



INSCEIGHT

Half Yearly Newsletter

School of COMPUTER ENGINEERING



Message from the DEAN Dr. Radhika M. Pai

As we celebrate our first successful year, the School has laid a strong foundation built on collaboration, dedication, and academic growth.

- **Research & Innovation:** Our faculty and students have achieved notable success through high-quality publications, patents, consultancy work, and major research grants.
- **Infrastructure Upgrades:** We established a dedicated high-end computing facility powered by Apple and Lenovo servers for high-end research.
- **Hands-on Skill Development:** The new 60-seat Apple Studio Lab at TechShop is nearing full operation to offer practical learning.
- **Academic Programmes:** Our Integrated M.Tech-Ph.D. pathway continues to grow, with three scholars advancing to the Ph.D. phase and four new students joining the incoming cohort.

Together, we remain committed to fostering an ecosystem of excellence, entrepreneurship, and leadership in computer engineering.

Team

Faculty mentor

Dr. Renuka A.

Editor-in-Chief

Dr. Sucharitha Shetty

Editorial members

Prof. Swathi B. P.

Dr. Chithra

Dr. Vidya Kamath

Dr. Vidhya V

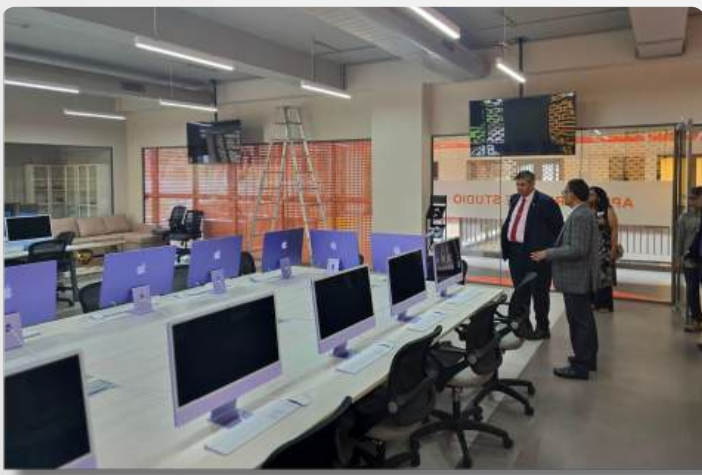
Pagination & Design

Mr. Prakash Karkera

Apple Studio Labs



The newly established facility at TechShop, MIT Campus, is a state-of-the-art laboratory dedicated to iOS application development. Equipped with the latest M4 chip-based iMacs and a comprehensive range of Apple devices, it provides an advanced platform for imparting industry-relevant skills from foundational to advanced levels. The center offers hands-on learning experiences aligned with contemporary industry standards and extends its benefits to participants within and beyond MAHE, Manipal. In addition to academic training, the facility supports institutional and interdisciplinary requirements by facilitating capstone projects and collaborative initiatives involving students, researchers, startups, and faculty members. Its key objectives include training participants in Apple-recommended practices, mentoring them in the development of high-quality apps, and fostering research collaborations with Apple for prototype development. The center also promotes awareness through structured initiatives such as workshops, summer schools, and open-house events, while encouraging networking and project demonstrations.



International Faculty Guest Lecture Series

"Data to Decisions: Foundations of Real-Time Supervised Machine Learning"

The School of Computer Engineering organized an insightful session under the International Faculty Guest Lecture Series titled "Data to Decisions: Foundations of Real-Time Supervised Machine Learning" on 8th January 2026. The lecture was delivered by Dr. Krishna Mohan Kovur, Senior Data Scientist at the University of Alberta, Canada, and Chief Innovation Officer at Banking Labs, Canada.

A key outcome of the session was the development of a structured research mindset. Students were encouraged to think critically about problem formulation, dataset characteristics, evaluation metrics, and deployment constraints. The lecture highlighted how identifying assumptions, limitations, and open research gaps is essential for producing impactful machine learning research. This mindset is particularly important for postgraduate students planning thesis work or research-oriented careers. The event was conducted by Dr. Krishna Prakasha K, Additional Professor.



International Faculty Guest Lecture Series

"Research to Impact: Real-Time ML Systems, Applications, and Research Directions"



The School of Computer Engineering organized an International Faculty Guest Lecture Series on "Research to Impact: Real-Time ML Systems, Applications, and Research Directions" on 10th January 2026, delivered by Dr. Krishna Mohan Kovur, Senior Data Scientist at the University of Alberta, Canada, and Chief Innovation Officer at Banking Labs, Canada. The lecture focused on translating foundational concepts of real-time supervised machine learning into deployable, high-impact systems, emphasizing system design, deployment challenges, and research-to-industry transition. Selected case studies from financial risk modeling and banking systems, healthcare AI including COVID-19 modeling and monitoring, and livestock agriculture with intelligent food systems were discussed to illustrate real-world impact. The session also introduced Retrieval Augmented Generation (RAG) with large language models in real-time ML pipelines. Students were guided on identifying high-impact thesis and project topics aligned with current research trends, along with insights into career pathways across research labs, industry ML teams, and startups. The event was conducted by Dr. Krishna Prakasha K, Additional Professor.

Guest Talk

"Engineering Inclusion: Designing Solutions for Neurodiversity"



The School of Computer Engineering hosted an engaging guest talk titled "Engineering Inclusion: Designing Solutions for Neurodiversity" on 27th January 2026. The session was delivered by Mr. Anoop Simha, Program Coordinator at Ishanya India Foundation, and Ms. Swathi Vellal Raghunandan, Founder and Director of Ishanya India Foundation and TEDx Speaker. The talk highlighted the importance of inclusive engineering practices and the need to design solutions that cater to neurodiverse individuals. Organized in collaboration with the Autism Society of Udupi and Ishanya India Foundation, the session provided valuable insights and fostered awareness among students and faculty on creating more inclusive technological solutions. Dr. Balachandra and Dr. Nisha Shetty coordinated the event.



The School of Computer Engineering organized a session under the International Faculty Guest Lecture Series titled "Building the Future with AI: Innovation, Trends & Opportunities" on 9th February 2026. The lecture was delivered by Dr. Krishna Mohan Kovur, Senior Data Scientist at the University of Alberta, Canada, and Chief Innovation Officer at Banking Labs, Canada. The session provided valuable insights into emerging trends in artificial intelligence, innovation-driven opportunities, and the evolving role of AI in shaping the future. The event was coordinated by Dr. Krishna Prakasha K, Additional Professor, and was held under the guidance of Dr. Radhika M. Pai, Dean, School of Computer Engineering.

Webinar

"Understanding AI Agents & Agentic Systems"



The School of Computer Engineering organized a live webinar titled "Understanding AI Agents & Agentic Systems" on 6th February. The session was delivered by Mr. Pavan Belagatti, Technology Evangelist at SingleStore, Bengaluru, who is widely recognized as an award-winning tech evangelist and a prominent voice in AI, DevOps, and Data Science. The webinar provided valuable insights into the emerging paradigm of agentic systems and their role in modern AI applications. Mr. Belagatti also shared his journey from marketing to becoming a self-taught developer, inspiring participants with his experiences and expertise. The event was organized by the School of Computer Engineering in collaboration with Team Industry-Academia Connect and Team IIC.

