

JULY 2026

BYTE STREAM



COMPUTER SCIENCE AND ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY (ISM)
DHANBAD

MONTHLY NEWSLETTER

An Insight into the
Department of Computer
Science and Engineering,
IIT (ISM)



“Technology is a word that
describes something that
doesn't work yet.”

— Douglas Adams

Welcome Note For New Entrants

This year, the opening rank for admission into the CSE Department through JEE Advanced stood at 2309 for B.Tech. It's a reminder of the competitive spirit and academic excellence the branch attracts every year.

The Department of Computer Science and Engineering warmly welcomes all our new entrants and extends a hearty congratulations to all the incoming B.Tech, M.Tech, and Ph.D. scholars joining IIT (ISM) Dhanbad. Starting a new journey at a place like IIT (ISM) is an honor and can feel exciting, inspiring, and yes, a little overwhelming. But here at CSE, you've joined a family where learning goes hand in hand with curiosity, creativity and priceless connections.

Whether you're just beginning your undergraduate years, building expertise through a postgraduate program, or pursuing research at the highest level, you're now part of an environment that encourages growth, not just academically, but as a person. Outside the classroom, the Computer Science and Engineering Society (CSES) brings the department to life. Throughout the year, CSES organizes a variety of fun and engaging events from hackathons and coding competitions to interactive workshops and speaker sessions and even cultural programs. These initiatives aim to foster leading technology, promote research and celebrate culture. These aren't just about tech; they're about meeting new people, working in teams, and learning together across years and backgrounds.

So as you settle in, take a deep breath, stay curious, and don't be afraid to try new things. There's a lot to discover here, and many people are eager to help you along the way.

We're thrilled to have you with us. You've earned your place in one of the most dynamic and sought-after corners of the institute.

Hello, World! Welcoming the </B.Tech> Batch of 2030

The Department of Computer Science and Engineering, IIT (ISM) Dhanbad, welcomed the B.Tech Batch of 2030 through its Departmental Orientation Programme held on 30th July 2026. The session marked the beginning of a new academic journey for the incoming students and introduced them to the department, its culture, and the opportunities that lie ahead.

The programme began with a screening of the department video, giving students an overview of the department's academic environment, achievements, faculty, and activities. This was followed by an address by Prof. A. C. S. Rao, DUGC Convener, who warmly welcomed the new batch and shared valuable insights into the academic structure and learning environment of the department.



The orientation also gave students their first introduction to the CSE Society, the department's student-led body. They were familiarised with its vision and various divisions; CodeISM, CSAI, WebCSE, CSETimes, and SpeakUp, each providing opportunities to explore interests ranging from competitive programming, artificial intelligence, and web development to writing, creativity, and communication.

Students were also introduced to the wide range of activities conducted throughout the year, including coding contests, hackathons, workshops, cultural events, and creative initiatives. Events such as Agglomeration, Obscurathon, Codessey, Codesshe, Yaadein, and Udbhav offer students several avenues to learn, collaborate, compete, and showcase their talents beyond the classroom.

As the Batch of 2030 begins this new chapter, the CSE community wishes them an exciting and fulfilling journey ahead. With four years of learning, exploration, and countless new experiences awaiting them, we look forward to seeing the newest members of the CSE family discover their interests, take up new challenges, and leave their own mark on the department.



Orientation Programme of M.Tech & Ph.D Students of CSE Department

The Orientation Programme of the M.Tech & Ph.D Students of the CSE Department was held on 24th July 2026. The session was hosted by all the faculty members of the department and addressed by Prof. Rajendra Pamula who welcomed the incoming students and shared insights into the academic environment of the department followed by a showcase of the departmental video.

The orientation session offered the students their first glimpse into the department and the society. The students were introduced to the CSE society, its vision, initiatives and all the student-led divisions that continue to uphold the prestige of the department throughout the year. The students also got to know about their faculty and the research work carried out in the department.

As a new chapter begins, the CSE society wishes the Batch of 2028 and the Research Scholars all the best for their awaiting years filled with a wide range of technical, cultural and innovative adventures.



New Leadership at CSE Society

The CSE Society has officially announced Ms. Sucheta Ghosal as its newly selected Secretary. The society extends its warmest congratulations and best wishes to Ms. Sucheta as she steps into this vital role to lead the community toward new heights of engagement and excellence.

