



NEWSLETTER *CSE SPECTRUM*

TENTH EDITION 2025-26

DEPARTMENT AT A GLANCE

The department of Computer Science and Engineering (CSE) was established in the academic year of 1988 with an intake of 60 and further enhanced to 240 seats in BE. The department has well equipped laboratories with updated software and hardware with an emphasis on practical learning in addition to curriculum. The department has well qualified and experienced faculties having extensive expertise and experience in their chosen fields. Faculties are actively involved in researching core areas of Computer Networks, Cloud Computing, Image Processing, Machine Learning, Data Mining and Artificial Intelligence. The department endorses Industry-Institute Interactions under a governed MHRD's IIC. Department is associated with pioneer industry players like, TCS under CSR scheme for TCS-IT Employability Program since 2016, CISCO Networking Academy and Red Hat Academy for global certification in-campus touching beyond the syllabus limits. A well-furnished and established training and placement facilities are provided under various firms like Seventh Sense, FACE Academy and regular assessments are assessed from AMCAT and Co CUBES, for the year 2017-18 and 18-19, the Training and Placement department has offered 80+ placement opportunities and support to students in various MNC companies such as TCS, Accord, Wipro, Infosys, Mphasis, Tech Mahindra and many with a success rate of 75% students landing in jobs, 20% of Higher studies and rest as entrepreneurs.

The department is recognized under the MHRD established institutional level's Institute Innovation Council (IIC) since November 2018 by Govt. of India. The IIC encourages students and faculties to emerge and innovate recent developments in research and technology. The department has organized two national level conferences and one international level conference (ICRTTEAS - 2024) and the research outcomes are streamlined and published under various peer reviewed journals. The department's contribution in research and publications is recorded and archived in various prestigious indexing services such as Science Citation Index (SCI), Web of Science (WOS) and SCOPUS. The publications are supported and published by IEEE, Springer Nature, WILEY, Elsevier and Index science.

SPECTRUM OF LEADERSHIP



Dr. T Venkat Vardhan
President Message

It is indeed a proud moment that the Computer Science and Department has initiated to bring out its Tenth edition of “CSE Spectrum”. I would like to see very active student A participation and also more activities to be covered in the coming editions. I wish all students to excel in the coming examinations. I wish this newsletter to continue and attain the heights of excellence. My best wishes to everyone associated with this newsletter, and special thanks to the editorial team.

It gives me immense joy to share that “CSE Spectrum” is doing very well. I appreciate the hard work of all students; faculty and whole heartedly thank them for presenting the Tenth edition of Newsletter in a very informative and attractive way. This Newsletter consists of various articles on current trends meticulously curate by our editorial team. We hope it will inspire you and enrich you with practical knowledge in the field of Computer Science and Engineering. Once again, deepest gratitude to everyone for making the newsletter a great source of learning.



Dr. Syed Ariff
Principal



Dr. H G Shenoy
Vice-Principal

I am delighted to present “CSE Spectrum”, a student-led newsletter that reflects the innovation, creativity, and technical excellence of our Computer Science and Engineering students. This publication showcases their enthusiasm to explore emerging technologies beyond the classroom while fostering leadership, collaboration, and continuous learning. I extend my sincere appreciation to the editorial team, faculty mentors, and contributors for their dedication and efforts. May this edition inspire readers to pursue knowledge and strive for excellence.

I am pleased to present “CSE Spectrum”, a newsletter that showcases the academic excellence, innovation, and achievements of the Department of Computer Science and Engineering. This publication reflects the department’s commitment to research, outcome-based education, and industry-oriented learning while encouraging students to connect theory with practice. I appreciate the efforts of the faculty, editorial team, and contributors and hope this edition inspires continuous learning and professional excellence.



Prof. Ruckmani Divakaran
Dean-Academics



I am delighted to share that "CSE Spectrum" is thriving and making remarkable progress. I want to take a moment to acknowledge the hard work and dedication each one of you brings to our department. Our collective progress this past term has been remarkable, marked by innovative projects, collaborative efforts, and consistent growth in our goals. Your commitment continues to push our department forward, and I am grateful for the energy, creativity, and resilience you demonstrate daily.

Dr. Geetha C Megharaj
HOD-CSE

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DEPARTMENT VISION & MISSION

VISION

To produce highly competent and innovative Computer Science professionals through excellence in teaching, training and research

MISSION

- M1: To provide appropriate infrastructure to impart need-based technical education through effective teaching and research.
- M2: To involve the students in innovative projects on emerging technologies to fulfill the industrial requirements.
- M3: To render leadership skills and ethical responsibilities in students that leads hem to become globally competent professionals.