International Faculty Guest Lecture Series

"Building the Future with AI: Innovation, Trends & Opportunities"



Online guest lecture & Workshop *"Ship It!: The Art of Reliable Deployment"*



The School of Computer Engineering organized an online guest lecture and workshop titled "Ship It!: The Art of Reliable Deployment" on 14th February 2026. The session was delivered by Mr. Rohith M. N., Systems Development Engineer at Google, Bengaluru, who shared his expertise in DevOps and reliability engineering. The lecture focused on key industry practices such as deploying on AWS using Infrastructure as Code, designing systems for failure resilience, and leveraging golden signals for effective application monitoring. Organized by the Team Industry-Academia Connect, the session provided practical insights into building robust and scalable systems.

Research Talk *"Quantum-Native Cyber: New Research Directions & Enablers"*

The School of Computer Engineering organized a high-level research talk focusing on the frontier of "Quantum-Native Cyber: New Research Directions & Enablers" on 12th February, 2026. The event featured Dr. Shiva Pokhrel, a distinguished Marie Curie Fellow and Senior IEEE Member from Deakin University. Dr. Pokhrel, who also serves as an international faculty member for the School of Computer Engineering at MIT Manipal, brought extensive expertise in experimental distributed quantum computing and Machine Learning architectures. The session was specifically tailored for M.Tech Cybersecurity research students to align their academic pursuits with global trends in quantum computing and secure communication. The event was coordinated by Mr. Sudhina Kumar G K, Assistant Professor.

Two-Day Workshop *"Synergy AI"*



The School of Computer Engineering organized a two-day workshop titled "Synergy AI", on 13th and 14th March, 2026, providing insights into modern AI technologies and industry practices. The sessions were led by industry experts Mr. Kumar Rajamani (CropIN Technologies), Mr. Manish Jain (Amazon Web Services), Mr. Ramkumar H N (RingCentral), Mr. Atul Kumar, and Mr. Shreekant Jere (Genpact).

The workshop covered foundation models, transformers, agentic AI, AI agents, LLM-powered systems, and scalable cloud architectures, with hands-on exposure and real-world applications across domains. It also provided participants opportunities to interact with industry professionals.

The workshop was organized in collaboration with Team Industry-Academia Connect and the Institute Innovation Council, and coordinated by Dr. Rashmi L. Malghan, Mr. Mohandas Shenoy P, Mr. Shanmukharaja M, Dr. Sanjana Kavatagi, Dr. Girija Attigeri, Dr. Sujithra T, and Dr. Ushakiran.

Guest Talk *"Space Technology and Applications"*

The School of Computer Engineering organized a guest talk titled "Space Technology and Applications" on 24th March 2026. The session was delivered by Dr. P. G. Diwakar, ISRO Chair Professor at NIAS, IISc Campus, Bengaluru, who shared insights into advancements in space technology, research, and its diverse real-world applications. The event was held under the guidance of Dr. Radhika M. Pai, Dean, and coordinated by Dr. Shreenidhi H. Bhat, Assistant Professor.

One-Day Workshop

"Best Practices in Qiskit towards Quantum Advantage"



The School of Computer Engineering organized a one-day workshop on "Best Practices in Qiskit towards Quantum Advantage" on 1st April 2026. The session was delivered by Mr. Aaryav Mishra, Research Engineer at IBM Bangalore, who provided insights into quantum computing and practical Qiskit implementations. Attended by 54 participants, the workshop covered Qiskit architecture, core modules, circuit optimization, transpilation, error handling, and execution models. A hands-on session involved simulating a 4-qubit Heisenberg Hamiltonian and exploring different transpilation optimization levels. The workshop concluded with an overview of emerging opportunities in quantum computing at IBM and an interactive Q&A session. The event was coordinated by Dr. Vivekananda Bhat and Dr. Shwetha Rai.

Guest Talk "Edge AI: The Next Frontier"



The School of Computer Engineering organized a guest talk titled "Edge AI: The Next Frontier" on 28th March 2026. The session was facilitated by Mr. Srikanth Shenoy, Founder of Coachbuddy.AI, who shared insights into Edge AI and its potential to enable faster decision-making, improved efficiency, and enhanced privacy. The event was held under the guidance of Dr. Radhika M. Pai, Dean, and coordinated by Jimcymol James, Assistant Professor.

One-Day Workshop

"Earth Observation and Satellite Image Processing using QGIS: Practical Exposure for Research Applications"



The School of Computer Engineering organized a One-Day Workshop on "Earth Observation and Satellite Image Processing using QGIS" on 6th July 2026. The workshop was conducted by Prof. P. G. Diwakar, Director, and Dr. K. V. Satish, Project Associate, Centre for Sustainability, Chanakya University, Bengaluru. The sessions covered Remote Sensing, Earth Observation, satellite image acquisition, geospatial analysis, and QGIS-based satellite image processing through technical lectures and hands-on exercises. Participants also received guidance on selecting suitable datasets and processing methodologies for multidisciplinary research. The event concluded with an interactive discussion and feedback session and was held under the guidance of Dr. Radhika M. Pai, Dean, and coordinated by Dr. Shreenidhi H. Bhat, Assistant Professor.

5-Day NCIIPC - AICTE Pentathon 2026 Controlled Penetration Testing

Advanced cybersecurity bootcamp concludes

Manipal: A five-day advanced bootcamp on Controlled Penetration Testing marked the final phase of NCIIPC-AICTE Pentathon 2026, national cybersecurity competition, concluded at Manipal Institute of Technology (MIT), Manipal, recently.

Hosted at the School of Computer Engineering, MIT, in collaboration with Centre of Excellence for Cyber Security, MAHE, the bootcamp represented most advanced stage of Pentathon 2026, a flagship national initiative jointly organi-

zed by the National Critical Information Infrastructure Protection Centre (NCIIPC) and All-India Council for Technical Education (AICTE). Pentathon 2026 unfolded across multiple competitive phases and attracted wide participation from aspiring cybersecurity professionals. The first phase, a jeopardy-style online Capture the Flag (CTF) challenge, aimed at identifying talent in ethical hacking and penetration testing. After several rounds, over 200 top-performing finalists advanced

to the grand finale, where participants tackled fictionalised enterprise-grade cyber-attack scenarios modelled on real-world threats to critical information infrastructure. The bootcamp provided an immersive training experience designed to strengthen practical cybersecurity capabilities. The curriculum covered key areas including Cloud Security, Malware Analysis and Incident Response, Cryptography and Vulnerability Assessment and Penetration Testing (VAPT) Foundations. TNA

A Five-day advanced bootcamp on Controlled Penetration Testing marked the final phase of NCIIPC - AICTE Pentathon 2026, national cybersecurity competition, concluded at Manipal Institute of Technology, Manipal. This was hosted at the School of Computer Engineering, MIT, MAHE, Manipal in Collaboration with Centre of Excellence for Cybersecurity, MAHE, Manipal.

