DAYANANDA SAGAR UNIVERSITY

ACCREDITED WITH GRADE A+ NAAC

SCHOOL OF ENGINEERING

SOE - "The Weekly Buzz"

The Official Weekly Newsletter of School of Engineering

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

- Design and deliver contemporary engineering curricula to address regional and global needs while emphasizing ethics, values, integrity and regional relevance.

- 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.

- Develop regional and national leaders to advance the society and economy.

Faculty Contributions

Department Of Computer Science and Engineering

Dr. Gokulakrishnan S, Assistant Professor and Dr. Senthil Kumar A, Professor, Department of CSE has successfully presented the paper entitled “An Efficient Elderly Fall Monitoring and Detection System using Machine Learning and Computer Vision” at 6th International Conference on Inventive Research in Computing Applications (ICIRCA 2025) organised by Department of Electrical and Electronics Engineering, RVS College of Engineering and Technology, Coimbatore, India on 25-27, June 2025.


IEEE SMC

Certificate of Presentation

This is to certify that

Senthil Kumar A

has successfully presented the paper entitled

An Efficient Elderly Fall Monitoring and Detection System using Machine Learning and Computer Vision

at

6th International Conference on Inventive Research in Computing Applications (ICIRCA 2025) organised by Department of Electrical and Electronics Engineering, RVS College of Engineering and Technology, Coimbatore, India on 25-27, June 2025.


IEEE SMC

Certificate of Presentation

This is to certify that

Gokulakrishnan S

has successfully presented the paper entitled

An Efficient Elderly Fall Monitoring and Detection System using Machine Learning and Computer Vision

at

6th International Conference on Inventive Research in Computing Applications (ICIRCA 2025) organised by Department of Electrical and Electronics Engineering, RVS College of Engineering and Technology, Coimbatore, India on 25-27, June 2025.

Prof. Naitik ST, Assistant Professor, Department of CSE has successfully defended his Final Ph.D Viva Voice on the research work titled “Enhancing User Authentication Process by Multimodal Biometric System Using Deep Learning Techniques” under the guidance of Dr. J V Gorabal, Professor, Department of CSE, ATME College of Engineering, Mysore, affiliated to Visvesvaraya Technological University, Belagavi, during 25th June 2025.

Department Of CSE(Cyber Security)

Prof. Vinitha V and Prof. Ranjima P, Assistant Professors, CSE (Cyber Security), School of Engineering, Dayananda Sagar University, presented their research papers at the prestigious 2025 Second International Conference on Cognitive Robotics and Intelligent Systems (ICC ROBINS), held on 25–26 June 2025 at KPR Institute of Engineering and Technology, Coimbatore.

Prof. Vinitha V presented her paper titled “Privacy-Preserving and Scalable Secure Aggregation for Federated Learning in Edge Computing”, while Prof. Ranjima P presented on “AI-Powered Intrusion Detection and Privacy Preservation in 6G Networks.” The IEEE-sponsored conference served as a significant platform for showcasing innovative research and fostering collaboration in AI, robotics, and intelligent systems. Their participation highlights the department’s commitment to research excellence and advancing cybersecurity education.

Department Of CSE(AIML)

Prof. Trupthi Rao, Assistant Professor, Department of Computer Science and Engineering (Artificial Intelligence and Machine Learning), has actively contributed to professional development and research in emerging technologies. She successfully completed the Microsoft-approved training under the “Microsoft Learn for Educators” program, which included AI-900: Microsoft Azure AI Fundamentals and AI-102: Designing and Implementing a Microsoft Azure AI Solution, totaling 9.5 hours. Further, she showcased her research work by presenting three papers at the “Annual International Conference on Data Science, Machine Learning, and Blockchain Technology (AICDMB 2025),” organized by Vidyavardhaka College of Engineering, Mysuru, on 27th and 28th June 2025. The papers presented were: “Recommendation of Movies using Fuzzy AHP and TOPSIS,” “Weather Predictions using Fuzzy TOPSIS and Fuzzy AHP,” and “Financial Risk Assessment of an Individual using Fuzzy Logic,” reflecting her expertise in artificial intelligence and decision-making methodologies.

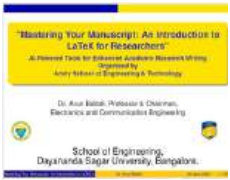

VIDYAVARDHAKA COLLEGE OF ENGINEERING
Department of Computer Science & Engineering
Certificate of Paper Presentation


VIDYAVARDHAKA COLLEGE OF ENGINEERING
Department of Computer Science & Engineering
Certificate of Paper Presentation

Department Of Electronics & Communication Engineering

We are proud to announce that Dr. Navya R, Assistant Professor, Department of Electronics and Communication Engineering, School of Engineering, Dayananda Sagar University, Bengaluru, has been awarded a Reviewer Certificate by Springer Nature for her expert review of three manuscripts in the year 2025 for the reputed Journal of Nanoparticle Research. This recognition reflects her continued commitment to academic excellence and contribution to the global research community.