Program Education Objectives (PEO's)

Our graduates will be able,

- PEO1 : To succeed in computing industry through effective analysis, design and development skills.
- PEO2 : To Acquire new skills to work in multidisciplinary areas with strong focus on innovation and entrepreneurship.
- PEO3 : To collaborate as team members and team leaders with ethics and good communication skills.

Program Specific Outcomes (PSO's)

- PSO1: Apply computational skills to address real world problems in emerging technologies such as Computer Networks, Web Technology, cloud computing, Machine learning and IoT.
- PSO2: Apply Managerial, Research and Entrepreneur skills to contribute effectively in IT industry.



DEPARTMENT ACTIVITY

FDP/ WORKSHOP CONDUCTED



Inauguration of Faculty Development Programme

The five-day Faculty Development Programme (FDP) titled “From Automation to Creation: Emerging AI Trends Powered by Generative Models” was organized from 2nd to 6th February 2026. The programme featured expert sessions delivered by Mrs. Megha BS, Co-Founder, and Mr. Vijay BR, Co-Founder & CEO of Mevi Technologies. The FDP provided participants with valuable insights into recent advancements in Generative AI and emerging technologies, thereby enhancing their understanding of current industry trends and innovations.



Dr. Sujatha Mohan Addressing Fourth Semester Students

The Department of Computer Science & Engineering, in association with the Institution’s Innovation Council (IIC), organized a workshop on “Effective Sales & Marketing Strategies” for fourth-semester students. The session was conducted by Dr. Sujatha Mohan, who shared valuable insights into key marketing concepts and practical business strategies. The workshop witnessed enthusiastic participation from all fourth-semester students.



FDP'S ATTENDED BY FACULTY

- Dr. G. Kharmega Sundararaj participated in the 5-day Faculty Development Programme on “*Visualization-Driven Predictive Analysis with Modern Data Tools*” organized by Madanapalle Institute of Technology and Science (MITS), Madanapalle, from 20th to 24th April 2026.
- Prof. Sophia S, Prof. Sangeetha V, Prof. Ashwini S, and Prof. Anandha Mithra A participated in the Faculty Development Programme on “*Data Analytics using Power BI*” conducted from 2nd to 6th February 2026, organized by Vishweshwar Education Society’s Western College of Commerce & Management, Poornima University, and Sarada Vilas College in collaboration with ExcelR Edtech Pvt. Ltd.
- Prof. Sophia S and Prof. Ashwini S participated in the Faculty Development Programme on “*Vibe Coding using Gen AI Tools*” conducted from 16th to 23rd March 2026, organized by MVSR Engineering College, Dr. K N Modi University, Bharati Vidyapeeth College of Engineering, and Bharati Vidyapeeth (Deemed to be University) College of Engineering in collaboration with ExcelR Edtech Pvt. Ltd.
- Prof. Sophia S has participated in the Faculty Development Programme on “*Cloud Computing with AWS*” conducted from 16th to 20th March 2026, organized by Mevi Technologies LLP.
- Prof. Sangeetha V and Prof. Ashwini S participated in the Faculty Development Programme on “*Cloud Computing*” conducted from 19th to 23rd January 2026, organized by Geetanjali Institute of Technical Studies and Sri Siddhartha Institute of Technology in collaboration with ExcelR Edtech Pvt. Ltd.
- Prof. Sangeetha V, Prof. Ashwini S, and Prof. Anandha Mithra A participated in the Faculty Development Programme on “*Quantum Computing*” conducted from 16th to 20th February 2026, organized by City Engineering College and ICFAI Group Universities in collaboration with ExcelR Edtech Pvt. Ltd.
- Prof. Sangeetha V participated in a three-day workshop on “*Research Methodology and Data Analysis – A Smart Learning*” conducted from 5th to 7th February 2026, organized by the Star International Foundation for Research and Education.