Concurrently, the society expresses its sincere gratitude to Mr. Udbhav Sai for his dedicated leadership and outstanding service during his tenure as Secretary. His valuable contributions have left a lasting mark on the department.

The entire CSE community thanks Mr. Udbhav for his commitment and warmly welcomes Ms. Sucheta to her new leadership role.

IIT (ISM) Dhanbad Signs MoU with CESI France for Global Academic Cooperation

In a move designed to broaden international research networks, IIT (ISM) Dhanbad has signed a Memorandum of Understanding with CESI, a prominent French graduate school of engineering. Formalized by Prof. Rajeev Upadhyay, Dean of International Relations & Alumni Affairs at IIT (ISM), and Stefan Seiler, CESI's Director of International Development, the agreement aims to deepen academic ties across the sciences, engineering, management and social sciences.

Rather than a standard statement of goodwill, the partnership focuses on creating actionable opportunities for the campus community. Under this partnership, both institutions have agreed to exchange research information, educational literature and best practices relating to pedagogy, new technologies and industry integration. The MoU outlines plans to jointly organize workshops, conferences and short-term continuing education programs. Additionally, the collaboration will facilitate the reciprocal exchange of faculty and students for educational and research purposes, while actively exploring possibilities for semester exchanges, dual awards, co-authored publications and the co-supervision of research students.

Recognizing the complexities of international collaboration, the partnership includes practical safeguards. Future joint research initiatives will be governed by specific, project-level agreements to clearly define financial and operational logistics. Crucially for researchers, both institutions have committed to a strict, case-by-case approach to managing and protecting intellectual property rights. Ultimately, this collaboration will serve as a vital catalyst for international innovation, equipping both students and faculty with the global resources necessary to drive high-impact research.

Announcing RAIT 2027

The Department of Computer Science at IIT (ISM) Dhanbad is thrilled to announce the 7th International Conference on Recent Advances in Information Technology (RAIT 2027). Scheduled for March 12-13, 2027, this premier event will convene researchers and industry professionals to explore breakthrough advancements across AI, data systems, signal processing, and applied IT frontiers.

A significant draw for this year's conference is the robust publication opportunity. All accepted and presented papers will be officially published in IEEE Xplore. Furthermore, selected top-tier papers will receive an invitation for publication in Springer SN Computer Science (a prestigious Q2 Journal).

Submissions are currently encouraged for papers across four major tracks:

- AI, Information Systems & Robotic Process Automation
- Signal and Image Processing & Computer Vision
- Big Data Analytics, Cloud Computing & Cybersecurity
- IoT in Industry, Advanced Computing & Intelligent Networks

Prof. Partha Pratim Roy, Prof. Soumen Bag and Prof. Pranay Kumar Saha constitute the General Chair of the conference committee while Prof. ACS Rao and Prof. Anjan Chowdhury are the Organizing Chair.

Submission and Conference Timeline:

- Paper Submission Deadline: October 2, 2026
- Notification of Acceptance: November 30, 2026
- Camera-Ready Deadline: December 15, 2026
- Conference Dates: March 12-13, 2027

Submissions are now officially open for innovative contributions, inspiring exchange of ideas and invaluable sponsorships. Visit the site for more details: <https://people.iitism.ac.in/~rait>

Watching India's Digital Front Door: A New Funded Project from the CSE Department

Faculty Spotlight — Dr. Nikhil Tripathi, Assistant Professor, CSE Department

As more of India's government, financial, and industrial systems go online, the number of assets directly reachable from the Internet has grown faster than our ability to monitor them. Today's cybersecurity response is largely reactive — agencies step in after an incident is reported, but there is no continuous mechanism to track how the country's exposure is evolving.

Dr. Nikhil Tripathi's new project, "Design and Development of an AI-Driven Offensive Reconnaissance Framework for Proactive Exposure Mapping and Risk Forecasting in India's Critical Internet Infrastructure," aims to change that. The project is funded by the Anusandhan National Research Foundation (ANRF) under its Prime Minister Early Career Research Grant (ECRG) scheme, with a sanctioned outlay of ₹42.72 lakhs over 36 months.



