MANIPAL UNIVERSITY
JAIPUR

25.4

CSE Chronicles

The Official Newsletter for
Department of Computer Science and Engineering · 2025

Oct-Dec

Table of Contents

From the Associate Dean's Desk

Dear MUJ Community,

As we begin a new academic year, I'm filled with pride and anticipation for the journey ahead. At Manipal University Jaipur, our strength lies not only in academic excellence but also in the vibrant community we've built—where innovation, inclusivity, and collaboration are at the heart of everything we do. The Department of Computer Science and Engineering continues to break new ground in shaping future - ready professionals.

What truly defines MUJ is the spirit of our people—faculty who mentor with passion, students who dream big, and a culture that celebrates curiosity and initiative. At MUJ, growth is a shared journey. Our commitment to academic excellence, research, and student development is stronger than ever. We believe in creating opportunities that challenge, inspire, and prepare our students to become thoughtful innovators and responsible leaders. From groundbreaking projects to enriching campus activities, every experience here shapes a more capable and compassionate future.

As we look ahead, let us support one another, stay curious, and continue striving for excellence. Here's to another year of meaningful progress and collective success. Let us approach this year with a shared commitment to excellence, empathy, and innovation. Together, we will continue to build a legacy of purpose and progress.

Dr. Chhatar Singh Lamba
Associate Dean, Faculty of Engineering
PhD, M.tech

From the HoD's Desk

Dear Readers, Greetings!

I extend my congratulations to the editorial team of "***CSE Chronicles***" for their initiative in launching this newsletter. The past year has been transformative, with numerous events like hackathons, webathons, conferences, and FDPs conducted by our department. This newsletter will showcase the innovation, exploration, and achievements of our remarkable journey.

Our students are the future leaders of the technology industry, and it is our privilege to nurture their talents and provide them with the tools needed to thrive. Recently, we held a curriculum conclave to gather feedback from industry experts and premier institutes. This helped us develop a rigorous and innovative curriculum that equips our students with technical expertise, critical thinking, and problem-solving skills essential in today's world.

I extend my heartfelt thanks to our dedicated leadership for their exemplary guidance. Your vision continues to inspire us all. Under your leadership, our faculty, students, various clubs, and chapters have demonstrated unwavering resilience and commitment to our shared mission.

Lastly, I express my profound gratitude to every member of our department—faculty, staff, students, and alumni—for your contributions and unwavering support. Your dedication makes our department exceptional.

Together, we will continue to shape the future of the department and leave a lasting impact.

Dr Neha Chaudhary
Head of Department, CSE

Meet the Team

Faculty Team

Dr Kuldip Singh Sangwan
Dean, Faculty of Engineering

Dr. Chhatar Singh Lamba
Associate Dean, School of CSE

Dr Neha Chaudhary
Head of Department, CSE

Dr. Juhi Singh
Faculty Editor

Dr. Rishav Dubey
Faculty Co-Editor

Student Team

Kasvi Rajwar
Student Editor & Content writer

Drishti Madaan
Student Editor & Designer

Faculty, CSE

Department of Computer Science and Engineering

Row-1 (Left to Right): Dr Sayar Singh Shekhawat, Dr Mahesh Jangid, Dr Sakshi Shringi, Dr Neha Chaudhary, Dr Sandeep Chaurasia, Dr Susheela Vishnoi, Dr Neetu Gupta, Ms. Babita Tiwary, Ms. Sushma Tanwar, Dr Sandeep Joshi, Dr Neelam Chaplot;

Row-2 (Left to Right): Dr Rajat Goel, Dr JeyaKrishna V, Dr Rishi Gupta, Dr.Dibakar sinha, Dr Juhi Singh, Ms. Anita Shrotriya, Ms. Bali Devi, Ms. Surbhi Sharma, Ms. Vaishali Chauhan, Ms. Santoshi Rudrakar;

Row-3 (Left to Right): Dr Vivek Kumar, Dr Rakesh Kumar, Dr Aditya Sinha, Mr. Sunil Kumar Patel, Mr. Shishir Singh Chauhan, Dr. Nishant Jain, Dr. Anil Kumar, Mr. Atul Kumar Verma, Dr Praneet Saurabh, Dr Ashish Sharma;

Row-4 (Left to Right): Mr. Mayank Jain, Dr Arvind Kumar, Dr Amit Garg, Mr. Vivek Singh Sikarwar, Dr Ankit Shrivastav, Dr Rishabh Dubey, Mr. Mangilal Jat

