/o / W/o JAINATH PRASAD YADAV
has successfully completed the training programme titled
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Date: 14/02/2026
COURSE COORDINATOR
TRAINING I/C - VTC
CENTRE HEAD




Dr. Bashir Asdaque, Dr.Rahul Kumar, Dr. Rajeev Kumar Gupta and Dr. Joy Mondal
Assistant Professors, Department of Mechanical Engineering

Dr. PMG Bashir Asdaque, Dr. Rahul Kumar, Dr. Rajeev Kumar Gupta and Dr. Joy Mondal, Assistant Professor, Mechanical Engineering Department published a patent entitled “Modular Pedal-Powered Agricultural Multi-Tool System with Torque Amplification and Quick-Swap Interfaces”.

21/02/2026, 19:00 Intellectual Property India

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

(http://ipindia.nic.in/index.htm)

INTELLECTUAL PROPERTY INDIA (http://ipindia.nic.in/index.htm)

Application Details	
APPLICATION NUMBER	202641013387
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	07/02/2026
APPLICANT NAME	1 . Dayananda Sagar University 2 . Dayananda Sagar Academy of Technology and Management 3 . Dr. Abhinav 4 . P. M. G. Bashir Asdaque 5 . Rahul Kumar 6 . Rajeev Kumar Gupta 7 . Joy Mondal
TITLE OF INVENTION	Modular Pedal-Powered Agricultural Multi-Tool System with Torque Amplification and Quick-Swap Interfaces
FIELD OF INVENTION	MECHANICAL ENGINEERING
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ADDITIONAL-EMAIL (As Per Record)	abhinavtechno5@gmail.com

https://prsearch.ipindia.gov.in/PatentSearch/PatentSearch/ViewApplicationStatus

Dr. Vinay M. S
Assistant Professor, Department of Mechanical Engineering

Dr. Vinay M. S., Assistant Professor, Mechanical Engineering Department, Dayananda Sagar University participated in the six-day Faculty Development Program on additive manufacturing at Manipal Institute of Technology, under Manipal Academy of Higher Education, in association with National Centre for Additive Manufacturing, focusing on fundamentals, advancements, and future opportunities in additive manufacturing technologies.

MANIPAL INSTITUTE OF TECHNOLOGY
(A constituent unit of MAHE, Manipal)

CERTIFICATE OF PARTICIPATION

This is to certify Mr./Mrs/Dr **Vinay M S** of **School of Engineering, Dayananda Sagar University** has successfully attended the six Days Offline Additive Technology Enhancement Program (ATEP-II) - Faculty development program on "**Exploring the Frontiers of Additive Manufacturing: From Fundamentals to Future Opportunities**" organized by School of Mechanical Engineering, Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal in association with National Centre for Additive Manufacturing (NCAM), Hyderabad during 9th to 14th February 2026.

Dr. Shivashankarayya Hiremath Coordinator	Dr. Vishwanatha H. M. Co-Coordinator	Jaspreet Sidhu CEO, NCAM	Cdr. (Dr) Anil Rana Director, MIT, Manipal

SCHOOL OF
ENGINEERING

STUDENT ACHIEVEMENTS

Prof. Tanaya Bala Behera, Assistant professor, Dr. Tanvir Habib Sardar, Associate Professor, Ms. Smriti Singh(ENG21CS0404), Ms. Sunaina Manjunath(ENG21CS0425), and Mr. Syed Safwan Ghouri (ENG21CS0438), 2025 graduated batch of students, Department of CSE published a paper in IEEE with the title “Guardian: An Intelligent Women’s Safety App” during 28th January 2026. This was presented in the 2025 IEEE International Conference on Intelligent Signal Processing and Effective Communication Technologies (INSPECT).

Guardian: An Intelligent Women's Safety App

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2025 IEEE International Conference on Intelligent Signal Processing and Effective Communication Technologies (INSPECT) | 979-8-3315-5349-4/25/$31.00 ©2025 IEEE | DOI: 10.1109/INSPECT63743.2025.11150842

***Abstract*—This paper presents Guardian, an intelligent women's safety app that is a progressive web application designed to enhance the safety and security of women, particularly in urban environments. The proposed web app integrates real time location tracking for immediate location sharing during emergencies, emergency sms feature for sending instant alerts to trusted contacts with the user's real-time location, community alerts to quickly notify nearby users or authorities during emergencies, safe zone reporting to identify safe areas and also report unsafe region, and AI based safety assistance for safety tips and situational awareness. The primary objective is to provide a reliable platform that supports women during unsafe situations and helps reduce emergency response times. This paper discusses the app's architecture, features, and methodologies employed in its development.**

***Keywords*—Women Safety, progressive web application, real-time location tracking, emergency alerts, community alert, safe zone report, AI assistance.**

I. Introduction

In today's fast-paced world, where technology is evolving rapidly [1-6] and urban life brings its own set of unpredictable challenges, ensuring personal safety, especially for women, has become more important than ever. The data is now changing to Big Data, and traditional techniques are being modified using the latest techniques [7-12]. While there's no shortage of safety apps promising help during emergencies, many often fail when it matters the most. Picture this: a woman walking through an unfamiliar neighbourhood late at night tries to open a safety app, only to face delays, GPS inaccuracies, or poor network connectivity. Features like real-time tracking, quick location sharing, or even a simple alert message can break down in the emergency hours.