- Subsequently, participation was extended to the seven-day online workshop on “*Research Methodology and Publication Ethics*” conducted from 5th to 11th March 2026, organized by the Star International Foundation for Research and Education.
- Prof. Preethi S successfully completed a 90-hour *Industrial Training Programme on Python* conducted by ID Tech Solutions Pvt. Ltd. from 4th November 2025 to 31st January 2026. She also participated in the AI workshop on “*Building a Resume Tool using LangChain and Deploying on AWS Bedrock*” conducted by Innomatics Research Labs from 16th to 18th April 2026, and the FDP on “*Empowering Faculty with Generative AI Tools for Smart Teaching and Industry 4.0 Readiness*” organized by Er. Perumal Manimekalai Polytechnic College on 30th April 2026.
- Prof. Velantina V participated in the five-day Faculty Development Programme on “*Advanced Deep Learning Architectures in Computer Vision: CNNs and Vision Transformers*” organized by the Global Society for Technical Education, conducted from 23rd to 27th March 2026.
- Prof. Swetha N participated in the five-day Faculty Development Programme on “*Agentic AI: Foundations to Advanced Intelligent Systems*” organized by CMR Institute of Technology, conducted from 5th to 9th January 2026.
- Prof. Ashwini S participated in the Faculty Development Programme on “*Generative AI Tools for Teaching*” conducted on 21st March 2026 and the Faculty Development Programme on “*AI Tools for Effective Research and Publications*” conducted on 9th April 2026, both organized by Annai Mathammal Sheela Engineering College in collaboration with Pencilbitz, and also participated in the Faculty Development Programme on “*Challenges in Artificial Intelligence and Emerging Technologies*” conducted on 10th April 2026, organized by Rathinam College of Arts and Science.
- Prof. Anandha Mithra A participated in the six-day Faculty Development Programme on “*Innovative Teaching with Machine Learning: Tools, Techniques and Trends*” conducted from 2nd to 7th February 2026,



organized by Jeppiaar Institute of Technology. She further participated in the Faculty Development Programme on “*Generative & Agentic AI Tools and Demos*” conducted from 16th to 21st February 2026, organized by Sardar Vallabhbhai National Institute of Technology in partnership with Pantech Solutions, and the Faculty Development Programme on “*GenAI & ChatGPT Applications*” conducted from 2nd to 6th March 2026, organized by Vardhaman College of Engineering in collaboration with ExcelR Edtech Pvt. Ltd..

PAPER PRESENTATION

- Prof. Sharmilla Kumari presented and published a research paper titled “*DeepGraph Neural Network-Based Botnet Detection on IoT Networks*” in JETIR, Volume 13, Issue 2, February 2026. <https://www.jetir.org/papers/JETIR2602507.pdf>
- Prof. Shalini presented and published a research paper titled “*Development of an innovative deep learning model for rice yield prediction in Karnataka using multi-modal data with feature fusion and adaptive residual network*” in Smart Agricultural Technology on Science direct, Volume 14, August 2026, <https://doi.org/10.1016/j.atech.2026.102191>
- Prof. Swetha N published a research paper titled “*Integration of Machine Learning and Optimization Algorithms for Intelligent & Adaptive Wireless Power Transfer Systems*” in Volume 9, Issue 5, 2026 (ISSN: 2079-8784). <https://zenodo.org/records/20062681>
- Prof. Ashwini S presented and published a research paper titled “*A Quantum-Inspired Optimization Architecture for Vehicular Edge Resource Allocation in 6G V2X Environments*” at the 2nd International Conference on Computing for Sustainability and Intelligent Future (COMP-SIF) organized by BMS Institute of Technology & Management on 13th and 14th March 2026. <https://ieeexplore.ieee.org/document/11481897>