Building on his earlier work on DHCP, MQTT, NTP, HTTP/2, and Indian AS-level spoofability, the project combines ethical active scanning, open intelligence sources (Censys, CAIDA Spoofer, RIPE RIS, RouteViews, NVD), and honeypot telemetry to compute an Exposure Risk Score (ERS) for Internet-facing assets using Gradient Boosted Trees, GNNs, and LSTMs. Predicted high-risk assets are then tested in ns-3 network simulations to verify their real operational impact — bridging the gap between statistical risk and real-world consequence.

The work will be carried out by a soon-to-be-recruited JRF alongside MTech and BTech students, and is expected to yield reusable datasets, models, and sector-specific mitigation guidelines for national stakeholders such as CERT-In and NCIIIPC. Congratulations to Dr. Tripathi on this achievement!

New Faculty Coordinators of all Four SIGs for AY 2026-2027

Special Interest Group	Faculty Coordinators
Theoretical Computer Science (TCS)	Prof. Rahul Gangopadhyay, Prof. Pranav Bisht
Artificial Intelligence / Machine Learning (AI/ML)	Prof. A. C. S. Rao, Prof. Haider Banka
Computing Systems (CS)	Prof. Nikhil Tripathi, Prof. Jaishree Mayank
Information Security (IS)	Prof. Arup Kumar Pal, Prof. Tanusree Kaibartta

We extend our sincere gratitude to the outgoing members — Prof. Partha Pratim Roy, Prof. Sachin Tripathi, Prof. Pranay Kumar Saha, and Prof. Subhrangsu Mondal, for their valuable contributions and dedicated efforts in successfully executing the SIG activities during the academic year 2025–2026.

New Departmental Undergraduate Committee (DUGC) and Departmental Postgraduate Committee (DPGC)

DUGC	
Prof. A. C. S. Rao	DUGC Convener
Prof. Anjan Chowdhury	DUGC Member
Prof. Pranav Bisht	DUGC Member
Prof. Priyanka Panigrahi	DUGC Member
Prof. Saurabh Srivastava	DUGC Member
Prof. Subhrangsu Mondal	DUGC Member
HOD/CSE	Ex-Officio Member

DPGC	
Prof. Rajendra Pamula	DPGC Convener
Prof. Debasree Das	DPGC Member
Prof. Jaishree Mayank	DPGC Member
Prof. Mauajama Firdaus	DPGC Member
Prof. Pranay Kumar Saha	DPGC Member
Prof. Rahul Gangopadhyay	DPGC Member
HOD/CSE	Ex-Officio Member

New Departmental Grievance Redressal Committee (DGRC)

DGRC	
Prof. Amgoth Tarachand	DGRC Chairman
Prof. Mauajama Firdaus	DGRC Female Member
Prof. Arup Kumar Pal	DGRC Member
Prof. Ayan Das	DGRC Member
Prof. Hari Om	DGRC Member
Prof. Pranav Bisht	DGRC Member
Prof. Sachin Tripathi	DGRC Member

Other Departmental Responsibilities

Prof. Debasree Das	FIC (Departmental Social Media Handle) [Replaced Prof. Tarachand Amgoth]
Prof. Priyanka Panigrahi	Co-FIC (CSAI Division)

Welcoming Our New Faculty Member: Prof. Manish Kumar

The Department of Computer Science & Engineering, IIT (ISM) Dhanbad, is delighted to welcome Prof. Manish Kumar, who joined the department as an Assistant Professor on 15th July 2026. Prof. Manish Kumar's research lies in the area of distributed algorithms, with a particular focus on agent-based and message-passing models. His research interests span problems such as dispersion, leader election, agreement, and data download, with an emphasis on developing efficient algorithms in terms of round, memory, and message complexity.



Before joining IIT (ISM) Dhanbad, Prof. Kumar served as an ANRF National Postdoctoral Fellow at IIT Madras, where he was associated with the DisTrA Lab and worked with Prof. John Augustine. He received his PhD from the Indian Statistical Institute, Kolkata, in 2023, under the supervision of Dr. Anisur Rahaman Molla. His doctoral research focused on message-efficient fault-tolerant distributed computation. Prof. Kumar also earned his M.Tech from the Indian Statistical Institute, Kolkata, and his B.Tech from the National Institute of Technology, Kurukshetra. His research contributions have appeared in several prominent conferences and journals in theoretical computer science and distributed computing, including AAMAS, PODC, DISC, SPAA, OPODIS, ICPP, IEEE Transactions on Parallel and Distributed Systems, Theoretical Computer Science, and Discrete Applied Mathematics.