The Boot camp represented the most advanced stage of Pentathon 2026. It provided an immersive training experience designed to strengthen practical cybersecurity capabilities. The curriculum covered key areas including cloud security, Malware Analysis and Incident response, Cryptography and Vulnerability Assessment and Penetration testing (VAPT) foundations.

Congratulations

Celebrating Our Faculty in University Leadership Roles



Dr. Karunakar Kotegar

Pro Vice Chancellor -Technology & Science, Manipal Academy of Higher Education (MAHE)

The School of Computer Engineering congratulates Dr. Karunakar Kotegar on his appointment as Pro Vice Chancellor – Technology & Science, MAHE. With over 29 years of experience in teaching, research, and academic administration, as Professor and Head of the Department of Data Science and Computer Applications, MIT, Manipal, he was instrumental in launching B.Tech and M.Tech programs in Data Science. Dr. Kotegar brings extensive expertise to this prestigious role. His contributions include strengthening international academic collaborations and student mobility. The School takes pride in his achievement and wishes him continued success in his new role.



Dr. Geetha Maiya to Dr. Poornima Panduranga Kundapur: A Proud Transition in Director - MAHE Student Affairs Leadership

**In-charge Director
MIT, Manipal**



Dr. Chandrakala C. B

**Deputy Director-Research
(Technical, Management & Humanities) MAHE, Manipal**



Dr. Poornalatha G

**Assistant Director -Student
Affairs , MIT, Manipal**



Dr. Shwetha Rai

FACULTY ACHIEVEMENTS



Dr. Akshay K C

Served as Guest Speaker on "Cyber Security in Digital World" at the state level on 27th February 2026



Dr. Anoop B N

Delivered

- An Invited Talk at the National Symposium on AI in Health, Goa University, on 16 January 2026.
- An online session on "Introduction to Modern Artificial Intelligence – Basics & Applications" for BCA students at Government First Grade College, Thirthahalli, on 27 March 2026.



Dr. Balachandra

Served as

- External Committee Member for an Academic Council Meeting on 10 January 2026.
- PhD Adjudicator – Kongu Engineering College, Coimbatore
- Academic Council Member – SMVITM, Bantakal.
- Judge – AYUSH Habba 2026 & IDEA Hackathon, TMA Pai Convention Center, Mangalore



Dr. Dasharathraj K. Shetty

Served as

- Guest Speaker on "Innovative Framework for Teaching and Learning" on 12 January 2026.
- Guest Speaker at AEMECON 2026 on "From Triage to Tech: How Emergency Medicine Doctors & AI Technocrats Can Co-Design Better Solutions" on 14–15 March 2026.

Conducted

- A PPD session on "Using AI Tools for Learning and Research" on 31 March 2026.
- A two-day workshop on "From Idea to IP: Patents, Protection, Valuation and CRI for Academia and Industry" as Keynote Speaker on 8–9 May 2026.

Received a Certificate of Appreciation from IAPC for contribution as faculty at the 33rd Annual National Conference of the Indian Association of Palliative Care on 15th February 2026.



Dr. Kamaraj K

Served as

- Guest Speaker for a national-level online FDP on "Digital Twin Technology" on 22 January 2026.



Mr. Shanmukharaja M

- Served as Trainer for NoSQL Architectures with MongoDB in January 2026.



Dr. Sanjay Singh

- Technical Committee Member – 40th Annual Conference on Neural Information Processing Systems (NeurIPS).
- Technical Committee Member – 2026 IEEE International Workshop on Machine Learning for Signal Processing, USA.



Dr. Ashwath Rao



Dr. Sumith N

- Guided Ms. Vedhika Reshma, who received the Best Paper Award at the IC3ET Conference held in Vasai, Maharashtra.



Manjunath K. N

- Visitor for discussions on UN Sustainable Development Goals (SDGs) at the United Nations Office for Outer Space Affairs, Vienna, and the International Center, Vienna, Austria.
- Participated in research discussions at the Medical University of Vienna, Austria.
- Technical Program Committee Member – 13th International Conference on Biomedical and Bioinformatics Engineering (ICBBE 2026), Japan



Dr. Veena Mayya

- Editorial Board Member – Discover Imaging, Springer Nature.
- Technical Committee Member – ICVISP 2026 and ICCV international conferences



Dr. Rashmi Laxmikant Malghan

- Mentor – Virtual Internship, in collaboration with Hanze University, Netherlands.



Dr. Pawan S. J.

- Editor – BMC Medical Imaging



Dr. Namrata Mariam Chacko

Delivered a talk titled "Smarter Attacks and Smarter Defense: AI in Cybersecurity" at MV Seminar Hall.



Dr. Radhakrishna Bhat

Was honored with the international-level award "Outstanding Contributions as Associate Editor 2025" by Intelligent Decision Technologies.

Patent Granted

Dr. Balachandra, Dr. Nisha P Shetty

"System and Method of a Selective Identity Attribute Based Encryption Scheme to Prevent Privacy Breaches"

Dr. Ashwath Rao B, Dr. Narendra V. G., Dr. Musica Supriya

"System and Method for Automated Sandhi Identification and Splitting"

Dr Sanjay Singh, Abhishek B Rao, Shivani G. Aithal

"Training Summarization Models"



Dr. Sandhya Parasnath Dubey

Served as Resource Person for the UGC-MMTTC Online Refresher Course "Use of AI & ICT for Teaching, Learning and Research in Higher Education" and for the AACST National Webinar "Computational Biology: Exploring Emerging Frontiers".



Dr. Neelima Bayyapu

- Invited as External Expert for the Academic Audit of the department of CSE(AI/ML) at Sahyadri College of Engineering & Management, Adyar, Mangaluru during January 2026

Served as a

- Program Committee Member for the inaugural edition of Supercomputing India (SCI 2025)
- Program Committee Member for EduHPC-26 (Workshop on Education for High-Performance Computing)
- External examiner for PG thesis/Project evaluation at NMAM Institute of Technology, NITTE during May 2026.

Celebrating the Women of SCE



Goodbye with Gratitude



Mr. Umesha Prabhu



Mr. Sadanand Nayak

Ph.D Awardees



**Dr. Soumya
Nandan Mishra**

Has successfully defended his Doctoral thesis titled "Adaptive Routing in Low Power and Lossy Networks for Mission-Critical IoT Applications" for the award of a PhD degree by IIT Guwahati, on 30 January 2026. The research work was guided by Dr Manas Khatua, Associate Professor, Department of Computer Science and Engineering, Indian Institute of Technology Guwahati.



Dr. E Shreehari

Has successfully defended his Doctoral thesis titled "Feature Selection Techniques to Enhance Machine Learning Models for Prediction and Decision Making in Multidisciplinary Data Driven Applications" for the award of a PhD degree by VIT, Tamil Nadu, on 12 January 2026. The research work was guided by Dr Dhinesh Babu L D, Vellore Institute of Technology, Vellore.



Dr. Pooja S

Has successfully defended her Doctoral thesis titled "An AI Enabled Semantic Blockchain Solution for Recordkeeping" for the award of a PhD degree by Manipal Academy of Higher Education, Manipal, on 21 May 2026. The research work was guided by Dr Chandrakala C B, Manipal Institute of Technology, Manipal.