Row-5 (Left to Right): Dr Ashok Kumar Saini, Dr Mayank Namdev , Dr Jayprakash Singh, Dr Ankur Pandey, Mr. Priyank Hada, Dr Ajit Noonia, Dr Manmohan Sharma, Dr Ajay Kumar, Dr Satpal Singh Kushwaha, Dr Ajay Kumar

Vision and Mission

The Department of Computer Science and Engineering (CSE) at Manipal University Jaipur has provided a comprehensive education in computer science since the inception of its B.Tech. CSE program in 2011. This program is designed not only to prepare students for various employment opportunities but also to cultivate their entrepreneurial spirit, ensuring they are equipped to make meaningful contributions to the corporate world and beyond. The department takes immense pride in the accomplishments of its alumni, who have demonstrated excellence across diverse fields and have significantly contributed to society.

With around 80 faculty members, Manipal University Jaipur's Department of Computer Science and Engineering benefits from a diverse and experienced team. These faculty members are dedicated to delivering high-quality education, mentoring students, and conducting cutting-edge research. Their expertise covers various fields within computer science and engineering, ensuring students receive a contemporary education aligned with industry trends. The department's large faculty size enables a wide range of specialization areas to be covered, offering students flexibility in their academic pursuits.

VISION

To achieve Excellence in Computer Science and Engineering Education for Global Competency with Human Values.

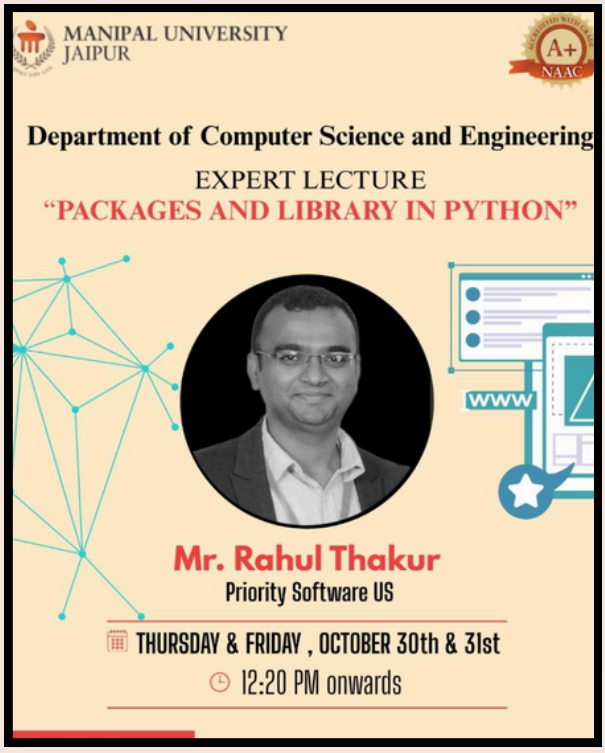
MISSION

- Provide innovative Academic & Research Environment to develop competitive Engineers in the field of Computer Science and Engineering.
- Develop Problem-solving & Project Management Skills by Student Centric Activities & Industry Collaboration.
- Nurture the Students with Social & Ethical Values.

Capacity Building Programs

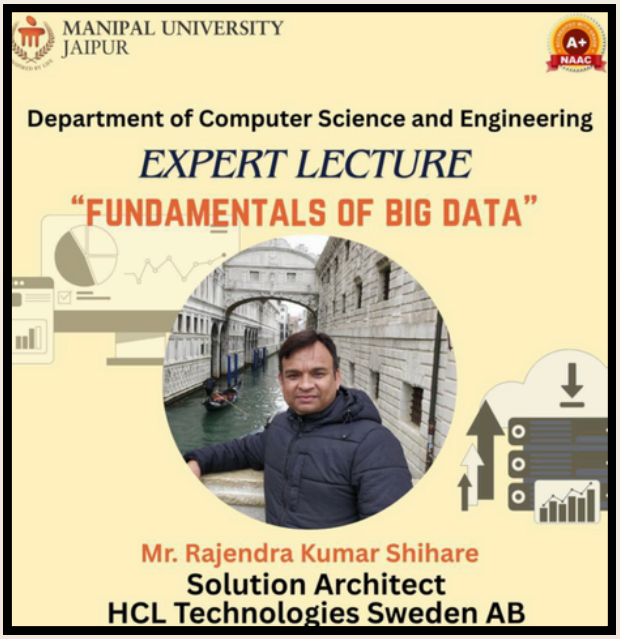
With the demands of the tech industry rising rapidly, the Department of Computer Science and Engineering at Manipal University Jaipur consistently takes initiative to upskill students through hands-on, innovative, and impactful events. From technical workshops to thought-provoking speaker sessions, the department curated a series of engagements aimed at helping students stay ahead of the curve. Some of the key events conducted in the months of October, November, and December 2025 include:

Expert Lecture on Python Packages and Libraries



On 30 and 31 October, the Department of Computer Science and Engineering at Manipal University Jaipur organized an Expert Lecture on "Packages and Library in Python." The two-day session was conducted from 12:20 PM onwards with the objective of strengthening students' practical understanding of Python programming and its extensive ecosystem of libraries. The lecture was delivered by Mr. Rahul Thakur, Priority Software, US, who provided comprehensive insights into the effective use of Python packages and libraries for software development. The session covered fundamental concepts, real-world applications, and best practices, enabling students to understand how Python libraries enhance productivity, scalability, and efficiency in modern software solutions. The interactive sessions encouraged active participation, clarifying concepts through examples and discussions. Overall, the lecture successfully bridged theoretical learning with practical implementation, reinforcing the department's commitment to equipping students with industry-relevant skills and hands-on technical knowledge.

Expert Lecture on Fundamentals of Big Data



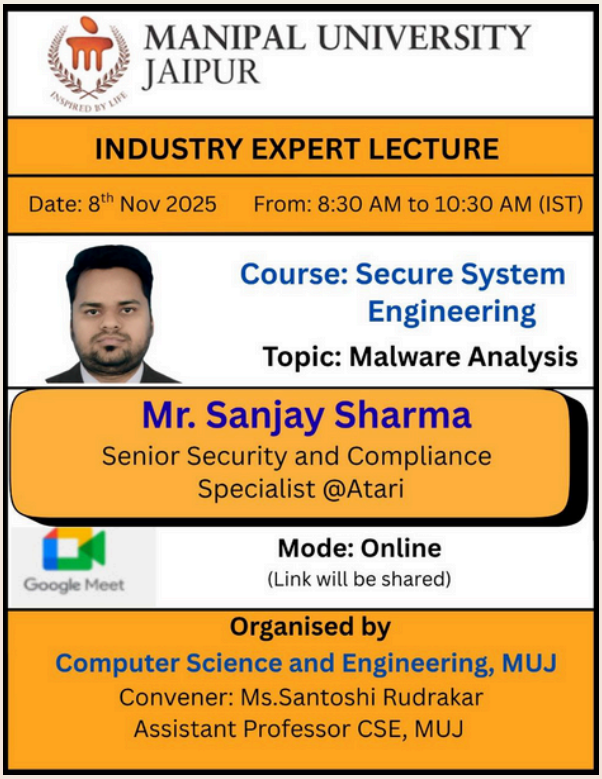
On 31 October 2025, the Department of Computer Science and Engineering at Manipal University Jaipur organized an Expert Lecture on "Fundamentals of Big Data." The session was conducted in online mode via Microsoft Teams from 11:30 AM to 1:30 PM, with the aim of introducing students to the core concepts and practical relevance of big data technologies. The lecture was delivered by Mr. Rajendra Kumar Shihare, Solution Architect at HCL Technologies Sweden AB. The session provided valuable insights into big data architecture, data processing frameworks, and real-world industry use cases. Drawing from his extensive professional experience, the speaker highlighted how big data solutions are designed and implemented to handle large-scale, complex datasets in modern enterprises. The interactive session encouraged active participation from students and faculty, fostering meaningful discussions on emerging trends and challenges in big data analytics.

Expert Lecture on the Evolution of User Experience Design

On 5 November 2025, the Department of Computer Science and Engineering at Manipal University Jaipur organized an Expert Lecture focused on the evolving landscape of user experience design. The session was conducted in online mode via Microsoft Teams, with the objective of familiarizing students with contemporary design practices and industry perspectives. The lecture was delivered by Mr. Akshay Sarma, Lead Product Designer at HighLevel, on the topic "How UX Design Has Evolved Over the Years." The talk provided valuable insights into the progression of UX design, highlighting changes in user expectations, design methodologies, and the growing role of user-centered thinking in product development. Overall, the lecture successfully bridged theoretical concepts with industry practices, reinforcing the department's commitment to holistic, industry-relevant learning experiences.

Expert Lecture on Malware Analysis and Secure System Engineering

On 8 November 2025, the Department of Computer Science and Engineering at Manipal University Jaipur organized an Industry Expert Lecture as part of the course Secure System Engineering. The session was conducted in online mode via Google Meet, aiming to provide students with practical industry insights into contemporary cybersecurity challenges.