This work provides a novel mobile-based safety application to address the above need to make a contribution to the existing research gaps. This application first registers the mobile contacts into its database. This helps in sending future alert messages via SMS. The location in real-time is also shared with the user groups based on a neighbourhood area, when a person is in danger and needs help. The novelty of the mobile application lies in its use of artificial intelligence in generating an alert when a content change happens.

The users can specify their safe zone in their neighbourhood using the mobile application. This promotes the feeling of a safe community that comes to each other to help when needed, using the mobile application. This way, the application can be considered as a collaborative (which makes a safe community) prevention tool which is built upon the artificial intelligence-based real-time analytical output.

II. Related Work

As the safety of women has become a major concern, developers and researchers have been working on various mobile applications and intelligent systems that can be depended upon in case of an emergency. The majority of these initiatives rely on mobile technology to provide a quick, geo-location assistance in situations where one is at risk.

An example is Bhadre et al. [13], who created Raksha, an application that has a real-time location tracking and an easy-to-use SOS feature. The app is geared towards a plain and simple interface so that it can be used by users to take immediate action in regards to an emergency. According to Sarma et al. [14], an Android app was developed which sends distress signals and the position of the user to the relevant emergency contacts. Interestingly, this work provides a panic button that activates easily. If a user is in danger or in psychological fear, it can help her or him to use that panic button. A similar work is carried out by Kolte et al. [15]. Their work has used a voice command along with the Sarma et al. [14] like alarm mechanism. However, this work has more options available in its mobile app than the former, which enhances its capabilities better during emergencies. FRNDY is a personalised platform introduced by Gupta et al. [16] to enable users to pre-set emergency contacts and automate emergency alert messages. They focus primarily on a smooth, responsive user experience with a strong communication structure that does not delay alerts.

Sharma and Sood [17] proposed a broader mobile solution that combines multiple safety services, from real-time notifications to secure data handling, offering users a more complete protection package. Reddy et al. [18] worked on the development of SAKHI, a mobile app with an intuitive UI that enables quick SOS activation. The app's focus on offline usability highlights an important aspect in safety systems, ensuring functionality in low-network environments.

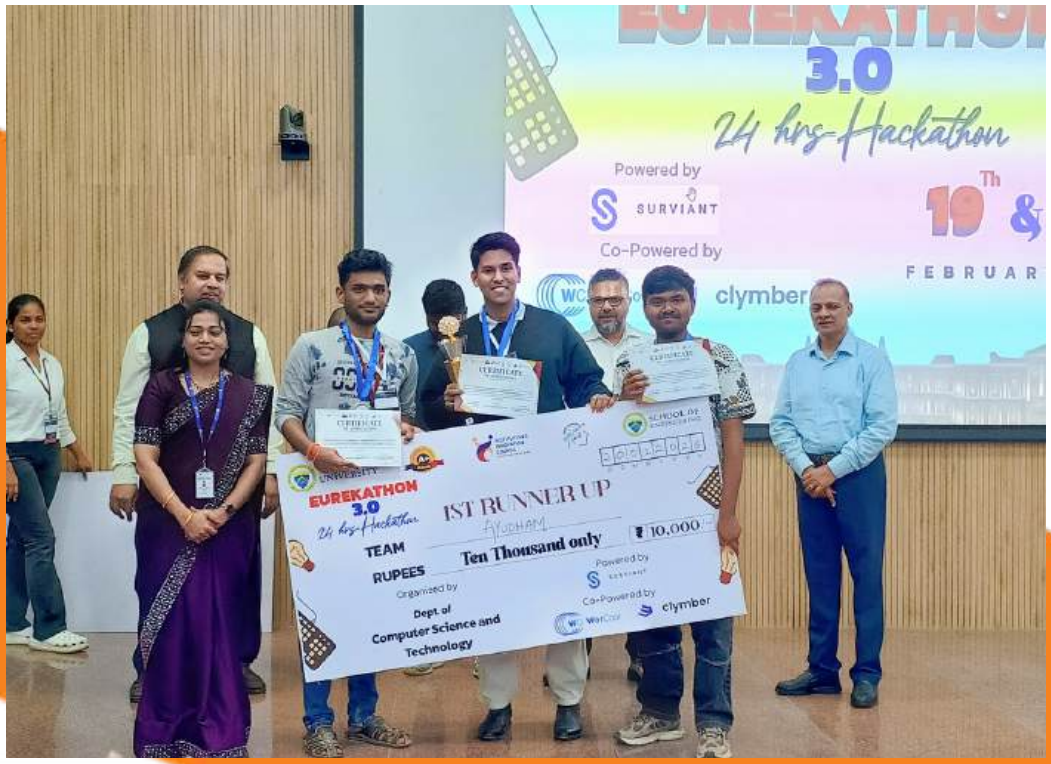
Mr. Pavan Kumar G.R(ENG23CS0131), Mr. Prajwal Jyotiba Shindhe (ENG23CS0137), 3rd year CSE students, DSU as a Team Vada Gopal has secured the 1st RUNNER-UP position with Rs. 5000 in TechSprint – GDGoC 2025 Hacks, an open-innovation hackathon organized by Google Developer Group On Campus, Visvesvaraya Technological University (VTU), Belagavi in collaboration with Google Developer Group, Belgaum and powered by Hack2skill during 31st January, 2026.