**Athira
Gopalakrishnan**

Has successfully defended her Doctoral thesis titled "Advancing Named Entity Recognition for the Malayalam Language Through the Integration of BERT and its Variants with Machine Learning and Deep Learning Techniques" for the award of a PhD degree Amrita Vishwa Vidyapeetham, Ettimadai, on 2 June 2026. The research work was guided by Dr. K. P. Soman.

Has successfully defended her Doctoral thesis titled "Application Model Based Testing in healthcare System" for the award of a PhD degree by C V Raman Global University, Bhubaneswar Odisha, on 10 June 2026. The research work was guided by Dr. Madhusmita Sahu,



**Dr. Musica
Supriya**

Has successfully defended her Doctoral thesis titled "A machine translation system for Kannada to English and English to Kannada" for the award of a PhD degree by Manipal Academy of Higher Education, Manipal, on 28 April 2026. The research work was guided by Dr U Dinesh Acharya and co-guided by Dr. Ashalatha Nayak, Manipal Institute of Technology, Manipal.



**Dr. Priya
Kamath B**

Has successfully defended her Doctoral thesis titled "Feature Based Classification and Summarization of online product reviews" for the award of a PhD degree by Manipal Academy of Higher Education, Manipal, on 19 June 2026. The research work was guided by Dr Geetha M, Manipal Institute of Technology, Manipal.



Dr. Pragya Jha

Pragyan'26 × KANINI AI Hackathon



Team Errorists, representing ISTE Manipal, Manipal Institute of Technology, secured First Place at the Pragyan'26 × KANINI AI Hackathon hosted by National Institute of Technology Tiruchirappalli. Competing against over 120 teams, they developed PARS (Patient Automated Risk Stratification System), an AI-driven emergency triage platform for hospitals. After a 32-hour hackathon and multiple evaluation rounds, the team—Advait Balachandar, Rohan Mathur, Prayatshu Misra, and Shreshth Kabra—emerged as the overall winner, earning a ₹50,000 cash prize. The project is now being developed as a startup through the Innovation Center at MIT MAHE.

Best Paper Award

Vedika Reshma Arekapudi, received the Best Paper Award for her research titled “Trustworthy Decision Making in Heart Disease via Hybrid Learning and Explainable AI (XAI)” at the International Conference on Communication, Computing, and Emerging Technologies (IC3ET-2026), held at Vidyavardhini’s College of Engineering and Technology (VCET), Vasai. The research was carried out under the guidance of Dr. Ashwath Rao B and Dr. Sumith N, and focuses on enhancing transparency, reliability, and trust in AI-assisted healthcare decision-making systems.



Startup

Rishit Mathur, a 3rd year student of the School of Computer Engineering, achieved a notable entrepreneurial milestone with the inauguration of his startup, Kanoon Saathi, on 8 March 2026 at the Innovation Center. Kanoon Saathi is an emerging legal-technology platform that leverages artificial intelligence to simplify access to legal information by summarizing legal documents, supporting case-law research, and enabling users to better understand complex legal matters. The establishment of the startup at the Innovation Center reflects the student’s strong entrepreneurial initiative and commitment to applying AI-driven solutions to address real-world challenges in the legal domain.



Iraiyrasu Sankar, achieved a significant sporting milestone by becoming the first-ever student from MIT to be selected for the prestigious Khelo India platform. He delivered an outstanding performance along with team members Prashant Kumar, Shivansh Choudary, and Shashank Bhat at the All India Inter-University Boxing Championship, held at Kurukshetra University, Haryana, from 3 to 7 March 2026. He competed against over 250 participants from universities across the country and advanced to the quarterfinals. His success brings immense pride to the institution and serves as an inspiration for aspiring students.

Khelo India platform



Solar Electric Vehicle Championship (SEVC) 2026



Chirag Santosh Kumar Mishra, Anvesha Singh, Ansh Sukhtankar, Dilprit Singh, from the School of Computer Engineering, were part of Team SolarMobil, which delivered an exceptional performance at the Solar Electric Vehicle Championship (SEVC) 2026, held at Hindusthan College of Engineering and Technology, Coimbatore, from 24 February to 3 March 2026.

The team's solar-powered vehicle, Heliark, won multiple accolades including Best Design, Optimum Cost, Maneuverability, and Acceleration, reflecting outstanding innovation, interdisciplinary collaboration, and engineering excellence.



Viksit Bharat Youth Parliament (VBYP)



Students from the institution marked a notable achievement by participating in the Viksit Bharat Youth Parliament (VBYP), held from 23 to 26 March at Gandhi Bhavan, Bengaluru, which brought together 155 participants for a rigorous simulation of parliamentary proceedings centered on the Union Budget 2026.

Representing Udupi district, Srinavith Srinath, Kanav Sachdeva, and Shashank Ranganathan from School of Computer Engineering, MIT, Manipal, were selected to take part in this prestigious platform. The event involved structured debates, policy analysis, and dynamic legislative discussions, where participants assumed the roles of parliamentarians to present arguments and critically evaluate fiscal policies. Participation in VBYP significantly enhanced the students' understanding of governance and public finance, while also strengthening their public speaking, critical thinking, and leadership skills, bringing pride and recognition to the college.

Samsung PRISM Certificate of Excellence

K. Tushar Vikash, Kewal Thacker, and Aniket have been honored with the Samsung PRISM Certificate of Excellence for their outstanding contributions to industry-sponsored research in the domain of next-generation communication networks in the month of May 2026. They were mentored by Dr. Ramakrishna M.

Their three research worklets:

- **Post-Quantum Secure Call Encryption for Voice and Video in 5G/6G Networks (25NCOAM06MIT),**
- **Real-Time Fraud/Anomaly Detection for 5G/6G Calls Using NWDAF and AI (25NCOAM08MIT), and**
- **Adaptive Security Switching Framework Based on Fraud/Anomaly Detection (25NCOAM09MIT)**

were recognized by Samsung PRISM for their technical innovation and potential real-world impact. The team also received a cumulative cash award of ₹2,59,200, underscoring the significance of their work in advancing secure, intelligent, and resilient communication systems for future wireless networks.



Samsung PRISM Web Agent Hackathon 2026

E. C. Vikranth, along with teammates Chanikya Gajjarapu, Dhruva Kuntamukkala, and Nithya Reddy Lingala of Team COD3INE, emerged as a winning team in the Samsung PRISM Web Agent Hackathon 2026, a national-level competition focused on developing intelligent web-agent solutions. Competing against more than 450 teams from across the country, the team demonstrated strong problem-solving, innovation, and technical expertise in designing and implementing an effective agentic browsing solution. Their innovative approach, practical applicability, and robust technical execution earned them recognition among the winning teams in this highly competitive nationwide hackathon.



Anirudh Anand, Riya Noushad, Siddharth NCV, and Tharun S. V., members of Team Cerberus, were also among the winning teams of the Samsung PRISM Web Agent Hackathon 2026 under the theme "Secure Agentic Browsing (Privacy)". Conducted through multiple stages encompassing idea submission, implementation, and final demonstration, the hackathon challenged participants to build intelligent browsing agents capable of performing autonomous tasks while ensuring user privacy and security. Through their innovative privacy-focused solution, Team Cerberus showcased excellence in AI-driven web technologies, cybersecurity, and responsible agent design, earning recognition at the national level.