The lecture was delivered by Mr. Sanjay Sharma, Senior Security and Compliance Specialist at Atari, on the topic "Malware Analysis." The session focused on real-world perspectives of malware threats, security vulnerabilities, and analytical approaches used in industry to detect and mitigate malicious activities. Overall, the lecture proved to be highly informative and reinforced the department's commitment to delivering industry-relevant learning experiences that enhance technical competence and professional readiness among students.

Expert Lecture on Reverse Engineering and Cyber Forensics

On 13 November 2025, the Department of Computer Science and Engineering at Manipal University Jaipur organized an Industry Expert Lecture for the course Digital Forensic and Cyber Crime (CS4141). Conducted in online mode via Google Meet, the session aimed to expose students to practical aspectss of cyber forensics and real-world cybersecurity challenges. The lecture was delivered by Mr. Jeet Rami, Cyber Threat Analyst at Microsoft, on the topic "Fundamentals of Reverse Engineering." The session provided valuable insights into reverse engineering concepts, methodologies, and their applications in malware analysis and cyber threat investigations. The interactive session witnessed active participation from students and faculty members, enabling meaningful discussions and knowledge exchange.

Building the Future Through Innovation: MUJ HackX 3.0

MUJ HackX 3.0 was successfully conducted by the Department of Computer Science and Engineering, in collaboration with AIC MUJ and E-Cell MUJ, as a 36-hour international hackathon held on 30–31 October. The event brought together over 1,800 participants from five different countries, creating a vibrant, centralized platform to foster innovation, collaboration, and problem-solving at a global scale.

The hackathon witnessed an overwhelming response, with 800 teams qualifying for the second round, showcasing exceptional creativity, technical depth, and innovative thinking. Supported by a prize pool exceeding ₹5 lakh and backed by leading industry organizations such as EY, Salesforce, FuturixAI, Accenture, and others, MUJ HackX 3.0 successfully bridged the gap between academia and industry.

Through intense competition, mentorship, and collaboration, the event enabled participants to transform ideas into scalable solutions while gaining valuable exposure to real-world challenges. MUJ HackX 3.0 stood as a testament to the department's commitment to nurturing innovation, encouraging experiential learning, and building strong industry–academia connections.

Department Spotlight

Lighting the Way: Scholars Who Inspire the Future:

*The Department proudly celebrates the conferral of doctoral degrees upon **Dr. Anita Shrotriya and Dr. Bali Devi**, marking a significant academic achievement and a moment of collective pride. Their successful completion of the PhD program reflects years of focused research, analytical depth, and steadfast dedication to advancing knowledge.*

The doctoral journey demands not only intellectual strength but also resilience, discipline, and a willingness to engage deeply with complex questions. Through sustained effort and scholarly commitment, Dr. Shrotriya and Dr. Devi have demonstrated these qualities in full measure, emerging as accomplished researchers ready to contribute meaningfully to their fields.

This achievement further strengthens the research culture of the department, reinforcing its commitment to academic excellence and innovation. As they step into the next phase of their professional and academic lives, we extend our best wishes for continued success, impactful research endeavors, and rewarding scholarly pursuits ahead.

CSE Department welcomes new faculty members:

*The Department of Computer Science and Engineering is happy to welcome its newest faculty members: **Mr. Rajesh Kumar Chaudhary, Dr. Madhu Sharma, Dr. Amandeep Cheema, Dr. Nilesh Kumar Dubey, Dr. Shashank Gupta, Mr. Ashish Verma, and Dr. Manish Gupta.***

Their arrival marks an important step in strengthening the department's academic and research ecosystem. With varied expertise and professional experience, they add depth to our teaching practices and open new possibilities for research and collaboration.

As they take on their roles, we look forward to their engagement with students, contributions to curriculum development, and involvement in research initiatives. The department wishes them a fulfilling journey at MUJ and anticipates their role in shaping a dynamic and forward-looking academic environment.

12th Convocation: Celebrating Achievement, Legacy, and New Beginnings

Manipal University Jaipur's 12th Convocation marked a moment of pride, joy, and accomplishment as graduating students came together to celebrate years of dedication, perseverance, and academic excellence. The ceremony stood as a testament to the hard work of the graduands, whose achievements reflect the university's commitment to nurturing knowledge, leadership, and professional growth. Upholding its cherished tradition, the university commemorated the occasion with a sapling plantation, symbolizing growth, sustainability, and the promise of new beginnings. The initiative reinforced MUJ's enduring commitment to environmental responsibility and future-ready progress.

