DAYANANDA SAGAR UNIVERSITY

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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.

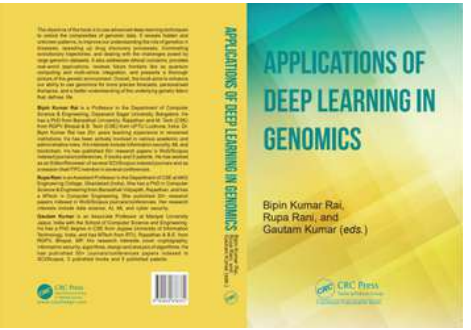
- Carryout high impact academic research, industry projects and innovation activities with active student engagement to advance science and engineering knowledge and state-of-the art industry practices.

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

Faculty Contributions

Department Of Computer Science and Engineering

Dr. Bipin Kumar Rai, Professor, Department of CSE has published an edited Book titled "Applications of Deep Learning in Genomics" by the publisher CRC Press during August 2025 with ISBN No: 9781032878331
Link:https://www.routledge.com/Applications-of-Deep-Learning-in-Genomics/KumarRai-Rani-Kumar/p/book/9781032878331



Dr. Bipin Kumar Rai, Professor, Department of CSE have taken a session on "AI and Blockchain for Healthcare" in an International Invited Talk on "GENERATIVE AI IN BUSINESS: Bridging Sustainability, Health and Education" at Holy Cross College (Autonomous), Tiruchirappalli Hosted by the School of Management Studies, Department of Commerce – Computer Applications during 4th August 2025. During his talk he shared how cutting-edge technologies are transforming patient care, data security, and digital health.

Prof. N. Muthu Bala, Assistant Professor, Department of Computer Science and Engineering published her research paper in the scopus indexed Q2 journal with the title “Hybrid Deep Learning Model Based Lung Cancer Prediction and Classification with OTSU Segmentation Method” in the journal “Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications (JoWUA)”, volume: 16, number: 2, pp. 75-94. DOI: 10.58346/JOWUA.2025.I2.005 during August 2025.


Hybrid Deep Learning Model Based Lung Cancer Prediction and Classification with OTSU Segmentation Method

Abstract

1 Introduction

Prof. Mala B A, Assistant Professor, Department of Computer Science and Engineering has actively participated in the Online Faculty Development Program (FDP) on “Quantum Computing: Foundations, Algorithms and Applications” conducted from August 4th to August 9th, 2025, organized by Guru Nanak Institutions, Hyderabad.

Dr. Rajesh T M, Associate Professor, Prof. Bharath M B and Prof. Pooja Shree H R, Assistant Professors,are successfully participated in the Workshop on "Crafting Research Excellence: Where to Publish, LaTeX & Research Metrics", held from 4th to 6th August 2025, organized by the IEEE Signal Processing Society (SPS) Bangalore Chapter and IEEE Women in Engineering (WIE) Affinity Group, Bangalore Section, as a curtain raiser event for ICWITE 2025.

Dr. Shashikiran Venkatesha, Associate Professor, Department of CSE has successfully presented a paper titled “Voice E-Mailer System with Face Recognition using Machine Learning Techniques” at the 3rd International Conference on Sustainable Computing and Data Communication Systems (ICSCDS-2025) organized by Erode Sengunthar Engineering College, Erode, Tamil Nadu, India on 6-8, August 2025.

Dr. Natarajan Venkateswaran, Professor of Practice, and Dr. Naitik S T, Assistant Professor, Department of CSE, participated in the Faculty Development Program “Entangle 2025: A Hands-on Workshop on Quantum Computing and its Emerging Paradigms” from 6th to 10th August 2025 organized by the Department of Computer Science & Technology, Dayananda Sagar University, Bengaluru

Dr. S Gokulakrishnan, Assistant Professor, Department of CSE, has completed the FDP on “Generative AI” held from 4th to 8th August 2025 organized by Brainovision Solutions India Pvt. Ltd, in Collaboration with AICTE hosted by Army Institute of Technology.