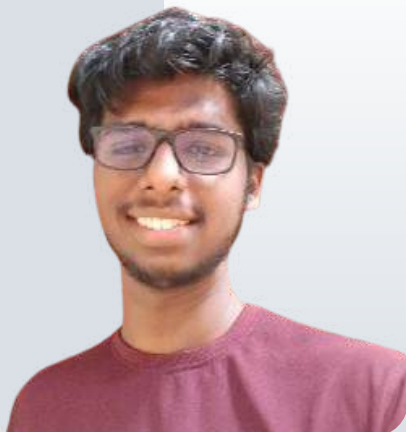


Vishal Kumar, together with teammates Siddhant Shivam, Ganesh Bamalwa, and Mrinal Dharmi of Team Synapse, also secured recognition as one of the winning teams at the Samsung PRISM Web Agent Hackathon 2026 for their project "Synapse," an AI-powered productivity ecosystem that transforms web browsers into intelligent command centers. Leveraging Large Language Models and Model Context Protocol (MCP) servers, the platform enables seamless automation across applications such as GitHub, Notion, Slack, and Google Workspace. The team's innovative architecture and ability to execute complex cross-platform workflows were highly appreciated, demonstrating the potential of agentic AI to enhance productivity and digital collaboration.



Vishal Kumar, together with teammates Siddhant Shivam, Ganesh Bamalwa, and Mrinal Dharmi of Team Synapse, also secured recognition as one of the winning teams at the Samsung PRISM Web Agent Hackathon 2026 for their project "Synapse," an AI-powered productivity ecosystem that transforms web browsers into intelligent command centers. Leveraging Large Language Models and Model Context Protocol (MCP) servers, the platform enables seamless automation across applications such as GitHub, Notion, Slack, and Google Workspace. The team's innovative architecture and ability to execute complex cross-platform workflows were highly appreciated, demonstrating the potential of agentic AI to enhance productivity and digital collaboration.

Synapse.GG



Vishal Kumar, has developed Synapse.GG, an innovative gamified learning platform designed to make engineering education more engaging and competitive for college students. Inspired by the popularity of leaderboards and strategy-based games, the platform transforms academic learning into an interactive experience where students compete by answering subject-specific questions through a trading-card-style game mechanism. With the support of student volunteers, a comprehensive question bank covering numerous engineering courses has been created to encourage active learning beyond traditional classroom methods. The platform also features branch-wise leaderboards and an ELO-based ranking system, fostering healthy competition while helping students strengthen their understanding of core engineering subjects. Through Synapse.GG, Vishal aims to bridge the gap between academic content and student engagement by making learning both enjoyable and rewarding.

MAHE Mobility Challenge 2026

Krishna Gera, Sarangan Srinivasan, Kevin D'Souza, and Muhir Kapoor, achieved an outstanding victory by securing 1st Place in the Robotics Track of the MAHE Mobility Challenge 2026, conducted by the Centre of Excellence in Autonomous Mobility at MIT Bengaluru. Competing in a demanding 36-hour national-level hackathon that attracted over 700 registrations, Team VroomVroom developed a fully autonomous robotic system capable of navigating a maze-based arena under dynamic decision-making constraints. Their solution integrated computer vision, AprilTag-based navigation, finite-state machine logic, Gazebo simulation, ROS2 software integration, and autonomous navigation capabilities. Through exceptional teamwork and technical innovation, the team outperformed competitors to win the Robotics category and a cash prize of ₹50,000, earning recognition for their contributions to autonomous mobility and robotics engineering.



Innov-AI-tion Hackathon

Arnav Ranjan, Om Raj, and Kushal Raj, members of Team 4Minaar, secured Third Place at the Innov-AI-tion Hackathon, conducted as part of Elan & nVision 2026, the flagship techno-cultural festival of the Indian Institute of Technology (IIT) Hyderabad. Following a highly competitive online screening process, the team was shortlisted among the Top 10 finalists and invited to present their solution during the offline grand finale held at IIT Hyderabad on 10 January 2026. Competing against teams from leading institutions across the country, Team 4Minaar delivered an impressive performance and secured 3rd position overall, showcasing their technical expertise, innovation, and collaborative problem-solving abilities on a national platform.



Microsoft AI Unlocked 2026

Om Raj led Team Ekagrah (with Arnav Ranjan and Pratham Gupta) to a Top 10 Finalist spot in Microsoft AI Unlocked 2026, navigating multiple evaluation rounds to build an impactful AI-driven solution.

Gorasa Saketh Ram and teammate Suhaan Syed also achieved a Top 10 Finalist finish out of 4,000+ applicants, advancing through multiple knockout rounds to pitch their prototype at Microsoft's Noida headquarters.



Nityant Agarwal secured a Top 50 national rank in the Microsoft AI Unlocked Hackathon 2026 as a solo participant. His project, Arcadia, is an AI-powered learning platform that transforms handwritten notes into structured digital knowledge using a RAG architecture. Built with FastAPI, Supabase, GPT-4o Vision, and Azure AI Services, it features multimodal reasoning, automated knowledge mapping, and adaptive learning. Developed entirely by him, from the backend to the React-Vite frontend, the project showcased exceptional innovation and technical expertise, earning him recognition among Microsoft's top AI innovators.



Admission to the Columbia University, New York

Lavitra Srivastava, has secured admission to the Master of Science in Computer Science program at Columbia University, New York, one of the world's leading institutions for advanced computing research. With an impressive CGPA of 9.14, Lavitra's academic achievements are complemented by professional experience as a Team Manager and Senior AI Member at Rugved Systems, where he has contributed to machine-learning applications and practical engineering solutions. His work in areas such as LSTM-based time-series forecasting and applied AI reflects a strong commitment to research and innovation, making this admission a significant milestone in her academic journey.



Indian–French Intercultural Programme 2026

Sukriti Varma successfully completed the Indian–French Intercultural Programme 2026, jointly organized by Manipal University and ENSSAT, France. Conducted from 28 to 30 January 2026, the programme focused on intercultural learning, international academic collaboration, and cultural exchange between Indian and French students. Through interactive sessions and discussions, she gained valuable insights into global perspectives, cross-cultural communication, and French culture, and was awarded a Certificate of Completion by the organizing institutions.



Additionally, Dhyey Patel was selected as one of only six speakers for the prestigious "Voice of the Young" panel discussion, where he represented the finalist teams before the jury and audience.

Global Sustainability Challenge



Arnav Varshney, was a core team member of the winning team at the Regional Finals of the Global Sustainability Challenge, hosted by IIT Bombay. He played a key role in designing and manufacturing the electronic and mechanical components of the team's prototype, ensuring seamless integration and functionality. Competing through multiple stages of the challenge that began with 56 teams, progressed to 36 teams, and ultimately selected only the Top 10 teams from South Asia under the Sustainability and Adaptation & Resilience themes, the team delivered an exceptional performance to emerge as regional champions. As a result of this achievement, the team earned the opportunity to represent its work at the Global Finale hosted by the Technical University of Munich (TUM), Germany, showcasing innovative and impactful sustainability-focused engineering solutions on an international stage.