Mr. Devesh M (ENG22CS0538), Final year CSE student working as intern has participated and Won internal hackathon at Bajaj General Insurance with 15k Cash prize for the project title “A Generative AI-based solution” during 6th February 2026.

Ms. Aanvi Tomar (ENG24CS0293), Mr. Mohnish N (ENG24CS0529), Mr. Bharath M(ENG24CS0352), Ms. Bhuvana Siri(ENG24CS0359), Mr. Kirthin S(ENG24CS0483), 2nd year CSE students participated and won first place in Humans Care Foundation Mark 1- hackathon held on 12th February with a cash prize of Rs.5000 conducted by Department of CSE(AIML), DSU

Mr. Pushkar Raj Jaiswal (ENG24CS0598), Mr. Prrajwal Kataokkar (ENG24CS0170), Mr. Aditya Yadav (ENG24CS0313), 2nd year CSE student have participated in EUREKATHON 3.0: A 24 Hrs Hackathon has a team AlgoNova for the project title “Alternative Credit Score Engine System” received "Best in FinTech" domain award organized by the Department of Computer Science and Technology, Dayananda Sagar University (DSU) on 19th and 20th February 2026.

Mr. Monjit Borah (ENG24CS0533), Mr. Abhinav Mehta (ENG24CS0302), Mr. Aditya M K(ENG24CS0310) 2nd year CSE students have participated in EUREKATHON 3.0: A 24 Hrs Hackathon has a team Ayudham for the project title “Edu-Able, an inclusive EdTech application designed specifically for students with disabilities (visual, hearing, physical, and cognitive challenges), and secured 1st Runner-Up (2nd Prize) in the hackathon with a cash prize of ₹10,000, organized by the Department of Computer Science and Technology, Dayananda Sagar University (DSU) on 19th and 20th February 2026.



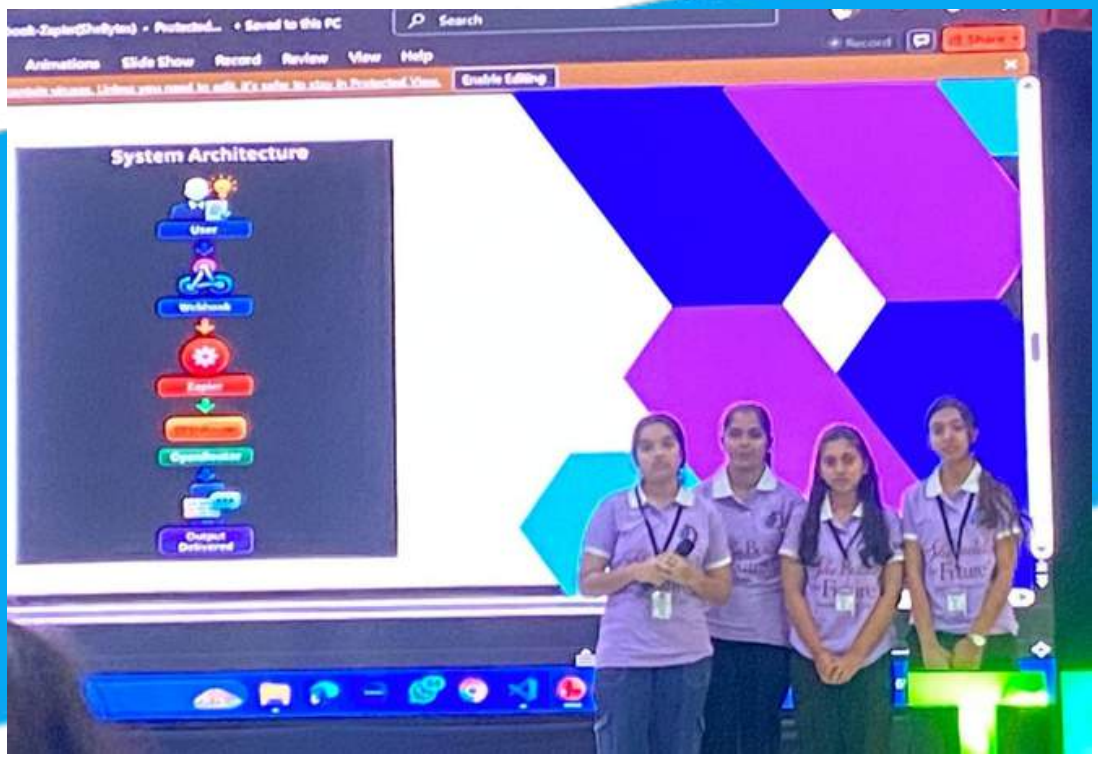
Mr. Keerthan V(ENG22CS0340), Mr.Kandula Krishna Chaitanya Reddy (ENG23CS0572), Mr. Medam Arjun (ENG23CS0596) and Ms. Tiriveedhi Chandra Lekha (ENG23CS0484), 3rd year CSE students, DSU as a Team GRIFFYNS under the mentorship of Prof. Pooja Shree H R, Assistant Professor, Department of CSE successfully participated in the 36-hour CODESANGRAM Hackathon and Awarded for SDG Innovation, along with a cash prize of ₹10,000, organized by the Alliance School of Advanced Computing, held from 19th to 21st February 2026.