The convocation was graced by the presence of the Chief Guest, Dr. Nallathamby Kalaiselvi, Director General, CSIR and Secretary, DSIR, who received a warm welcome on campus. *In the presence of the university leadership, Dr. Kalaiselvi planted a sapling, representing the institution's values of legacy, innovation, and sustainable development.*

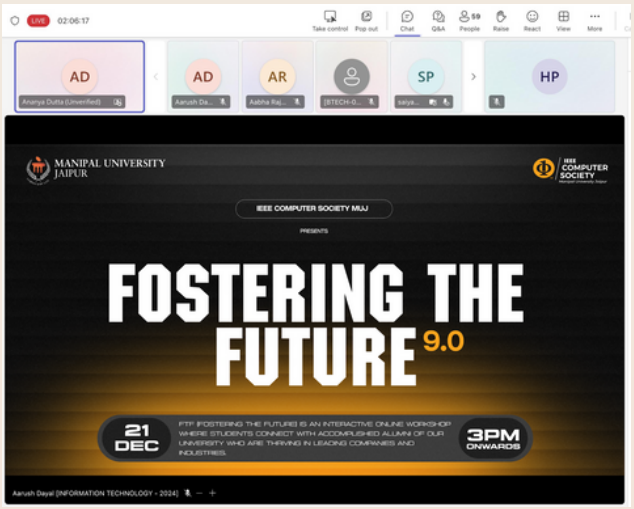
During her visit, Dr. Kalaiselvi also explored the Experience Theatre at MUJ, gaining insights into the university's vision, innovation ecosystem, and immersive showcase of academic and research achievements. The occasion beautifully blended tradition with forward-looking aspirations, reaffirming MUJ's dedication to nurturing ideas, inspiring minds, and building a greener, knowledge-driven future.

Club Connect

Student clubs thrive on the passion and initiative of the students behind them. When actively nurtured, they become spaces for creativity, leadership, and meaningful exploration beyond the classroom.
Between October and December, our clubs hosted a range of engaging activities that encouraged learning, collaboration, and innovation. We proudly share these highlights and thank the dedicated students whose enthusiasm and effort continue to make our campus community vibrant and dynamic.

IEEE

IEEE CS



1) Fostering the Future 9.0:

Fostering the Future 9.0, organised by IEEE CS MUJ on 21st December 2025, was an online guidance session designed to offer students a realistic understanding of pathways to big tech roles and international research opportunities. The session was conducted by Ms. Ananya Dutta, currently working in AI at Google and an MUJ alumna, whose experiences as a scholarship recipient and researcher abroad formed the foundation of the discussion. Using her journey as context, the session focused on practical aspects such as preparing for research opportunities overseas, identifying and applying for global scholarships, developing relevant technical skills, and planning academic progress strategically. Participants engaged in meaningful discussions that addressed common uncertainties and misconceptions surrounding international exposure and high-impact technology careers. Overall, the session provided clarity, motivation, and actionable direction, reinforcing the importance of informed preparation and long-term vision.

IEEE SB

1) Outreach Event:

The club conducted a heartfelt outreach visit to Aashray Care Home, an NGO dedicated to supporting abandoned, HIV-affected boys and girls. On the occasion of Children's Day (14 November), IEEE volunteers participated in the NGO's annual Bal Mela – UDAAN, celebrated to bring happiness, hope, and a sense of belonging to the children. The event aimed to strengthen IEEE's social responsibility initiatives by engaging students in meaningful interaction, community bonding, and spreading joy among the children.

IEEE WIE

1) Outreach Event:

The Department of Computer Science and Engineering (CSE), Manipal University Jaipur organized an outreach program at Lalya Ka Bas Government School to promote STEM awareness among students from underserved communities. The initiative aimed to bridge the gap in technological exposure by introducing students to basic concepts of science, electronics, and engineering through interactive, hands-on activities.

The program focused on inspiring curiosity, building confidence, and strengthening problem-solving skills, with special emphasis on encouraging young girls to actively participate in STEM learning. Students explored simple experiments, real-life applications of technology, and potential career paths in science and engineering. The successful execution of the outreach was supported by volunteers from the IEEE Women in Engineering (WIE) MUJ Student Chapter, who assisted in conducting activities, mentoring students, and ensuring effective engagement throughout the program.

2) WIEnter of Code 2025:

A Week of Building, Learning, and Growth

WIEnter of Code 2025 was a week-long, online, project-based coding initiative organized by IEEE WIE MUJ to promote purposeful learning during the winter break. The event encouraged students across varying skill levels to move beyond theoretical concepts and engage in hands-on, real-world project development.