WitchHunt Hackathon 2026

Dhyey Patel, Neha J. Rao, Adya Gangwal, and Suchet Ashok Amaljari, students of the B.Tech CSE (Artificial Intelligence & Machine Learning) programme, Batch of 2027, and members of Team The Dev Nation, secured the First Runner-Up position in the Smart Cities Track at WitchHunt Hackathon 2026, a national-level innovation challenge organized by the HopeWorks Foundation, Bengaluru, along with a cash prize of ₹1,00,000. Competing against more than 1,250 teams from across the country, the team advanced through multiple rounds of evaluation to qualify among the Top 40 finalists for the Grand Finale. Their innovative AI-driven solution for addressing urban challenges earned them recognition in the Smart Cities category, reflecting their technical excellence, teamwork, and problem-solving abilities. The achievement highlights the students' commitment to applying emerging technologies to develop impactful solutions for real-world problems.

HACK IITK 2026



Shaan Chopra, Pratham Shah, Aaron Fritz, and Neha Varadharajan, members of Team Nite Meowls from Cryptonite, secured Second Place at HACK IITK 2026, organized by C3iHub, IIT Kanpur, competing against more than 9,000 participants and 1,400 teams from across the country. Advancing to the onsite finals at IIT Kanpur, the team presented their solution on "Local LLM Powered Policy Gap Analysis and Improvement Module", a cybersecurity-focused platform designed to automate policy compliance and gap remediation. Their outstanding performance earned them a cash prize of ₹2,00,000, highlighting their innovation and technical excellence in addressing real-world cybersecurity challenges.

Secure AI Software & Systems Hackathon 2026



Pranav Achanta, along with his team mates Tejas Bharathraj, Artham Bansal, and Aaryan Gupta, secured 1st Place at the Secure AI Software & Systems Hackathon 2026, jointly organized by BITS Pilani Goa Campus and IIT Madras under the ISEA Phase-III initiative. Competing against teams from across the country, his team developed stickyNET, an AI-powered SSH honeypot integrating a Groq LLaMA-based deception engine, a BiLSTM classifier trained on over 451,000 SSH attack records, and an automated threat-intelligence pipeline aligned with MITRE ATT&CK. Pranav's contributions included designing the Cowrie honeypot infrastructure, developing the LLM-based deception engine, implementing the FastAPI backend, configuring Redis pipelines, and deploying the platform using Docker. The team was awarded a cash prize of ₹30,000 for their innovative cybersecurity solution.

IASc-INSa-NASi Summer Research Fellowship Programme (SRFP) 2026



Arnav Devdatt Naik, has been selected for the prestigious IASc-INSa-NASi Summer Research Fellowship Programme (SRFP) 2026, jointly administered by the Indian Academy of Sciences (IASc), the Indian National Science Academy (INSA), and The National Academy of Sciences, India (NASI). Awarded based on academic excellence and demonstrated research potential, the fellowship provides outstanding students with opportunities to engage in advanced scientific and engineering research under the guidance of leading researchers across the country.

Men's Volleyball at Revels Cup 2026



Daksh Kumar Sheregar, secured Second Place in Men's Volleyball at Revels Cup 2026, the annual sports festival of MIT Manipal held from 22 to 27 February 2026. The achievement highlights his excellence beyond academics and reflects his commitment to teamwork, discipline, and sporting excellence at the institute level.



JOURNAL

Author

Title

Vibha B Hegde, Dasharathraj K. Shetty and G. Savitha

A comparative study of loss functions and attention mechanisms in landslide semantic segmentation using U-Net

Anujna Prabhu, Raghavendra, S., Abhilash, S. K., Adesh N. D. & Chandrakala C. B.,

Domain-Adaptive Panoramic Video Generation using Image Diffusers

Arush Goel, Geetha Maiya

Supporting student wellbeing: insights from a faculty mental health literacy survey at an Indian higher education institute

CONFERENCE

Author

Title

Pragathi Guduru, S. Ramya, H. Anitha

A Comprehensive Review of Hand Sign Recognition Systems

Apoorva Puppala, Sandhya Dubey

Analyzing Hybrid Deep Learning Approaches for Traffic Sign Recognition: A Review

Vishwas Prabhu, Rao B. Ashwath, N. Gopalakrishna Kini

Parallelization of 3D-LBP Feature Extraction Using MPI Programming

Bathula Srivarsha, B. Ashwath Rao, N. Gopalakrishna Kini

Parallelization of Local Extrema Co-occurrence Feature Extraction

Garimella Sai Sankeerth, N. Gopalakrishna Kini, K. Jyothi Upadhya

Parallel Pancake Sorting Using MPI and CUDA

Akash S. Kotian, Kumar B. Niketh, N. Gopalakrishna Kini, Rao B. Ashwath

Parallel Subsequence Generation of a String Using MPI and CUDA

Shetty Sainath Bhaskar, Venkatesh Bhat, N. Gopalakrishna Kini, K. Jyothi Upadhya

Accelerated Mining of Partial Periodic Patterns in Temporal Datasets Using CUDA

P. Padmaprasad Shenoy, S. Hemalatha, Prashanth Barla

Adaptive Self-Healing Video Encryption Framework for Robust Multimedia Security

Shrutha V. Bhat, Rakshith H. Kalmadi, B. Ashwath Rao, N. Gopalakrishna Kini

Implementation of Local Triangular Coded Pattern Using MPI Parallel Framework

Aston Dsouza, C. Akshay, N. Gopalakrishna Kini, B. Ashwath Rao

Parallelization of Counting Sort

S. Aniruddha, Kedaresh Inamdar, N. Gopalakrishna Kini, K. Jyothi Upadhya

Taylor Series Optimization in Encryption and Decryption Using Parallel Computing in Cryptography

Suhas Bhat, Soumya Nandan Mishra, Sucheta Kolekar, Deepak Parashar

A Dual-Module Vision-Language AI Framework for Intelligent Decision Making in Smart Agriculture

MAHE Grants

Indian Language – Indian Language Machine Translation

Under the National Language Translation Mission (NLTM), Dr. Narendra V G (PI) and Dr. Aswath Rao B (Co-PI) secured an ₹80.41 lakh funded project led by IIIT Hyderabad. The School leads the Kannada vertical for machine translation across 11 Indian languages, translating over 45,000 Hindi–Kannada sentences, including science, engineering, health, and conversational content. The team also developed a project website, published two Q1 journal papers, and received appreciation from the consortium leader for its outstanding contribution.

Discourse Integrated Dravidian Language – Dravidian Language Machine Translation, Kannada – Tamil

Commissioned in 2022, this ₹187.7 lakh project focuses on developing Kannada ↔ Tamil machine translation models and language data resources. Led by Anna University – K.B. Chandrashekar Research Centre with MIT Manipal as the Kannada partner, the project has been extended until September 2026. Under Dr. Ashwath Rao B (PI) and Dr. Musica Supriya (Co-PI), the team translated 10,000 Kannada–Tamil sentences, enhanced NLP tools (Morphological Analyzer, POS Tagger, and Chunker), created 11,000 domain dictionary terms, and completed linguistic annotation for 20,000 sentences. The project has also produced a dedicated website, 8 technical papers, and 1 patent.