Dr. Arun Balodi, Professor and Chairman, Department of Electronics and Communication Engineering, School of Engineering, Dayananda Sagar University, Bengaluru, delivered an expert talk on “Mastering Your Manuscript: An Introduction to LaTeX for Researchers” on June 24, 2025. The session was conducted as part of the Faculty Development Program on “AI-Powered Tools for Enhanced Academic Research Writing,” organized by Amity School of Engineering & Technology, Rajasthan. Dr. Balodi offered insightful guidance on utilizing LaTeX for crafting high-quality academic manuscripts and highlighted the integration of AI tools to enhance research writing and scholarly communication.



Dr. Arun Balodi, Professor and Chairman, Department of Electronics and Communication Engineering, School of Engineering, Dayananda Sagar University, Bengaluru, has been invited to serve as the Program Committee Chair for the 2025 International Conference on Computer Vision and Image Computing (CVIC 2025). CVIC 2025 is a renowned international forum dedicated to advancements in computer vision, image analysis, and intelligent computing. This prestigious leadership role highlights Dr. Balodi's contributions to the field and provides a valuable platform for global researchers to exchange ideas and innovations. For more information, visit: https://www.ic-cvic.net.

Department Of Computer Science and Technology

Dr. Santosh Kumar J published a patent on "AI-Powered Multi-Model Deep Learning System for Real-Time Cardiac Arrythmia Detection Using Enhanced ECG Signal Representation and Temporal Content Modelling" (Application Number: 202541058076).

Department Of Humanities

The School of Engineering, Dayananda Sagar University, organized a 5-day Soft Skill Training program for supervisors of Buhler India Pvt. Ltd. from 23rd to 28th June 2025 at the DSU Harohalli campus. The sessions were conducted by Mr. Vijay Kumar, Director – Training & Corporate Relations, along with Dr. Seema Tharannum and Dr. V. Sreemathy. The training covered vital topics such as communication, time management, interpersonal and team skills, ethics, professionalism, and computer applications. The program included interactive sessions, demonstrations, and hands-on activities. Certificates were awarded upon successful completion.

Departmental Activities

Department Of Artificial Intelligence & Robotics

On June 24, 2025, dignitaries from XBOOM-UNITREE visited the Department of Artificial Intelligence & Robotics at SOE- DSU to explore avenues for academic-industry collaboration. XBOOM-UNITREE, a leading Indian tech company specializing in robotics, AI, IoT, and automation, engaged in discussions focused on joint research initiatives, student internships, industry-aligned curriculum development, and potential funding support for student projects. The visit marks a promising step toward establishing a formal partnership aimed at driving innovation, skill development, and practical technology applications. Both sides expressed keen interest in moving forward with structured collaborations in the near future.

Department Of Computer Science and Engineering

The Department of Computer Science and Engineering, School of Engineering, Dayananda Sagar University, organized an expert lecture on “Defending Ransomware Attacks” on 27th June 2025 via Zoom. The session featured Mr. Bhushan Chavan, Director – Technical Architect at MGM Resorts International, USA, and a cybersecurity veteran with over two decades of global experience. Attended by students and faculty, the lecture provided deep insights into the anatomy of ransomware, real-world post-breach case studies, and best practices in IAM, privileged access management, and cloud-based threat modeling. Mr. Chavan shared valuable strategies on securing enterprise systems, automating IAM pipelines, and ensuring audit readiness. The session was coordinated by Dr. Tanvir H Sardar and Prof. Bharath M B and proved to be an enriching experience for all participants.

Department Of CSE (Data Science)

The Department of CSE (Data Science), School of Engineering, Dayananda Sagar University, organized the International Day of Yoga 2025 on 25th June 2025, from 9:30 AM to 10:30 AM, at the university campus, Kanakapura Road, Bengaluru. The event was coordinated under the guidance of Dr. Shaila S G, Professor and Chairperson (DS), with active support from faculty members including Dr. Santhosh Kumar G, Dr. U. Pavan Kumar, Prof. Shivamma D, and Dr. K.S. Bhagyajyothi, Assistant Director of Physical Education, DSU. The program featured a yoga demonstration led by Dr. Bhagyajyothi, following the Common Yoga Protocol issued by the Ministry of AYUSH. Faculty members enthusiastically participated in performing various asanas, pranayama, and meditation techniques. The session was complemented by an awareness talk highlighting the science and philosophy of yoga, followed by the distribution of participation certificates and refreshments. The event successfully emphasized the benefits of yoga for physical, mental, and emotional well-being and inspired participants to incorporate it into their daily routine.