To mark his joining and provide an opportunity for interaction, the department organised a welcome meeting with faculty members in the CSE Conference Room. The CSE community warmly welcomes Prof. Manish Kumar and looks forward to his contributions to research, teaching, and academic life at IIT (ISM) Dhanbad. We wish him a rewarding and successful journey with the department.

Publications

Title: Precision Leads Recalling You! Improved Location Privacy for Shared Mobility Services.

Authors: Debasree Das and Daniela Nicklas

Accepted at: Proceedings on Privacy Enhancing Technologies (PoPETs 2026)

Title: Federated Conformal Prediction with Valid Coverage Guarantees for Non-IID Distributed Clients

Authors: Amit Kumar Upadhyay; Vibekananda Dutta; Dharavath Ramesh

Accepted at: 27th International Conference, EANN 2026, Chania, Crete, Greece, July 16–19, 2026, Proceedings, Part II Springer Proceedings Communications in Computer and Information Science (CCIS, Volume 3025)

Title: Synergistic EEG signal processing for brain-computer interfaces using hybrid MothCray optimization and deep learning

Authors: Sweta Dey; Abhinandan S. Prasad; Sudeepta Mishra; Dharavath Ramesh

Accepted at: Neuroscience, Elsevier

Title: Improving Cybersecurity with Explainable AI: A Path to Trustworthy Spam Detection

Authors: Dharavath Ramesh; Vibekananda Dutta; Ramarao Narvaneni

Accepted at: Springer Proceedings in Complexity (SPCOM)

Title: FedBIBD: Balanced Incomplete Block Design for Fair Practical Federated Learning

Authors: Dharavath Ramesh; Amit Kumar Upadhyay; Vibekananda Dutta

Accepted at: 22nd International Conference, AIAI 2026, Chania, Crete, Greece, July 16-19, 2026, Proceedings, Part III, Springer Proceedings, IFIP Advances in Information and Communication Technology (IFIPAICT, volume 794)

Title: FinFusion: Multilayer Perceptron - Quality Gated Cross-Attention Fusion for Early Credit Risk from Mixed Signals

Authors: Mimansha Agrawal; D. D. Naik; Dharavath Ramesh

Accepted at: 27th International Conference, EANN 2026, Chania, Crete, Greece, July 16–19, 2026, Proceedings, Part II Springer Proceedings Communications in Computer and Information Science (CCIS, Volume 3025)

Title: Data Engineering for Horizon-Aware Smart Parking Systems.

Authors: Ali Ostadi, Debasree Das, Elmamooz Golnaz, and Daniela Nicklas.

Accepted at: Datenbank-Spektrum (2026)

Title: Supervised Distributed Computing: Efficiency and Robustness under a Majority of Adversarial Workers

Authors: John Augustine, Henning Hillebrandt, Manish Kumar, Christian Scheideler, Julian Werthmann

Accepted at: 45th ACM Symposium on Principles of Distributed Computing (PODC 2026), University of London, United Kingdom

Title: A Synergistic Framework: Digital Twin Meets Blockchain for Next-Gen Healthcare Data Security and Analytics

Authors: Dharavath Ramesh; Kartikey Mehta; Neelagiri Satvik

Accepted at: Springer Proceedings, Communications in Computer and Information Science (CCIS, Volume 2873)

Title: Predictive Smog Analytics for Psychotic Disorder Patients' Risk Assessment in Smart Cities

Authors: Sweta Dey; Abhinandan S. Prasad; Sudeepta Mishra; Dharavath Ramesh

Accepted at: IEEE Internet of Things Journal, IEEE

Title: Asynchronous Dispersion with Optimal Time Complexity

Authors: Ajay D. Kshemkalyani, Manish Kumar, Anisur Rahaman Molla, Debasish Pattanayak, Gokarna Sharma

Accepted at: 38th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA-BA 2026), Royal Holloway, University of London, in Egham, UK.

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