Mr. Soham R Hiremath(ENG24CS0670), Mr. P Sanjay Dheol(ENG24CS0562), Mr. Navnith Krishna G (ENG24CS0546) 2nd year CSE students participated and Won Cash prize of Rs.1500 in the AI/ML track at EUREKATHON 3.0 24-Hour Hackathon organized by Department of Computer Science and Technology held on 19–20 February 2026 at DSU–SOE, Harohalli.

1) Mr. Soham R Hiremath(ENG24CS670), Ms. Snehalini Dutta (ENG24CS0669), Ms. Shubhangi Jha (ENG24CS0662) 2nd year CSE students participated and won 3rd place in Humans Care Foundation Mark 1- hackathon held on 12th February conducted by Department of CSE(AIML), DSU–SOE, Harohalli

2) 1.Mr. Soham R Hiremath(ENG24CS670), Ms. Snehalini Dutta (ENG24CS0669), Ms. Shristi Das (ENG24CS0660), 2nd year CSE students participated and won first place with prize money of Rs. 2000 at the Club Activity- “The Canvas and Console: A New Chapter for Aurum – The Legion” during 17th February 2026 organised by FSD club, department of CSE DSU–SOE, Harohalli.

Ms. Pallavi U (ENG24CS0156), Ms. Priyanka K S (ENG24CS0168), Ms. Purvi Srinivasa (ENG24CS0171) and Ms. Prajna P Naik(ENG24CS0160), 2nd year CSE students has participated and secured a position among the Top 10 Finalists for the project developed in the domain of Generative AI (GenAI), in the 24-hour National Level Women-Centric Hackathon named TechDivathon 2.0 conducted at Panimalar Engineering College, Chennai.