Department Of CSE (AIML)

The Department of Computer Science and Engineering (Artificial Intelligence and Machine Learning), School of Engineering, in collaboration with the School of Computer Applications and the Center for Research and Innovation in AI (CRIA), Dayananda Sagar University, Bengaluru, is organizing an 80-hour Faculty Development Program (FDP) on LLM Engineering. The FDP aims to enhance faculty expertise in the rapidly evolving domain of large language models. The course is mentored by Dr. J B Simha, Chief Mentor at RACE and CTO of ABIBA Systems, who will serve as the primary resource person. The inauguration of the course is scheduled for 27th June 2025 at 2:00 PM, followed by the first session on 28th June 2025 at 9:00 AM in A508 Lab. The sessions will be held every 2nd, 3rd, and 4th Friday of the month from 2:00 PM to 4:30 PM, with an additional session on the 4th Saturday of each month from 9:00 AM to 1:00 PM at the same venue.

Student Activities

Department Of Computer Science and Engineering

Mr. Anirudh R (ENG22CS0526), Mr. Adwaith T N (ENG22CS0520), Mr. Kedar Minesh Thaker (ENG22CS0555), and Mr. Mritunjay Kumar Singh (ENG22CS0373), 6th semester CSE Students has presented a paper entitled “2D Game Engine Design With GPU Optimization”, under the guidance of Dr. Senthil Kumar A, Professor, at 6th International Conference on Inventive Research in Computing Applications (ICIRCA 2025) organised by Department of Electrical and Electronics Engineering, RVS College of Engineering and Technology, Coimbatore, India on 25-27, June 2025.

Mr. Rachit Kumar A(ENG21CS0317), Ms. Saanchitha D (ENG21CS0350) Mr. Savinay Nambiar (ENG21CS0368) and Mr. Srinivas Reddy D (ENG21CS0415) 6th semester students, Department of CSE under the guidance of Dr. Dr Renuka Devi M N, Assistant Professor published an Indian patent with the title “AI-Powered Multi-Modal Deep Learning System for Real-Time Cardiac Arrhythmia Detection Using Enhanced ECG Signal Representation and Temporal Context Modeling.” with the application no 202541058076 and the name of the applicant Dayananda Sagar University during 27th June 2025.

(12) PATENT APPLICATION PUBLICATION

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(57) Abstract :
Abstract: The present invention discloses a real-time cardiac arrhythmia detection system that employs a novel deep learning framework, combining Convolutional Neural Networks (CNNs), Transformer-based attention mechanisms, and a temporal sequence model such as Bi-LSTM or GRU. Unlike conventional approaches that rely solely on raw ECG signals, the proposed method extracts and fuses multimodal representations of ECG, including time-frequency spectrograms, RR interval trends, and beat-to-beat morphology features, for more comprehensive signal understanding. The Trans-former module effectively captures long-range temporal dependencies, while the CNN layer detects local waveform abnormalities. A key innovation lies in the self-attention guided feature extraction module, which dynamically emphasizes critical arrhythmic segments for improved classification. The system is trained on both open-access and clinical ECG datasets and demonstrates robust performance in detecting common arrhythmias such as Atrial Fibrillation (AFib), Premature Ventricular Contractions (PVC), and Ventricular Tachycardia(VT), as well as rare ones, including Supraventricular Tachycardia (SVT) and Premature Atrial Contractions (PAC). Additionally, the invention incorporates a novel signal enhancement pipelining combining Adaptive Median Filtering and an improved Contrast Limited Adaptive Histogram Equilization (CLAHE) technique, which significantly improves signal clarity in noisy acquisition conditions. The system shows higher accuracy and AUC scores compared to traditional CNN or LSTM based classifiers

Faculty and students from the Department of Computer Science and Technology, School of Engineering, Dayananda Sagar University, presented two research papers at the International Conference on Emerging Technologies in Computing and Communication (ETCC) held on June 26th–27th, 2025, at PES University EC Campus, Bangalore. Mr. Lokesh J, Mr. Ahemad Talwar, Mr. Danesh H M, Dr. Nivetha N R P, Prof. Junaid Mundichipparakkal, and Dr. Sudha presented their paper titled “Malware Classification Using Deep Learning”, while Ms. Srushti S, Ms. Pranati Biswal, Ms. Manasvini V, Ms. Sanmathi Y A, Ms. Sanchana S, and Dr. Sudha presented another paper titled “Candidate Categorization Using K-Means Clustering.” Both papers were well-received and recognized with Certificates of Appreciation.

Faculty members Dr. Nivetha N R P, Prof. Junaid, and Dr. Sudha played a key role in guiding and supporting the research work. The department congratulates all authors for their valuable contributions to emerging research in data science and machine learning.

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