Throughout the week, participants worked on projects under structured mentorship, progressing from ideation to execution. Mentoring sessions focused on project planning technical implementation, doubt resolution, and best development practices

A key highlight of the initiative was the introduction to GitHub-based workflows, enabling participants to learn version control, collaboration, and effective project documentation.

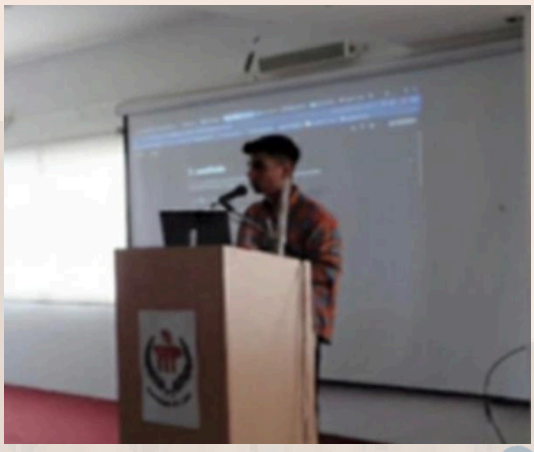
Randomize

1) Web Dev 1:

Participants benefited from practical exposure to website development, learning about HTML, CSS, and JavaScript. By the end of the session, they had a strong foundation in all the basic concepts which will aid them in the upcoming workshops

2) Burnout:

The second workshop of the three part web development series focused on advancing students' skills beyond the basics introduced in the first session. Participants were introduced to version control using Git and GitHub, gaining hands-on experience in managing and collaborating on projects.



The session also covered advanced JavaScript concepts and provided an introduction to React, helping students understand the fundamentals of building dynamic, component based web applications. By the end of the workshop, participants were better equipped to apply modern development tools and techniques to enhance their portfolio website.

3) AI Model Quest :

AI Model Quest is an innovation-driven technical competition organized by IEEE CIS MUJ X Oneiros, where participants are challenged to design and develop a customized LLM for Manipal University Jaipur. The objective is to create an AI-powered system that can help students with queries, academic support, information about campus facilities, event management, and other university-related services, which would enable better campus experience. This includes prompt engineering, model fine-tuning, dataset curation, and optimization techniques, together with hands-on AI deployment using open-source LLMs, cloud-based AI platforms, and relevant coding frameworks. Mentorship sessions, interactive discussions and insights from AI professionals will be conducted. This event helps individual based by collaborative learning and with ethical AI and real-world problem-solving. The team will present their models to the judges, and the final evaluation of projects will be based on accuracy, efficiency, usability, innovation, and real-world impact.

Byte of Brilliance (Excellence)

Every achievement marks personal progress while also strengthening the collective legacy of the Department of CSE. These milestones reflect the spirit and momentum of our academic community, driven by curiosity, creativity, and a commitment to continuous growth. We take this opportunity to celebrate the dedication and accomplishments of our students, whose efforts continue to shape the future and bring distinction to our institution.

Student Excellence Awards (OCT-DEC'25)

Name	Reg. Number	Award Category
Vivek Kumar Garg	23FE10CSE00742	HACKATHON
Ishani Lohar	23FE10CSE00783	HACKATHON
Aryaman Kapur	229310218	HACKATHON
Aryan Rastogi	2427030083	HACKATHON
Swapnil Sharma	229303118	HACKATHON
Abhijeet Rajhans	229301491	Award
Tanima Mishra	23FE10CSE00193	International Award
Udit Jhanjhariya	23FE10CSE00640	Award
Rugved Deshpande	229301605	JOURNAL (PUBLISHED)
Om Dabral	229301177	International Conference(Published)

Name	Reg. Number	Award Category
Tanishka Magar	229301736	Conference
Aadrian Routh	229301454	International Conference(Published)
Dasari Rohith	229301461	JOURNAL (PUBLISHED)
Rishita Rai	229301375	Patent Published
Krish Thukral	23FE10CSE00679	JOURNAL (PUBLISHED)
Armaan Garg	23FE10CSE00561	Internship(Paid)
Mooksh Jain	23FE10CSE00500	Internship(Paid)

We congratulate all the students who achieved the Student Excellence Awards for the months of October, November, December!

Research Statistics

Research continues to be a defining pillar of the Department of Computer Science and Engineering at Manipal University Jaipur. Between October and December 2025, faculty members and researchers actively contributed to the department's growing research profile through a wide range of scholarly and innovation-driven efforts.