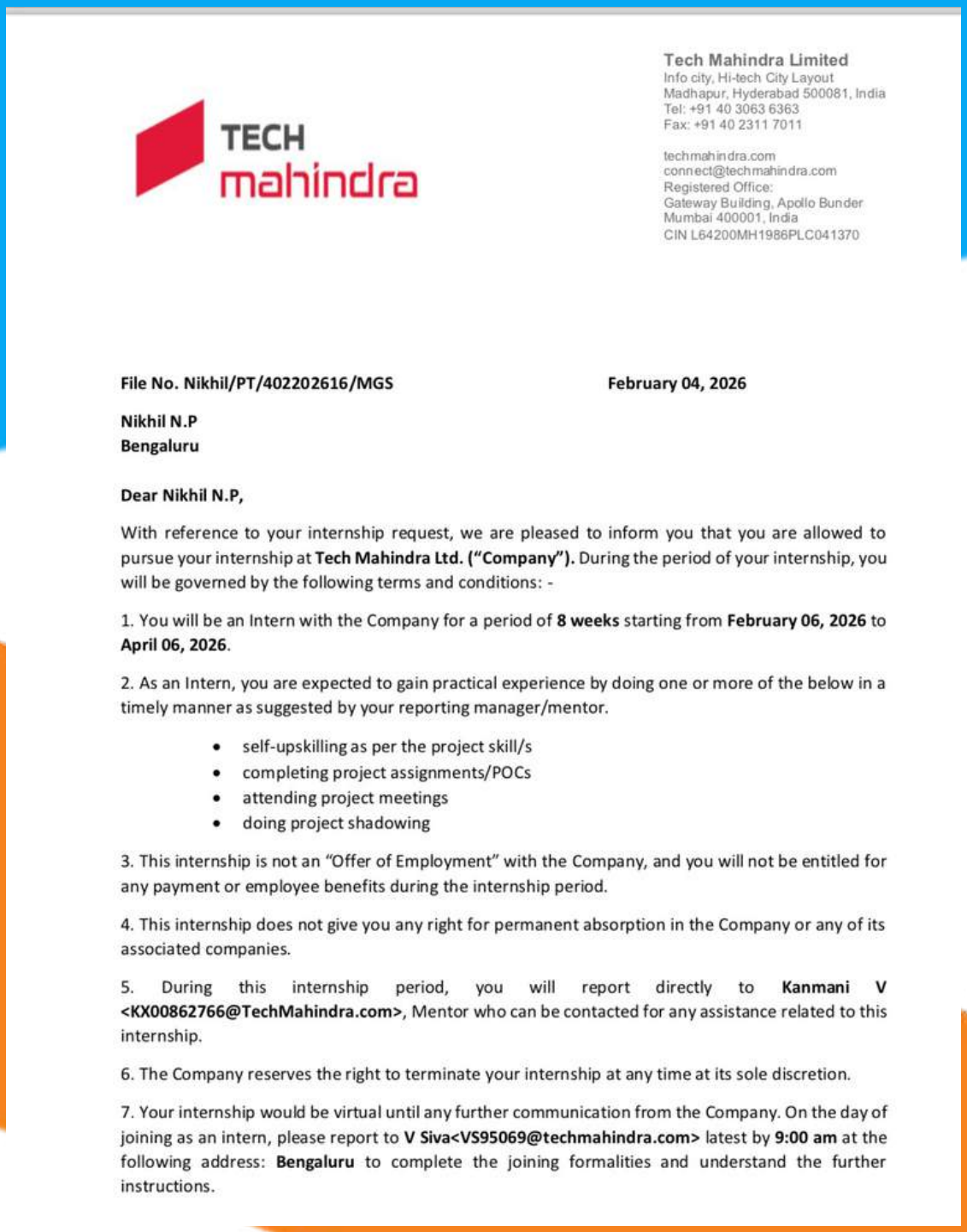


Ms. Aanvi Tomar (ENG24CS0293), Mr. Mohnish N (ENG24CS0529), Mr. Bharath M(ENG24CS0352), 2nd year CSE students participated and won 2nd place in at the Club Activity- “The Canvas and Console: A New Chapter for Aurum – The Legion” during 17th February 2026 organised by FSD club, department of CSE DSU–SOE, Harohalli

Internship at Tech Mahindra

Mr. Nikil N. P. (ENG22AS0011), Mr. Visweshraj M. (ENG22AS0020), and Mr. Barat P. (ENG22AS0025) from the Department of Aerospace Engineering have been selected for an internship at Tech Mahindra in the domain of AR/VR Engineering.

This achievement reflects their strong technical foundation and growing expertise in immersive technologies, further strengthening the department's industry engagement and interdisciplinary exposure.



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File No. Nikhil/PT/402202616/MGS **February 04, 2026**

Nikhil N.P
Bengaluru

Dear Nikhil N.P,

With reference to your internship request, we are pleased to inform you that you are allowed to pursue your internship at **Tech Mahindra Ltd. ("Company").** During the period of your internship, you will be governed by the following terms and conditions: -

1. You will be an Intern with the Company for a period of **8 weeks** starting from **February 06, 2026** to **April 06, 2026**.

2. As an Intern, you are expected to gain practical experience by doing one or more of the below in a timely manner as suggested by your reporting manager/mentor.

- self-upskilling as per the project skill/s
- completing project assignments/POCs
- attending project meetings
- doing project shadowing

3. This internship is not an "Offer of Employment" with the Company, and you will not be entitled for any payment or employee benefits during the internship period.

4. This internship does not give you any right for permanent absorption in the Company or any of its associated companies.

5. During this internship period, you will report directly to **Kanmani V <KX00862766@TechMahindra.com>**, Mentor who can be contacted for any assistance related to this internship.

6. The Company reserves the right to terminate your internship at any time at its sole discretion.

7. Your internship would be virtual until any further communication from the Company. On the day of joining as an intern, please report to **V Siva<VS95069@techmahindra.com>** latest by **9:00 am** at the following address: **Bengaluru** to complete the joining formalities and understand the further instructions.

EUREKATHON 3.0

Sidharth V (ENG24RA0061) and Anirudhha Veeranagaiah M (ENG24RA0026), students of the Department of AI & Robotics, proudly secured the prize, highlighting the department's growing excellence in interdisciplinary innovation, problem-solving, and real-world technology development.

EUREKATHON 3.0, a 24-hour hackathon organized by the Department of Computer Science and Technology at Dayananda Sagar University, was successfully held in Bengaluru, bringing together enthusiastic student innovators to develop impactful technology solutions under intense time constraints. The event concluded with an exciting prize distribution ceremony where the grand-winning team was honored for their outstanding innovation and teamwork. Among the winners,

Sidharth V, Anirudhha Veeranagaiah M, student of AI&R with team and prize

2. Ajinkya Patil, ENG24RA0001, 6th semester student of the Department of AI & Robotics, has received internship offer to undertake a six-month hybrid Robotics Internship at Swapp Design Private Limited starting from 10 February 2026, where he will work on ROS-based robotic software development, testing, debugging, and collaborative projects under industry mentorship. Internship offering a stipend of ₹10,000 per month after the initial three months and emphasizing professionalism, confidentiality, and continuous feedback throughout the engagement.

3. Shubhkarman Singh, ENG23RA0065, a 6th semester student of the Department of AI & Robotics, has received an internship offer to undertake a six-month hybrid Robotics Internship at Swapp Design Private Limited starting from 10 February 2026, where he will work on ROS-based robotic software development, testing, debugging, and collaborative projects under industry mentorship. The internship offers a stipend of ₹10,000 per month after the initial three months and emphasizes professionalism, confidentiality, teamwork, and continuous feedback throughout the engagement.

4. Harsha Aradhya U, ENG23RA0006, a 6th semester student of the Department of AI & Robotics, has requested permission to undertake a six-month Robotics Internship at Simpel Techlabs Private Limited starting from 23 February 2026, where the internship will be conducted in on-site mode and will provide industry exposure in robotics, including software development and system-level learning aligned with the academic curriculum, while assuring continued commitment to coursework, assignments, and evaluations during the internship period.

5. Manoja SP, ENG23RA0070, a 6th semester student of the Department of AI & Robotics, has requested permission to undertake a six-month Robotics Internship at Simpel Techlabs Private Limited starting from 23 February 2026, where the internship will be conducted in on-site mode and will provide industry exposure in robotics, including software development and system-level learning aligned with the academic curriculum, while assuring continued commitment to coursework, assignments, and evaluations during the internship period.