Department Of CSE (Cyber Security)

Dr. Dilip Kumar Jung Bahadur Saini, along with co-authors Minakshi (King Khalid University, Saudi Arabia), Tarun Kumar (University of Petroleum and Energy Studies, Dehradun), Kapil Joshi (Uttaranchal University, India), and Akash Saxena (Compucom Institute of Technology and Management, India), has authored and published a comprehensive book titled “Building Data-Driven Edge Systems for Business Success.” Released in August 2025 and spanning 478 pages, the book provides in-depth insights into leveraging edge computing technologies to enhance business performance and drive innovation. Published by IGI Global with ISBNs for hardcover, softcover, and eBook editions, and a DOI (10.4018/979-8-3373-1147-0), this scholarly work is a significant contribution to research and practice in data-driven edge systems.

https://www.igi-global.com/book/building-data-driven-edge-systems/361972.

Building Data-Driven Edge Systems for Business Success

Minakshi (King Khalid University, Saudi Arabia), Tarun Kumar (University of Petroleum and Energy Studies (UPES), Dehradun, India), Kapil Joshi (Uttaranchal University, India), Akash Saxena (Compucom Institute of Technology and Management, India), and Dilip Kumar Jung Bahadur Saini (Dayananda Sagar University, India)

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DOI: 10.4018/979-8-3373-1147-0

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Dr.Devi Priya V S , along with co-authors P.Naresh Nivetha R, Shreyas Rajendra Hole, Mubeen Ahamed Khan, and Tanvir, presented their research paper titled “File carving for Digital Forensics: Moving Beyond Conventional Methods to AI-Powered Solutions” at the Third International Conference on Networks & Advances in Computational Technologies (NetACT 2025). The conference was held from 7th to 9th August 2025, organized by the Department of Computer Science and Engineering, Mar Baselios College of Engineering and Technology, Thiruvananthapuram, in association with IEEE Kerala Section.

Dr. Mubeen Ahmed Khan, Prof. Naveen Kulkarni, and Prof. Abdul Haq Nalband have collaboratively published a research paper titled “Gender Classification Based on Machine Learning Models” at the 2025 4th O.P. Jindal University International Technology Conference on Smart Computing for Innovation and Advancement in Industry 5.0 (OTCON 2025). The study investigates deep learning approaches for gender classification in challenging scenarios involving veiled faces and body posture data, with model performance evaluated through accuracy, precision, recall, and F1-score. Highlighting applications in medical investigations, law enforcement, and fostering gender equality in education and society, the research underscores both the opportunities and limitations of automated gender categorization, contributing to fairness and inclusivity in AI-driven systems (DOI: 10.1109/OTCON65728.2025.11070606).

Gender Classification Based on Machine Learning Models

2025 4th OPJU International Technology Conference on Smart Computing for Innovation and Advancement in Industry 5.0, OTCON 2025 • Conference Paper • 2025 • DOI: 10.1109/OTCON65728.2025.11070606

Khan, Mubeen Ahmed[a] ✉ ; Kulkarni, Naveen[b] ✉ ; Nalband, Abdul Haq[c] ✉

[a] Dayananda Sagar University, Karnataka, Bengaluru, India

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Abstract

Automatic gender categorization has become an increasingly significant area in computer vision, with several applications. Gender equality is nowadays a keyword for today's scenario. This research explores the efficacy of deep learning algorithms for gender classification using veiled faces and body postures. This work compares several deep learning models trained on a specifically curated veiled face and body posture dataset. Each model's performance is calculated using accuracy, precision, recall, and the F1-score. This study attempts to provide insight into the viability and constraints of gender categorization with obscured facial features and body language cues. This work helps detect gender classifications in medical investigations, and police investigations, and to reduce gender inequalities in society. This work is also helpful to Education cells to gender-based quality education. Also this analysis could be helpful to census identification and for calculating the gender equality wherever required for the growth and development of of the country. © 2025 IEEE.

Abstract | Author keywords | Indexed keywords | Corresponding authors

Department Of CSE (Data Science)

Dr. Santhosh Kumar G act as a Resource Person of 2 Day Workshop on Cyber Security at KLE College in association with Learn Online held on 09th & 10th August 2025

LOL Learn On Line

CERTIFICATE

of participation

WE ARE PROUDLY PRESENT THIS TO

Dr Santhosh Kumar G

Associate Professor CSE(Data Science)

FOR CONDUCTING A 2-DAY WORKSHOP ON: CYBER SECURITY AT KLE COLLEGE IN ASSOCIATION WITH LEARN ONLINE

WE SINCERELY APPRECIATE YOUR VALUABLE MENTORSHIP, TECHNICAL GUIDANCE, AND DEDICATED SUPPORT THAT SIGNIFICANTLY CONTRIBUTED TO THE SUCCESS OF THE WORKSHOP.