PATENT

- Dr. Mohamed Karimulla, Velantina V, Divya Shree V, Sophia S, and Lekha S published a patent titled “*Machine Learning-Based System and Method for Detecting Fraudulent Transactions in Unified Payments Interface (UPI)*” with Application No. 202641032391 A in The Patent Office Journal, No. 13/2026.
- Dr. G. Kharmega Sundararaj, Preethi S, Divya Shree V, Velantina V, and Anandha Mithra A published a patent titled “*An IoT and Machine Learning-Based Smart Water Leakage Detection and Control System for Real-Time Pipeline Monitoring*” with Application No. 202641032425 A in The Patent Office Journal, No. 13/2026.
- Dr. G. Kharmega Sundararaj, published a utility patent applications titled “*Machine Learning-Based IoT System for Soil Moisture-Driven Smart Irrigation in Precision Agriculture*” and “*Machine Learning-Driven IoT Framework for Environmental Pollution Prediction Using Electric Vehicle Sensor Networks in Smart Cities*” were also published.
- Dr. Jansi Rani published a patent titled “*AI-Based Oncoming Traffic Detection and Dynamic Rear Safety Message Display System for Overtaking Assistance in Large Vehicles*” with Application No. 202641024083 A in The Patent Office Journal, No. 13/2026.
- Vinutha B.A, Swathi J.A, Shalini G, Sharmila Kumari N, and Ashwini Priyanka published a patent titled “*Smart IoT-Based Real-Time Air Pollution Monitoring and Alert System*” with Application No. 202641031828 A in The Patent Office Journal, No. 13/2026.
- Punitha F, Ashwini Priyanka, Premalatha D, Ashwini S, and Mercy Flora Prithaba published a patent titled “*A Personalized Artificial Intelligence-Based Multi-Tasking Desktop Assistant System and Method for Intelligent Human-Computer Interaction*” with Application No. 202641031134 A in The Patent Office Journal, No. 13/2026.
- Sharmila Kumari N, Swetha N, Dr. Jansi Rani J, Mrs. Nisha Bai M, and Anandha Mithra A published a patent titled “*An IoT-Based Smart Horticulture Monitoring and Automated Crop Management System*” with Application No. 202641031133 A in The Patent Office Journal, No. 13/2026.



- Mercy Flora Pritheba A, Mrs. Lekha S, Vinutha B.A, Shalini G, and A. Sankareswari published a patent titled “*System and Method for Autonomous Vehicle Navigation Using Machine Learning, Multi-Sensor Fusion, and Simulation-Based Training*” with Application No. 202641032392 A in The Patent Office Journal, No. 13/2026.
- Sophia S, Parvathi T.R, Dr. Jansi Rani J, Punitha F, and Ashwini S published a patent titled “*Smart Fertilizer Recommendation System Using IoT-Based Soil Monitoring and Hybrid Machine Learning for Precision Agriculture*” with Application No. 202641031721 A in The Patent Office Journal, No. 13/2026.
- Preethi S, Mrs. Sangeetha V, Dr. Geetha C. Megharaj, Mrs. Swetha N, and A. Sankareswari published a patent titled “*Intelligent Network Traffic Anomaly Detection System Using Hybrid Machine Learning for Real-Time Cyber Threat Identification*” with Application No. 202641031710 A in The Patent Office Journal, No. 13/2026.
- Prof. Parvathi T.R was granted a design patent titled “*Rodent Feeding Behavior Monitor*” by The Patent Office, Government of India, with Design No. 487026-001.

BOOK PUBLICATION

- Dr. G. Kharmega Sundararaj published a book titled “*Next Generation Artificial Intelligence and Data Science*” published by Vaagai International Publishing House with ISBN: 978-81-998757-2-2. In addition, a book chapter titled “*Machine Learning Concepts for Healthcare Applications*” was published by Vaagai International Publishing House with ISBN: 978-81-999435-9-9. Furthermore, a book chapter titled “*Learning Outcome Optimization through Hybrid AI Models*” was published by RAD Emics Publisher with ISBN: 978-93-49552-40-1.
- Prof. Ashwini S published a book titled “*Cyber Security and Threat Analysis*” published by Scientific International Publishing House with ISBN: 978-93-7196-593-4. In addition, an e-book titled “*5G/6G Communication Standards and Approaches: Reference Book*” was published by Milestone Research Publications with ISBN: 978-93-3422-4115.



ONLINE CERTIFICATIONS COURSES

- Dr. G. Kharmega Sundararaj successfully completed the 12-week course titled “*IoT Systems and Smart Solutions*” offered by SkillDzire.
- Dr. Jansi Rani successfully completed the 12-week course titled “*Innovation by Design.*” In addition, the 8-week NPTEL courses titled “*Patent Drafting for Beginners*” and “*Roadmap for Patent Creation,*” offered in association with Skill India, was also successfully completed.
- Prof. Shalini successfully completed the 12-week NPTEL courses titled “*Foundations of Deep Learning: Concepts and Applications*” and “*Neural Networks for Computer Vision and Natural Language Processing.*”
- Prof. Sophia successfully completed the 8-week NPTEL course titled “*Data Mining*” and the UdeMy course “*DevOps Projects – Real-Time DevOps and GitOps Projects.*”

FACULTY ACHIEVEMENTS

- Prof. Shalini G, Department of Computer Science and Engineering, has been recognized as an *NPTEL Discipline Star* for the Jan–Apr 2026 session.
- Prof. Ashwini S was awarded the *Best Paper Award* for the research paper titled “A Quantum-Inspired Optimization Architecture for Vehicular Edge Resource Allocation in 6G V2X Environments” at the 2nd International Conference on Computing for Sustainability and Intelligent Future (COMP-SIF) organized by BMS Institute of Technology & Management on 13th and 14th March 2026.