AICOE research project

AICOE research project has received 3.7Cr funding so far, work is published in World health Organisation report, Switzerland in Feb, presented in ECR - the second largest radiology conference in March, Austria and established EC approval from 8 hospitals in India in April.

Apple USA under Industry Academia Investigator Support Program

Secured 10L INR grant from Apple USA under Industry Academia Investigator Support Program

HOW BHASHINI IS TEACHING AI TO SPEAK 22 INDIAN LANGUAGES

Major scope for improvement in Google's Tulu translation: Research

Deepthi Sanjiv
@timesofindia.com

Mangaluru: A study conducted by researchers on the Tulu language found significant scope for improvement in Google's Tulu translation feature. The research team included two final-year MCA students from the Manipal Institute of Technology (MIT), Tulu language was included in Google translation feature, from June 27, 2024.

Prajna Devadiga, who conducted the research along with Kavyashree, told TOI that the introduction of Tulu language to Google Translate saw widespread usage, including contributors uploading articles on Wikipedia. "This

Since Tulu is a low-resource language, the system struggles with word-level meaning and context

prompted us to study how accurate these translations actually are," she said.

The team evaluated Google's Tulu translation using four established metrics. These included the BLEU (Bilingual Evaluation Understudy) score, which measures similarity between machine-generated and human translations; chrF++ (Character F-score plus plus), commonly used to

assess translation quality in low-resource languages; Translation Error Rate (TER), which calculates the number of edits required to match a human reference; and Comet (Crosslingual Optimised Metric for Evaluation of Translation), a neural-based evaluation metric.

Prajna said that, using these metrics, the researchers analysed how Tulu sentences should ideally be structured and compared them with Google's translated outputs. A dataset was created by first manually translating select English sentences into accurate Tulu, and then comparing these reference translations with Google's output.

The study revealed significant

scope for improvement. Since Tulu is a low-resource language, the system struggles with word-level meaning and context, often substituting Kannada words instead. The researchers noted that enhancing Google translator corpus and providing more focused training data for Tulu are crucial for accurate translation, and wider digital adoption of the language, said UB Pavanaja, director of Vishwa Kannada Foundation, who served as the external guide.

The study was conducted under the guidance of Adarsh Rag, Ashwath, and Musica Supriya from the computer engineering department. The study is expected to be published soon.

What it takes AI to learn a new language



The team behind Bhashini met recently at DAU

The process by which AI acquires a language is fundamentally different from how a child does. Where a baby begins by mimicking sounds and slowly learns to connect spoken words to visual symbols, AI learns by detecting statistical patterns across massive datasets.

At DAU, for instance, the team fed nearly 2 lakh Gujarati sentences from a wide range of sources into the system to build its foundational language model. Early efforts focused on legal, scientific, technological and administrative vocabulary. And rather than translating directly between two Indian languages, the system relies on what linguists call a pivot language.

"If we give an input for translating Gujarati word into Bengali, the system first compares the Gujarati word to English or Hindi, which have far larger training corpora, and then maps that to Bengali, before generating the final translation. But for Bhashini, the larger goal is to improve direct Indian language-to-Indian language translation, and that demands much

stronger parallel sentence data, rigorous evaluation and terminology control," said one team member. A major part of generative AI involves predicting the next word in a sentence — an ability that only becomes reliable when the AI deeply understands a language's syntax. This is where linguists become indispensable. They set terminology and style guidelines, review outputs for fluency and adequacy, and help the system navigate the natural variation in real-world usage.

Gujarati, like most Indian languages, follows a subject-object-verb sentence structure — quite different from English's subject-verb-object order — and teams must define a standard register while carefully documenting acceptable dialectal variations, from Surti to Kutchi, rather than imposing a single "correct" form.

Finally, all data must be labelled and structured so that the AI can use it for interactive purposes — allowing native Gujarati speakers, for instance, to query vast repositories or converse with digital systems entirely in their own language.

TALKS

LUMINI

WISDOM FROM
EXPERIENCE....

Building Reliable AI Agents



Mr. Soham Dinesh Tiwari, Engineer at Scale AI, California, USA, and an alumnus of the 2018–2022 B.Tech Computer Science and Engineering batch, MIT Manipal, delivered an insightful alumni talk on "Reliable AI Agents" on 28th March 2026. The session focused on bridging the reliability gap between experimental AI scripts and production-grade systems, introducing concepts such as agentic training environments, programmable spaces, durable workflows, and state management. Through practical examples and interactive discussions, he highlighted the importance of building resilient, auditable, and scalable AI agents for real-world applications, inspiring students to explore emerging opportunities in intelligent autonomous systems.

Mr. Soham Dinesh Tiwari

[B. Tech. - CSE - 2018-2022]

Engineer @ Scale AI, California, USA



Mr. Daksh Dadhanania

[B. Tech. - IT - 2021-2025]

DevOps Associate at UnitedHealth Group (Optum)

Network Security in Cloud Architecture: Securing Large-Scale Applications

Delivered an informative alumni talk on "Network Security in Cloud Architecture: Securing Large-Scale Applications" on 16 March 2026. The session highlighted the importance of network security in cloud environments, focusing on Microsoft Azure Virtual Networks (VNETs), subnet segmentation, DNS security, and application-layer architecture. Through practical insights and industry-oriented examples, he explained how secure cloud infrastructure, network isolation, and layered security mechanisms contribute to building scalable, resilient, and compliant enterprise applications, providing students with valuable exposure to modern cloud security practices.

Securing Rogue AI Bots: Governance and Policy for a Trustworthy Autonomous Future

Delivered an engaging alumni talk on "Securing Rogue AI Bots: How to Hack-Proof the Autonomous Future with Governance and Policy Armour" on 30 March 2026. The session emphasized the growing need for securing autonomous AI systems through robust governance frameworks, ethical AI practices, and comprehensive cybersecurity measures. He discussed strategies such as continuous monitoring, explainable AI, secure update mechanisms, regulatory compliance, and policy-driven risk management to mitigate threats posed by rogue AI agents. Through real-world insights from healthcare and large-scale AI deployments, he highlighted the importance of integrating technical safeguards with governance and responsible AI principles to build secure, trustworthy, and resilient intelligent systems for the future.



Mr. Jinesh Mehta

[B. Tech. - CCE - 2017-2021]

Data Scientist at CVS Health

CLUB EVENTS

AWS CLOUD CLUBS MANIPAL



The inauguration of the AWS Cloud Club, Manipal was conducted in the presence of the club's board members, committee members, and faculty representatives.