This period witnessed notable outcomes in the form of research papers published in reputed journals, presentations at academic conferences, and contributions to books and edited volumes. Alongside these scholarly achievements, the submission of research proposals and filings for intellectual property highlight the department's emphasis on impact-oriented research. Together, these efforts reflect a strong commitment to converting ideas into applicable solutions while strengthening the department's role in addressing contemporary technological and societal challenges.

RESEARCH ACTIVITIES	PUBLICATIONS COUNT
Journal Article	25
Conference Proceedings	13
Book Series	10
Book	3

Placement Highlights

The Department of Computer Science and Engineering proudly celebrates the outstanding placement successes achieved by its students this year. These accomplishments stand as a testament to your dedication, perseverance, and consistent commitment to excellence.

Securing roles with leading organizations reflects not only your technical competence and professional readiness, but also the culture of innovation, adaptability, and growth fostered within the department. Your achievements bring great pride to the entire academic community.

As you step into the professional world, carry forward the confidence, values, and support of a community that continues to believe in your potential. We extend our warm congratulations and wish you continued success as you move ahead and shape the future.

MOHIT YADAV	PWC
YUVRAJ BIST	HashedIn (by Deloitte)
Vardaan Mathur	Infinite
ANANYA ADLAKHA	Orangemantra
RAGHAV TYAGI	Celebal Technologies
VINEET KUMAR	LTI Mindtree
SALONI JAIN	TCS
SHAYNA KHANNA	PwC
NITYA KUMAR	Prabhu Foundation

KHUSHI AGRAWAL	LTIMindtree
ANUSHKA AGARWAL	IVALUE
SALONI AGRAWAL	JP MORGAN CHASE
PRIYANSH GUPTA	Marktine Technology Solutions Pvt Ltd
ISHANSH TAUNK	TCS
YASH CHOUDHARY	Tantiv4 Technologies Pvt. Ltd.
ANANYA JAITLY	EY
INDRANEEL VARMA MANTHENA	Tintbytes
SHUBHAM	AP Moller Maersk
TUSHAR AGRAWAL	Newgen
YUV RAJ SINGH	IESOFT Technologies Pvt. Ltd.
HIMANSHU DABAS	LTI MindTree
VINAYAK KUMAWAT	Hewlett Packard Enterprise
R SAM SELVARAJ	TCS
PRANAV GUPTA	Dell Technology
Eeya Modi	Accenture

PARESH SINGH	Pentair Water India
RITWIK ROY	TCS
MEGHAL PALIWAL	Yunicorn
SHASWAT RATH	Ambula
ANNANT CHOUDHARY	Akal Information Systems Ltd.
VANDIT CHITKARA	TCS
Varsha Mariya Jose	Nokia
MOHIT YADAV	PwC
DEVANSH BERI	Right Cliq Solution
TANAV GUPTA	Josh Technologies
CHINMEY JAIN	Blackrock
SHIKHAR BHATNAGAR	Infosys
AYUSH SRIVASTAVA	Fidelity
ROHAN SUTRADHAR	TCS
REVA SINGH	AP Moller Maersk
VAIBHAV KUMAR GOEL	TCS

OJUSAV AGARWAL	Oracle
VIDHANSHI SHARMA	Infinite Computer Solutions
NISHITA GOGIA	Jacobs Solutions India Pvt. Ltd.
MAYANK RAJ	Infosys
SHRUTI PALIWAL	Infosys
MANINI SWARNKAR	Amdocs
SIDDHARTH BANSAL	Capgemini
CHANDRANSH SRIVASTAVA	Amazon
VYOM AGRAWAL	Yamaha Motors
ARYAN SINGHAL	Infosys
MANVENDRA JASRA	AKAL Information Systems Ltd.
Manya Khater	Microsoft
AYAM KAUSHIK	TCS
HARSHITA KASAUDHAN	IVALUE
SARTHAK AGRAWAL	LTI MindTree
MOHD MUNEEB KHAN	Capgemini

PARAS MOTWANI	Celebal Technologies
CHITRANSH DEDHA	TCS
ARNAY VERMA	Cvent
MUSU PRIYAM	Future AGI
RISHABH BASSI	TCS
DIVYANSH JAIN	Capgemini
TANVI BHARDWAJ	IVALUE
VISHWAJEET SINGH RAWAT	Say Media Labs
ABHIJAAT PANDEY	Blackrock
ISHIKA CHATTER	LTIMindTree
Mukul Jindal	Tredence
ARNAV SINGHAL	Blinkit
UTKARSH SETHI	TCS
ADITYA PUNMIYA	NAV Back Office IT Solutions Pvt. Ltd.
JUHI ANAND SINGH	ZS Associates
ABHAY TRIPATHI	Anuvadini Foundation