STUDENTS ACHIEVEMENTS

WORKSHOP ATTENDEND BY STUDENTS

- Yugandar S B and K. Shwetha of the 6th Semester participated in a three-day workshop on “Robotics” conducted by the Bharat Space Education Research Center from 20th to 22nd February 2026. The workshop was organized under the STEM initiative in support of the vision of Viksit Bharat and provided exposure to robotics and emerging technologies.
- Chaithra S of the 6th Semester successfully completed a 30-day Master Class in “Full Stack Development” conducted by NoviTech R&D Pvt. Ltd. from 28th January to 28th February 2026.

Hall of Fame

- Abinaya Krishna Kumar of the 8th Semester secured All India Rank 63034, and Shashank K R secured All India Rank 36035 in GATE 2026.



Students Participated and Secured Prizes in DATASTROM 2026 at Kuppam Engineering College





The students of the Sixth Semester actively participated in DATASTROM 2026 hosted by Kuppam Engineering College on 19th February 2026. A total of 28 students participated in various technical and non-technical events, including Project Expo, Paper Presentation, Web Designing with AI, Logo Identification, Treasure Hunt, and Photography. The students brought laurels to the institution through their commendable achievements. Akshay Kumar K N and Tirumala D secured the 1st Prize in Project Expo, Prithisha R secured the 1st Prize in Photography, Rich Antony T secured the 1st Prize in Logo Identification, while Prithvi Raj Singh M and Veena S secured the 2nd Prize in Logo Identification. Other participants included Amrutha V R, Dharani B, Deeithika K N, . Febin Aloysius V, G. Charulathika, Mirza Munaer Baig, Mohammed Tousif Raza, Noel Joseph J, Pavithra M, Poojitha R, Pragathi P, Rakshitha M R, Sandhya R, Sandhya V, Spoorthi K R, Syed Madanin Shone Thaib, Thanushree C, Yashas Singh, Yashwini B L, Yugandar S B, Nehashree G, Hithavaishnavi S, and Richard Ruban R, who participated in various events.



Students Participated in the 25th VTU State-Level Youth Festival

The students of the VI and VIII Semesters actively participated in the 25th VTU State-Level Youth Festival – “Acharya VTU Habba 2026” held at Acharya Institute of Technology from 8th to 11th April 2026. Sonu N, Shruthi S Kakhandaki, Akshay Kumar K N, D. Kanishka, Chaithra S, N. M. Bhavani, Samual Joshua D, Rajeshwari, Oviya Kumaresan, Nickelson Gamaliel, Mythri V, Kalyan Venkatesh, Hasine G, and Gowri V. Kalgurki participated in various events. The festival provided an excellent platform for students to showcase their talents, creativity, and cultural skills at the state level.



INDUSTRIAL VISIT



Visit to Indian Institute of Science (IISc) Open Day 2026 by 4th Semester CSE Students

The 4th Semester students visited Indian Institute of Science on 7th March 2026 during the Open Day event. A total of 105 students participated in the visit and had the opportunity to explore various research laboratories, innovative projects, and advanced technology demonstrations. The visit provided the students with valuable exposure to cutting-edge research and emerging technologies, thereby enhancing their technical knowledge and inspiring them towards innovation, research, and higher studies.

ALUMNI TALK





Mr. Srikanth Iyer, Senior Architect at Aptean and Alumnus (Batch 2005–2009)

Mr. Srikanth Iyer, Senior Architect at Aptean and a proud alumnus of the Batch of 2005–2009, served as the guest speaker for a session on *“Turning Campus Dreams into Corporate Realities”* conducted for 6th semester students on 31st January 2026. The session provided practical guidance and motivation to help students navigate emerging career pathways in technology.



Hands-on Session on “Web Development Hackathon – Code and Create” by Alumni of Batch 2021–2

Mr. Firoz Khan M, Mr. Vishal R, and Mr. Sharan M, Software Engineers at SB Digital Automation and proud alumni of the Batch of 2021–2025, conducted a hands-on session on *“Web Development Hackathon – Code and Create”* on 18th April 2026 for 4th and 6th semester students.