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File No. Barath/PT/402202617/MGS **February 04, 2026**

Barath P
Bengaluru

Dear Barath P,

With reference to your internship request, we are pleased to inform you that you are allowed to pursue your internship at **Tech Mahindra Ltd. ("Company").** During the period of your internship, you will be governed by the following terms and conditions: -

1. You will be an Intern with the Company for a period of **8 weeks** starting from **February 06, 2026** to **April 06, 2026**.

2. As an Intern, you are expected to gain practical experience by doing one or more of the below in a timely manner as suggested by your reporting manager/mentor.

- self-upskilling as per the project skill/s
- completing project assignments/POCs
- attending project meetings
- doing project shadowing

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5. During this internship period, you will report directly to **Kanmani V <KX00862766@TechMahindra.com>**, Mentor who can be contacted for any assistance related to this internship.

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7. Your internship would be virtual until any further communication from the Company. On the day of joining as an intern, please report to **V Siva<VS95069@techmahindra.com>** latest by **9:00 am** at the following address: **Bengaluru** to complete the joining formalities and understand the further instructions.

A paper titled “PCB Defect Detection by Using Deep Learning Algorithm” was presented at the 2025 IEEE North Karnataka Subsection Flagship International Conference (NKCon) by Walter Wellington C (ENG21EC0007), Ankit Shivakumar Hosamani (ENG21EC0024), Chirag D Acharya (ENG21EC0029), and Dhanush K N (ENG21EC0146), students of the Department of ECE, Dayananda Sagar University, under the guidance of Ms. Rashmitha Sahoo, Assistant Professor, ECE.

The team proposed a deep learning–based fusion model combining YOLOv8 and DenseNet for accurate PCB defect detection. The model achieved an impressive 96.5% accuracy, outperforming individual models.

This achievement highlights the department’s strong focus on research, innovation, and practical applications of AI in electronics manufacturing.

2025 IEEE North Karnataka Subsection Flagship International Conference (NKCon)

PCB DEFECT DETECTION BY USING DEEP LEARNING ALGORITHM

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2025 IEEE North Karnataka Subsection Flagship International Conference (NKCon) | 979-8-3315-5259-6/25/$31.00 ©2025 IEEE | DOI: 10.1109/NKCon66957.2025.11345734

***Abstract*— Traditional PCB defect detection methods, such as manual inspection and rule-based Automatic Optical Inspection (AOI), are increasingly inadequate due to their sensitivity to lighting conditions, alignment issues, and limited scalability. The traditional inspection methods are replaced by various deep learning model (YOLO8 and DenseNet). To improve the accuracy, this study utilizes novel fusion model of YOLO8 (You Only Look Once) object detection algorithm in conjunction with Convolutional Neural Networks (CNNs) to identify various PCB defects, including missing holes, mouse bites, open circuits, short circuits, spurs, and spurious copper. A custom dataset was created using KiCAD-generated PCB designs and augmented through flipping, rotation, and tensor-based techniques to enhance model generalization. The model is noble fusion model accuracy is compared with the accuracy of YOLO8 and DenseNet models. The simulation results demonstrate that the accuracy is 96.5%, 91.3% and 86.1% for novel fusion model, YOLO8 and DenseNet respectively. The accuracy of the fusion model (YOLO8+DenseNet) is improved compare to existing models. The proposed model offers a robust, efficient, and scalable solution that reduces the limitations of the exiting models and enhances overall manufacturing reliability.**

Keywords*— *PCB Defect Detection, Deep Learning, YOLO, Convolutional Neural Network (CNN), Automated Optical Inspection (AOI)

I. Introduction

Printed Circuit Boards (PCBs) are fundamental components in almost all electronic devices, acting as the backbone for electrical connectivity among various components such as resistors, capacitors, microcontrollers, and integrated circuits. The increasing complexity and miniaturization of PCBs in industries such as consumer electronics, automotive, aerospace, and medical devices have significantly elevated the need for precise and reliable defect detection during the manufacturing process. Even minor defects such as open circuits, short circuits, missing holes, mouse bites, spurs, or spurious copper can lead to complete functional failure of the final product. Traditionally, PCB defect detection relies on manual inspection or rule-based Automated Optical Inspection (AOI) systems [1]. However, these approaches are limited in accuracy, scalability, and adaptability to varying production environments. Manual inspection is prone to human error and fatigue, while conventional AOI systems struggle under inconsistent lighting, misalignments, and variations in PCB layouts [2]. To overcome the limitation associated with manual and automated optical inspection methods, several studies use machine learning techniques to detect fault in the printed PCB board [3]. Though there are several deep learning-based PCB board fault detection methods, CNN and YOLO provide better results in PCB board fault detection [4]. Till date, no work is devoted to analyze the performance of the PCB board fault detection using the both the CNN and YOLO object detection algorithm. Unlike prior works, this study combines YOLOv8 and DenseNet into a fusion model for higher defect detection accuracy across multiple defect types. This paper proposes a deep learning-based detection system leveraging state-of-the-art Convolutional Neural Networks (CNNs) and the YOLO (You Only Look Once) object detection algorithm. These models are capable of learning intricate patterns from large datasets, allowing for robust, real-time identification of diverse defect types in PCB images. A custom dataset was generated using KiCAD and enhanced through data augmentation techniques such as flipping, rotation, and image transformations to ensure model generalization across different defect scenarios.