EVENTS

Introduction to cloud computing 27th January 2026

Cloud computing workshop in aurora colab with ISTE 21st January 2026

ACM-WOMEN MANIPAL

The Real World Playbook with Guest Speaker Sheel Jaitley 2nd January 2026

Guest Speaker Session with Abhishek Rhisheekesan 2nd January 2026

Kairotic Hackathon Round 1 25th January - 27th January

Cloudscape - Workshop 28th January 2026

FinAgent - Workshop 29th January 2026

VoiceCraft AI - Workshop 30th January 2026

Clash Codale 31st January 2026

Kairotic-Final Round 1st February 2026

Search for Research 5.0 11th & 12th April 2026

LINUX USERS GROUP

Guest talk by Dr. Swaran Lata

Title: "Genesis of Language Technology Efforts Under TDIL Programme" 13th January - 10th February 2026

THE DATA ALCHEMISTS

DataVista 2026 13th January - 16th January 2026

Kairos (ACMW Hackathon) 14th January 2026

TDA Summer Bootcamp 2026 1st June - 20th July 2026

VISION

Excellence in Computer Science and Engineering education through continuous learning, research, innovation, and teamwork.

MISSION

To impart excellent Computer Science and Engineering education for professional roles in a technologically evolving world, advancing knowledge through quality research, innovation in emerging areas, and fostering strong collaborations with industry, academia, and society.

B Tech Computer Science & Engineering

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

- **PEO1:** Carry out engineering projects and develop new products in the area of Computer Science and Engineering and pursue higher studies.
- **PEO2:** Innovate and be creative in the profession; apply analytical skills and demonstrate research capabilities in the field of computer science and engineering.
- **PEO3:** Work in multidisciplinary environments and be responsive to the changing needs of the society.
- **PEO4:** Communicate effectively, display leadership skills, and demonstrate professionalism.
- **PEO5:** Engage in lifelong learning, apply the knowledge judiciously and remain continuously employable.

PROGRAM OUTCOMES (PO)

Engineering Graduates will be able to:

- **PO1:** Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- **PO2:** Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO3:** Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **PO4:** Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- **PO5:** Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- **PO6:** The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment.
- **PO7:** Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- **PO8:** Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- **PO9:** Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- **PO10:** Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- **PO11:** Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES(PSO)

- **PSO1:** Apply fundamental knowledge of algorithms, data structures, programming languages and computer architecture, to design, develop and analyze efficient computing solutions
- **PSO2:** Demonstrate the ability to design, develop and maintain software systems by leveraging concepts of operating systems, databases and software engineering practices for solving complex problems.
- **PSO3:** Design innovative, intelligent, secure and scalable solutions using emerging technologies such as Computer networking and IoT, Artificial Intelligence and Machine Learning, Cyber Security and Data Science

M Tech in Computer Science & Engineering

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

- **PEO1:** Analyze, design and develop software solutions for multidisciplinary problems related to industry and societal needs.
- **PEO2:** Excel in industry, academia, and entrepreneurship exhibiting professional and leadership skills with ethical standards.
- **PEO3:** Contribute to the scientific community through research and development in the field of computer science and engineering

PROGRAM OUTCOMES (PO)

- **PO1:** An ability to independently carry out research /investigation and development work to solve practical problems
- **PO2:** An ability to write and present a substantial technical report/document
- **PO3:** Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program
- **PO4:** Apply problem solving skills and advanced concepts in Computer Science to breadth of topics in Industrial Applications
- **PO5:** Use mathematical foundations and research based knowledge for facilitating novel contributions to contemporary areas of computer science

M Tech Computer Science & Engineering (Information Security)

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

- **PEO1:** Analyze, design and develop software and security solutions for multidisciplinary problems related to industry and societal needs.
- **PEO2:** Excel in industry, academia, and entrepreneurship exhibiting professional and leadership skills with ethical standards.
- **PEO3:** Contribute to the scientific community through research and development in the field of computer science and cyber safety.

PROGRAM OUTCOMES (PO)

- **PO1:** An ability to independently carry out research /investigation and development work to solve practical problems
- **PO2:** An ability to write and present a substantial technical report/document
- **PO3:** Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program
- **PO4:** Apply problem solving skills and advanced concepts in computer science and information security to breadth of topics in industrial applications
- **PO5:** Use mathematical foundations and research-based knowledge for facilitating novel contributions to contemporary areas of cryptography and information security

M Tech in Computer Science & Engineering (Cyber Security)

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

- **PEO 1:** Demonstrate technical competence to work in the network security domain
- **PEO 2:** Formulate innovative and traceable solutions for secure communication systems
- **PEO3:** Contribute to the scientific community through research and development in the field of computer science and Cyber Security

PROGRAM OUTCOMES (PO)

- **PO1:** An ability to independently carry out research /investigation and development work to solve practical problems
- **PO2:** An ability to write and present a substantial technical report/document
- **PO3:** Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program
- **PO4:** Develop in-depth knowledge of cybersecurity principles, techniques and tools
- **PO5:** Identify and mitigate cyber threats, design secure systems and networks

M Tech Computer Science & Engineering (AI and Decision Sciences)

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

- **PEO1:** Demonstrate technical competence in the development of intelligent systems, leveraging advanced AI, machine learning, and decision science methodologies.
- **PEO2:** Analyze, design, and implement intelligent solutions for societal and industrial problems using computational intelligence and data-driven decision-making.
- **PEO3:** Collaborate effectively in interdisciplinary projects, demonstrating professional ethics, leadership, and teamwork in diverse environments.

PROGRAM OUTCOMES (PO)

- **PO1:** An ability to independently carry out research /investigation and development work to solve practical problems
- **PO2:** An ability to write and present a substantial technical report/document
- **PO3:** Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program
- **PO4:** Design and develop intelligent systems by applying engineering principles, mathematical foundations, and computational techniques to solve real-world problems
- **PO5:** Apply tools and techniques in machine learning, optimization, and algorithmic fairness to develop decisive and intelligent solutions

M Tech in Computer Science & Engineering (Data Sciences)

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

- **PEO1:** Analyze, design, and develop data-driven solutions and intelligent systems to address multidisciplinary problems in industry and society.
- **PEO2:** Excel in careers across industry, academia, and entrepreneurship by demonstrating professional competence, leadership qualities, and adherence to ethical standards.
- **PEO3:** Contribute to the scientific and technological community through innovative research and development in data science and machine learning.

PROGRAM OUTCOMES (PO)

- **PO1:** An ability to independently carry out research /investigation and development work to solve practical problems
- **PO2:** An ability to write and present a substantial technical report/document
- **PO3:** Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program
- **PO4:** Apply mathematical foundations, data analytics, and intelligent technologies to solve real-world problems
- **PO5:** Design and develop data driven models, and enhance decision making through visualisation

M Tech Computer Science & Engineering (Networks)

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

- **PEO1:** Apply technical knowledge to design modern computer networks for industry and society.
- **PEO2:** Exhibit professionalism and collaborative skills in addressing advanced challenges in networking through academic and research.
- **PEO3:** Engage in continuous learning to remain at the forefront of computer networking and contribute to practical advancement.

PROGRAM OUTCOMES (PO)

- **PO1:** An ability to independently carry out research /investigation and development work to solve practical problems
- **PO2:** An ability to write and present a substantial technical report/document
- **PO3:** Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program
- **PO4:** Design and develop intelligent, secure communication systems by integrating hardware and software components
- **PO5:** Apply mathematical principles to model, simulate, and analyze complex problems related to networking using modern tools