Praveen Jadav — Technical Director

Abhilash Verma — Director

Department Of Electronics & Communication Engineering

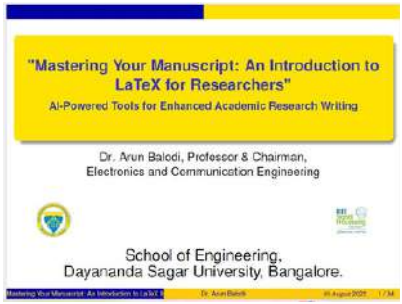
Dr. Navya R, Assistant Professor in the Department of Electronics and Communication Engineering at Dayananda Sagar University, Bengaluru, has been honored by Springer Nature for her exemplary service as a peer reviewer in 2025. Demonstrating a strong commitment to academic excellence, Dr. Navya reviewed five manuscripts—three for the Journal of Nanoparticle Research and two for Nanotechnology for Environmental Engineering—helping uphold the quality and rigor of research in nanotechnology and environmental engineering. This recognition highlights her significant role in promoting scholarly standards and fostering innovation within her field.

Dr. Supraja Eduru, Assistant Professor from the Department of Electronics and Communication Engineering, Dayananda Sagar University, Bengaluru has received an International Fellowship offer for the Postdoctoral Fellowship in Disruptive Technology at UFSM, Brazil, South America for the academic year 2025–26. This remarkable achievement reflects her dedication to advancing innovative research and her commitment to impactful scientific contributions on a global scale.

Dr. Arun Balodi, Professor and Chairman, Department of Electronics and Communication Engineering, School of Engineering, Dayananda Sagar University, Bengaluru was recognized as an Expert Speaker during the Faculty Development Programme on Intelligent Systems and Emerging Technologies in Computing and Electronics (ISETCE–2025), organized by UPES, Dehradun, in collaboration with NIT Jamshedpur. This honour highlights his valuable contribution to knowledge sharing and academic growth in advanced computing technologies. Dr. Balodi also felicitated by the IEEE Robotics & Automation Society, Bangalore Chapter, for delivering a session in the Faculty Development Programme on AI-Powered Robotics in Industrial Automation Applications for Future Research, organized by BGSCET. His expertise and insights have significantly contributed to advancing research and practical applications in robotics and automation.

Dr. Arun Balodi, Professor and Chairman, Department of Electronics and Communication Engineering, School of Engineering, Dayananda Sagar University has been selected as an IEEE Day 2025 Ambassador, representing Dayananda Sagar University, Bengaluru, Region 10. IEEE Day will be celebrated on October 7, 2025, with events spanning from October 5–18, 2025. In this role, Dr. Balodi will promote the spirit of innovation, organize impactful community events, and contribute to the mission of “Advancing Technology for Humanity.”

Dr. Arun Balodi Professor and Chairman, Department of Electronics and Communication Engineering, School of Engineering, Dayananda Sagar University, Bengaluru has recently delivered expert sessions at multiple prestigious platforms. He was an Expert Speaker at the FDP on Intelligent Systems and Emerging Technologies in Computing and Electronics (ISETCE–2025), organized by UPES, Dehradun, in collaboration with NIT Jamshedpur. He was also felicitated by the IEEE RAS Bangalore Chapter for his technical talk in the FDP on AI-Powered Robotics in Industrial Automation, organized by BGSCET. additionally, Dr. Balodi served as a key resource person in the workshop “Crafting Research Excellence: Where to Publish, LaTeX & Research Metrics”, organized by IEEE SPS Bangalore Chapter and IEEE WIE AG – Bangalore Section. His session covered AI-powered LaTeX tools, research visibility platforms, journal selection metrics, and author-level impact measures. Through these engagements, Dr. Balodi continues to bridge emerging technologies with impactful research practices.



Dr. Arun Balodi Professor and Chairman, Department of Electronics and Communication Engineering, School of Engineering, Dayananda Sagar University, Bengaluru has been awarded the “Best Paper Presenter” at the 3rd IEEE International Conference on Networks, Multimedia and Information Technology (NMITCON-2025), organized by Nitte Meenakshi Institute of Technology, Bengaluru, in association with IEEE Bangalore Section. His paper titled “Dual Mode Robotic Arm Control System: Voice and Gesture Integration” received high appreciation for its innovative approach and impactful research contribution. The conference was held on 1st–2nd August 2025, with technical sponsorship from IEEE Bangalore Section and academic partnership with Universidad de Salamanca (Spain) and University of Technology, Mauritius. We congratulate Dr. Arun Balodi on this remarkable achievement and wish him continued success in his research journey.