Abraham V George	Philips
ASHVATH JAIN	TCS
KRISHNA MODANI	Capgemini
PRATYUSH BHATNAGAR	Josh technology group
Aditya shekhar singh	TCS
PULKIT KOHLI	PwC
VIVAN JAISWAL	CVENT
Khushi Gupta	Deloitte South Asia
RIYA SINGH	IVALUE
ADITYA GARG	Philips
NUKUL MAHRAWDIYA	IVALUE
SHUBHA JAIN	CELEBEL
ARASTU DHAKA	ENECON Solar
ARJUN NIGAM	TCS
SHEKHAR PILANIA	Infosys
ADHIRAJ SINGH	TCS

Articles

Image Steganography: Hiding Information in Plain Sight

By: Anirudh Arora, 23FE10CSE00637

Image steganography is a technique used to conceal information within digital images in such a way that the very existence of the hidden message is difficult to detect. Unlike cryptography, which focuses on scrambling the content of a message, steganography aims to disguise the communication channel itself. To an external observer, the image appears ordinary, while it silently carries additional data.

Traditional image steganography methods often operate by modifying pixel values directly, such as altering the least significant bits of an image. While these approaches can embed a large amount of data, they are highly sensitive to image processing operations like compression or resizing. To address these limitations, frequency-domain techniques embed information into transformed representations of images, improving robustness at the cost of reduced capacity.

In recent years, deep learning has significantly advanced the field of image steganography. Neural networks are now able to learn complex patterns in images and embed information in a way that blends naturally with textures and structures. Modern approaches focus on preserving visual quality while ensuring reliable message recovery, even under challenging conditions.

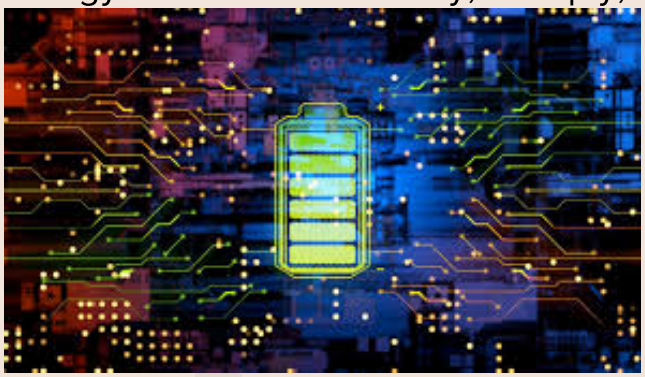
As digital communication continues to grow, image steganography plays an important role in secure information exchange, digital watermarking, and copyright protection. Its ability to hide data invisibly makes it a powerful tool in both academic research and real-world applications.

Why Battery Technology Is the Real Bottleneck of Modern Innovation

By: Anushka Dutta, 23FE10CSE00399

When people talk about the future of technology, the spotlight usually lands on AI, faster processors, or smarter software. But quietly, in the background, one old problem keeps holding everything back: batteries. No matter how intelligent our devices become, they're only as useful as the power that keeps them alive.

Take smartphones. Every year they get thinner, brighter, and more powerful, yet most of us still charge them daily. Electric cars face the same issue on a larger scale. Range anxiety isn't really about speed or design — it's about how much energy can be stored safely, cheaply, and for long periods of time. Even renewable energy struggles here, because solar panels and wind turbines are only effective if their power can be stored for when the sun sets or the wind stops.



Lithium-ion batteries have carried us a long way, but they're nearing their limits. They degrade over time, rely on scarce materials, and can be dangerous when damaged. That's why researchers are racing toward alternatives like solid-state batteries, which replace liquid electrolytes with solid ones, making them safer and potentially far more energy-dense. Others are exploring sodium-ion batteries, which trade raw performance for lower cost and better availability.

What's interesting is how invisible this race is to most consumers. Battery breakthroughs don't come with flashy interfaces or viral demos. When they work, nothing seems different — devices just last longer, charge faster, and fail less often. But those "small" improvements unlock massive change, from truly practical electric aviation to off-grid renewable systems.

In many ways, battery technology is the foundation under modern innovation. Until it improves, progress elsewhere moves slower than it should. The next tech revolution probably won't arrive with a new app — it'll arrive quietly, the first day your devices simply stop dying when you need them most.

Connect with Us

Thanks for reaching the end of this newsletter! We hope you found the content informative and engaging. To stay up-to-date on the various ongoings of the Department of CSE, MUJ, be sure to follow us on social media!

Stay Connected!

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