This work aims to deliver a scalable and highly accurate defect detection system that minimizes reliance on human expertise, reduces production downtime, and enhances quality assurance in modern PCB manufacturing.

II. Literature Survey

Now-a-days the PCB board fault detection using machine is off high demand due to several benefits such as minimum inspection time, improve accuracy and reliable product with high standard and efficiency. There are several studies which uses different deep learning algorithms and shown the better performance of PCB board fault detection [6]. A comprehensive study by Xing Chen et al. provides a detailed analysis of deep learning-based PCB defect detection techniques, emphasizing the need for robust datasets and well-defined evaluation metrics. The authors review commonly used datasets and algorithms, highlighting challenges in real-world implementations and offering direction for future research in algorithmic enhancement and improved detection accuracy in complex manufacturing environments [7]. Wenbin Chen et al. proposed a defect detection model based on the fusion of multi-scale features and an Efficient Channel Attention Mechanism (ECA-Net). Their model, MSF-ECANet, enhances the weighting of foreground and background channels, resulting in improved object localization and classification performance. The method significantly outperforms traditional detection models in both accuracy and speed, making it well-suited for

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Computer Science and Technology Students have registered their Startup in the guidance of Prof.Santosh Kumar J.

A diverse set of innovative startups has emerged from budding entrepreneurs, each carving a niche in different industries:

FreshNest Homemade Foods Pvt. Ltd. is a micro enterprise registered under UDYAM (UDYAM-KR-03-0659933) operating in the food and beverage service sector. Located in Kaggadasapura, C. V. Raman Nagar, Bengaluru (Urban), Karnataka, the company commenced operations on 01/01/2026 and was officially registered on 14/02/2026. The business falls under NIC Code 56291, specializing in food service contracting, including transport catering. The enterprise is registered under the OBC social category and can be contacted at pavani5405@gmail.com or 8618865405.

Skan Prints (UDYAM-KR-29-0045914) is a micro enterprise operating in the office support and printing services sector. Located in Harohalli on Kanakapura Main Road, Ramanagara, Karnataka, the business was incorporated on 14/02/2026 and commenced operations on 15/02/2026, with official registration completed on 16/02/2026. It functions under NIC Code 82191, specializing in photocopying, duplicating, and blueprinting services. The enterprise is registered under the OBC social category and can be contacted at brahmapruthvi79@gmail.com or 7411826469.

ARC Drive (UDYAM-KR-24-0071209) is a micro enterprise partnership based in Sidlipura, Bhadravathi, Shivamogga, Karnataka. Established and commenced on 15/02/2026, and registered on 16/02/2026, the firm operates in both services and manufacturing sectors, offering IT consultancy and computer services (NIC 62099) and manufacturing storage devices (NIC 26202). The business is owned by Rajath S D (PAN: KKZPD3006G) and maintains an account with Canara Bank (A/C 110248552660, IFSC CNRB0004027). Registered under the OBC social category, the enterprise employs three male staff members and can be contacted at rajathsd7@gmail.com or 9972413834.

Computer Science and Technology Students have registered their Startup in the guidance of Prof.Santosh Kumar J.

A diverse set of innovative startups has emerged from budding entrepreneurs, each carving a niche in different industries:

The Lavender Coast (UDYAM-KR-03-0660223) is a micro enterprise engaged in the manufacturing of knitted and crocheted apparel, including hosiery (NIC 14309). Based in BTM 4th Block, Bengaluru (Urban), Karnataka, the business was incorporated and commenced operations on 14/02/2026, with official registration completed on 15/02/2026. The enterprise produces units under the names Coast Keychain, Coast Pouch, and Coast Customise. Registered under the OBC social category, it can be contacted at varshana849@gmail.com or 9731603039.

EMBRACE Private Limited Company (UDYAM-KR-21-0059742) is a micro enterprise engaged in the manufacturing of textile garments and clothing accessories, classified under NIC Code 245 – manufacturing of other articles n.e.c. Located in Maddur, Mandya, Karnataka, the company was incorporated and commenced operations on 01/01/2026 and was officially registered on 16/02/2026. Registered under the OBC social category, the company can be contacted at anjugowda84@gmail.com or 9148482018.

Pavitra Innovations (UDYAM-KR-03-0660783) is a micro enterprise based at DSU, Harohalli, Karnataka. Incorporated and commenced on 15/02/2026 and officially registered on 16/02/2026, the enterprise operates in the manufacturing sector. It is classified under NIC Code 28195 – manufacturing of filtering and purifying machinery or apparatus for liquids and gases. Registered under the General social category, the business can be contacted at mdaraf26@gmail.com or 6362558809.

Computer Science and Technology Students have registered their Startup in the guidance of Prof.Santosh Kumar J.

A diverse set of innovative startups has emerged from budding entrepreneurs, each carving a niche in different industries:

Custom Florenza – Pragathi A B (UDYAM-KR-24-0071211) is a micro enterprise engaged in the manufacturing of textile garments and clothing accessories. Located on Hosuru Road, Shivamogga, Karnataka, the business was incorporated and commenced operations on 15/02/2026 and was officially registered on 16/02/2026. It operates under NIC Code 14101, which covers the manufacture of all types of textile garments. Registered under the General social category, the enterprise can be contacted at abpragathi46@gmail.com or 8050604967.