NITTE | NITTE MEENAKSHI INSTITUTE OF TECHNOLOGY

Nitte University Campus, Bengaluru

IEEE NMITCON

3rd IEEE International Conference on Networks, Multimedia and Information Technology

Certificate of Appreciation

This is to certify that

Arun Balodi

Awarded the "BEST PAPER PRESENTER"

for the Paper Entitled

Dual Mode Robotic Arm Control System: Voice and Gesture Integration

at the 3rd IEEE International Conference on Networks, Multimedia and Information Technology (NMITCON-2025) during 1st-2nd, August 2025 in Association with IEEE Bangalore Section, Organized by Nitte Meenakshi Institute of Technology, Bengaluru.

Dr. PARAMESHACHARI B D
Conference Chair, NMITCON
Professor & HoD, Dept. of ECE, NMIT

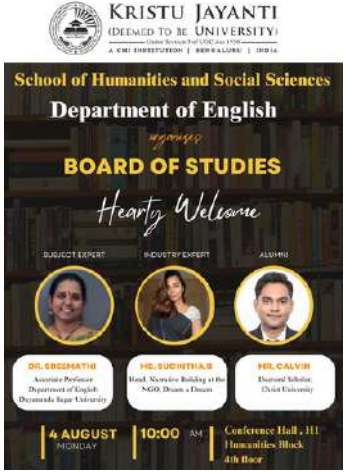
Dr. H C NAGARAJ
Principal,
NMIT

Technical Co-Sponsor: IEEE

Academic Partners: VNIVERSIDAD D SALAMANCA

Department Of Humanities

The Department of English, School of Humanities and Social Sciences, Kristu Jayanti University, organized its Board of Studies meeting on 4th August 2025 at 10:00 AM in the Conference Hall, H1, Humanities Block. The session brought together distinguished experts, including Dr. Sreemathi, Associate Professor, Department of English, Dayananda Sagar University (Subject Expert), Ms. Suchitha B, Head of Narrative Building at the NGO Dream a Dream (Industry Expert), and Mr. Calvin, Doctoral Scholar at Christ University (Alumnus). The Board of Studies provided an excellent platform for academic and industry collaboration, curriculum enrichment, and knowledge sharing to enhance the academic rigor of the department.



Departmental Activities

Department Of Artificial Intelligence & Robotics

A high-level delegation from Dayananda Sagar University, comprising members from the Department of Artificial Intelligence & Robotics and the Department of Mechanical Engineering, led by Vice Chancellor Prof. (Dr.) B.S. Satyanarayana, Pro-Vice Chancellor Prof. (Dr.) Prakash S., and CoE Director Sri Pradeep Desai, along with Dr. Rupam Bhaduri (Domain Expert, AI & Robotics) and Dr. Vishwanath (Sub-Domain Expert, Mechanical), visited two leading robotics and automation centres to explore strategic collaborations. The team visited Virya Automation (Maini Group) Centre Hub to review autonomous mobile robotics (AMR) platforms and discuss the establishment of a DSU Centre of Excellence on Smart Mobility. They also visited the Unitree–Xboom Facility Centre to experience advanced humanoid and quadruped robotic systems, focusing on potential applications in research, defense, disaster management, and smart mobility. These interactions mark an important step in building DSU's cutting-edge capabilities through academic–industry–government partnerships and advancing innovation in robotics and smart mobility solutions.

Department Of Computer Science and Engineering

The Department of Computer Science and Engineering, in association with the College of Physiotherapy, Dayananda Sagar University, organized a One-Day Workshop on “Essential Computing Skills for Research Methodology” on 9th August 2025 at Lecture Hall 4, A Block. The workshop aimed at enhancing digital proficiency for research and provided hands-on training in MS Word for professional document preparation and in Excel for effective data management, analysis, and visualization. Students from the College of Physiotherapy, the School of Health Sciences, and lab instructors from the Department of CSE actively participated and gained valuable skills in preparing structured research documents, analyzing datasets, and presenting results with clarity through compelling visualizations.

The Department of Computer Science and Engineering, SOE-DSU, under the Data Analytics and Visualization Club, organized a 5-Day Value Added Course on “Business Intelligence Essentials: Predict, Analyze, and Visualize with RapidMiner & Power BI” from 4th to 8th August 2025. The program, led by Dr. Basavaraj N Hiremath, Dr. Savitha Hiremath, and industry expert Omshree R Hiremath, provided participants with hands-on training in BI tools, data analytics, and AI/ML integration. Sessions covered data lifecycle management, DAX functions, semantic modeling, dashboard creation, and ML model building using RapidMiner, alongside case studies on business reporting and sentiment analysis. With practical exposure to real-world problem-solving, the course successfully enhanced participants’ skills in data preparation, visualization, and predictive analytics, bridging academic learning with industry-oriented applications.

The Department of Computer Science & Engineering at Dayananda Sagar University successfully organized a four-day Bridge Course on "C Basics for Data Structures" from August 6th to 9th, 2025. This intensive program provided second-year and lateral entry students with foundational training in the C language, combining theoretical sessions and hands-on practice to strengthen programming and problem-solving skills essential for mastering data structures. Led by experienced faculty—Dr. Shreekant Salotagi, Prof. Prolay Biswas, Prof. Pavithra D, and Prof. Arpita Paria—the event fostered logical thinking and industry readiness, empowering participants to confidently transition into advanced computer science topics and contributing to the university's commitment to inclusive and quality education.

Faculty Development Workshop on NBA Accreditation

The School of Engineering, Dayananda Sagar University, organized a One-Week Faculty Development Programme (FDP) on “Empowering Educators for Transformational Engineering Education” from 30th July to 5th August 2025, with a special focus on NBA Accreditation and the Outcome-Based Education (OBE) framework. The inaugural ceremony was graced by Dr. Puttamadappa, Registrar, DSU, Dr. Uday Kumar Reddy K R, Dean, SOE, and distinguished expert Prof. Shyamal Kumar Das Mandal from IIT Kharagpur.

Dr. Nagaraja S. R, Dr. Bipin Kumar Rai, Dr. Sudha D members of NBA core coommittee coordinated this FDP. Over 300 faculty members actively participated in a series of insightful sessions covering SAR 2025 updates, CO–PO mapping strategies, Bloom’s Taxonomy, CQI practices, faculty mentorship, wellness initiatives, integration of AI and digital pedagogy, and fostering research, innovation, and IPR awareness. The program also emphasized evidence-based documentation, holistic student development, and academic visibility, laying a strong foundation for aligning institutional practices with NBA standards and advancing outcome-based education.

Student Activities

Ms. Disha K Nanjunda (ENG21CS0120), Ms. Diya Sujil (ENG21CS0125), Mr. Harish Sasikumar (ENG21CS0147) and Mr. Harsh Jolania (ENG21CS0148) 2025 passed out CSE Students has published a paper entitled "FrameWeaver - A Virtual Storyboarding and Scene Generation Tool", under the guidance of Prof. Shilpa Sudheendran, Assistant Professor, in the Grenze International Journal of Engineering and Technology, during August 2025, which was presented in the Scopus indexed the Hinweis Third International Conference on Advances in Information, Telecommunication and Computing (AITC) .

GRENZE
Grenze International Journal of Engineering and Technology, June Issue

FrameWeaver – A Virtual Storyboarding and Scene Generation Tool

Diya Sujil[1], Harsh Jolania[2], Disha K Nanjunda[3], Harish Sasikumar[4] and Shilpa Sudheendran[5]
[1-5]Department of Computer Science and Engineering, Dayananda Sagar University, Karnataka, India
Email: [illegible]

Abstract—Storyboards are visual representations of a story sequence that break down the action into individual panels. However, they are a costly part of visual storytelling and typically need considerable artistic skill. Many smaller creators and teams may not have the skills or resources to generate quality storyboards, limiting their ability to effectively visualize and communicate creative concepts. The ones that do still mainly focus on more general use cases like images, despite the success that Generative AI has shown in automating visual content creation, but the logic surrounding the benefits of consuming data in multiple formats applies equally to sequential art like storyboarding, which has been largely unexplored by AI research. We investigate the feasibility of using diffusion-based text-to-image models to automate storyboard generation from texts. In addition to training and fine tuning generative models on diverse domain specific datasets, the project integrates advanced text processing and visual rendering tools opposite an interactive system designed for intuitive customization, removing time and skill barriers while preserving creative flexibility.