SharmasJewelNest (UDYAM-KR-03-0660201) is a micro enterprise engaged in trading activities, specifically retail sales in non-specialized stores under NIC Code 47190. Located in Platinum City, Peenya, Bengaluru (Urban), Karnataka, the business was incorporated on 01/12/2025 and officially registered on 14/02/2026. The enterprise can be contacted at sharmasjewelnest@gmail.com or 7795373862.

Eurakathon 3.0: 2nd Runner Up

Mr. Sanjay Krishna, Ms. Nitya Patel and Mohmad Araf got 2nd Runnerup place in the 24 Hour Hackathon conducted by the department of CS&T in the University on 19th and 20th February 2026

Received Certificate of Appreciation

Ms. S. Rachitha, Mr. Anmol Rupak, Ms. R.Sonali, Mr. M. Siddharth, and Ms.Vemula Yashaswini of 6th semester CST has participated in AI-Integrated Content Creation workshop conducted by E-Summit'26, E-Cell IIT Madras on 6th Feb 2026.

Received Certificate of Appreciation

Ms. S. Rachitha, Mr. Anmol Rupak, Ms. R.Sonali, Mr. M. Siddharth, and Ms.Vemula Yashaswini of 6th semester CST has participated in Decoding Future Start up market trends workshop conducted by E-Summit'26, E-Cell IIT Madras on 7th Feb 2026.

Received Certificate of Completion

Ms. Abhavya Anekverna, and Ms. Keshna Bansal of 6th semester CST has completed Service Now Certified System Administrator Certification on 20th Feb 2026

Received Internship offer

Ms. Keshna Bansal, of 6th semester CST has got an offer letter from SWAPP DESIGN Company as Cloud Infrastructure Intern on 11th February 2026 for 6 months paid internship

Zoho Sign Document ID: DF9AF72CA-VTE3WYWVM1V21865SPZL2FRD3AHMPRJOZYHJDXPMENK

swapp design

Swapp Design Private Limited
Innovation Studio, 10/4, Phase 3, Bommasandra Industrial Area, Bengaluru 560099, Karnataka
https://swapp.design • contact@swapp.design • Phone: +91 9343026109, 9886786343
GSTIN: 29AABCS6576P1Z6 • CIN: U31909KA2022PTC161967

INTERNSHIP OFFER WITH SWAPP DESIGN PRIVATE LIMITED

Name: Keshna Bansal
Phone: +91 98180 34149
Email: keshnabansal29@gmail.com

Dear Keshna Bansal,

We are delighted & excited to welcome you to Swapp Design Private Limited as a Cloud Infrastructure Intern. At Swapp Design, we believe that our team is our biggest strength and we take pride in hiring only the best and the brightest. We are confident that you would play a significant role in the overall success of the venture and wish you the most enjoyable, learning-packed and truly meaningful internship experience with Swapp Design.

Your appointment will be governed by the terms and conditions presented in Annexure A.

We look forward to you joining us. Please do not hesitate to call us for any information you may need. Also, please sign the duplicate of this offer as your acceptance and forward the same to us.

Congratulations!

An internship in the domain of Cyber Security Industrial Applications has been offered to **Kruthika N** by Top Grade Innovation.
The internship was scheduled to commence on February 15, 2026, and will be concluded on April 15, 2026, spanning a total duration of two months.

TOP GRADE
Learn Today Lead Tomorrow

INTERNSHIP OFFER LETTER

18-01-2026
TO WHOM IT MAY CONCERN

This is to confirm that KRUTHIKA N will be undergoing an internship with Topgrade Innovation, commencing on 15-02-2026.

KRUTHIKA N will be pursuing his/her internship in the domain of CYBER SECURITY Industrial Applications. The internship will span a total duration of two months and is scheduled to conclude on 15-04-2026.

We are confident that KRUTHIKA N will make valuable contributions toward achieving the organization's vision during his/her tenure with us.

AWS Training & Certification

Ms. Abhavya Anekverna and Mr. Agrim Sanjeev Kaushal have completed various AWS Training Certifications in the month of February including: AWS Artificial Intelligence Practitioner Learning Plan AWS Cloud Practitioner Essentials, AWS Foundations: Getting Started with the AWS Cloud Essentials, AWS Technical Essentials, Developing Generative Artificial Intelligence Solutions, Developing Machine Learning Solutions, Essentials of Prompt Engineering, Exam Prep Plan Overview: AWS Certified AI Practitioner (AIF-C01 - English), Exploring Artificial Intelligence Use Cases and Applications, Fundamentals of Machine Learning and Artificial Intelligence, Optimizing Foundation Models, Responsible Artificial Intelligence Practices, Security, Compliance, and Governance for AI Solutions

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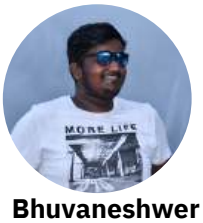

Bhuvaneshwer S
Department of CY, DSU.

SCHOOL OF ENGINEERING

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