Index Terms—Text to scene generation, Storyboards, Generative AI, GPT-4o, Sequential image generation, Text processing, Visual rendering, Audio-visual storytelling, Flask web application, Scene Generation.

I. INTRODUCTION

Storyboarding is a crucial part of the visual storytelling process in most forms of media. Movies, video games, advertisements, and product designers use storyboards to conceptualize fundamental ideas during the early stages of the creation process. However, storyboarding is not everyone's game, and it is often taxing to procure the budget, expertise, or time to create professional standard panels. Until now, it has been a resource draining and artistic heavy task, and despite Generative AI making progress in reliably automating visual content generation, generative art in animation (e.g., storyboarding, video generation, etc.) is an underexplored area. Our proposed framework seeks to examine the capacity of Image Generation models for generating storyboards from textual descriptions in an automated manner.

We present our project, FrameWeaver, a prototype that employs tuned generative models with specialized data sets to process dynamic text input and applies visual rendering utilities within an interactive system to generate consistent scenes aligned in formatted storyboard panels. Our project aims to cut down time, skill and resource barriers while still allowing for user-focused creative flexibility. In this study, we intend to expand on the methods by which Artificial Intelligence can simplify the storyboarding process as a whole, thereby extending it to a wider audience.

FrameWeaver – A Virtual Storyboarding and Scene Generation Tool

Journal: GRENZE International Journal of Engineering and Technology
Authors: Diya Sujil, Harsh Jolania, Disha K Nanjunda, Harish Sasikumar, Shilpa Sudheendran
Volume: 11 Issue: 2
Grenze ID: 01.GIJET.11.2.247_25 Pages: [illegible]

Abstract

Storyboards are visual representations of a story sequence that break down the action into individual panels. However, they are a costly part of visual storytelling and typically need considerable artistic skill. Many smaller creators and teams may not have the skills or resources to generate quality storyboards, limiting their ability to effectively visualize and communicate creative concepts. The ones that do still mainly focus on more general use cases like images, despite the success that Generative AI has shown in automating visual content creation, but the logic surrounding the benefits of consuming data in multiple formats applies

GIJET

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Dr. [illegible] (Professor, Computer Science & Engg. Dept, Viswajyothi College of Engineering &Technology, Affiliated to KTU University, Kerala, India.)
ISSN:
[illegible]
FREQUENCY:

Mr. Kumar Ayush(ENG22CS0347), Ms. Medha Sree Anand(ENG22CS0562), and Mr. Abhay prakash choubey (ENG22CS0221), final year CSE students under the guidance of Prof. Shilpa Sudheendran, Assistant Professor, has successfully presented a paper entitled Auralens: An Intelligent Hearing Companion for the Hearing Impaired using YOLO and Tensor Flow at the 5th International Conference on Soft Computing for Security Applications (ICSCSA-2025) organised by Dhirajlal Gandhi College of Technology, Salem, Tamilnadu on 4th-6th August 2025.

Mr. Aman Nayan (ENG23CY0004) has successfully completed the Blue Team Junior Analyst training pathway offered by Security Blue Team on 6th August 2025. This certification demonstrates his comprehensive entry-level expertise and practical skills in key domains of cybersecurity, including Open-Source Intelligence (OSINT), Digital Forensics, Vulnerability Management, Dark Web Operations, Threat Hunting, and Network Analysis. The achievement highlights his strong foundation in defensive security practices and his preparedness to contribute effectively to the cybersecurity domain.

Mr. V. Mageshwaran (ENG20EC0112), 2024 alumnus of the Department of Electronics and Communication Engineering, SOE-DSU, has made remarkable progress in the startup ecosystem within a year of graduation. As a Co-Founding Member, Shareholder, and Head of R&D & Operations at FLOFLY Technologies Pvt. Ltd., a drone manufacturing startup, he has played a pivotal role in driving innovation and operations. Under his leadership, the company participated in the Startup Governance Conclave and was honored with the prestigious DAC – Startup Business Sustainability & Innovation Award 2025 by the Government of Karnataka. The University congratulates Mr. Mageshwaran on his outstanding entrepreneurial achievements and wishes him continued success.

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Edited by :
Office of Dean SOE,
Dayananda Sagar University
Deverakaggalahalli, Kanakapura Road Ramanagara Dt.,
Karnataka - 562 112