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)

> " The computer was born to solve problems that did not exist before."
>
> — Bill Gates

Saraswati Puja Celebrated in the CSE Department

The faculty members and students of the Department of Computer Science and Engineering, IIT (ISM) Dhanbad, celebrated the auspicious occasion of Saraswati Puja on 2 Feb 2025. It was a day of dedication and cultural passion, capped off by an incredible documentation achievement—the release of Buffered Reader 6.2.

Goddess Saraswati, the goddess of wisdom, learning and arts was worshiped with great enthusiasm by the students, faculties and the staff members during the Saraswati Puja. Floral decorations had been lavishly done up in the department, while the idol of Goddess Saraswati was dressed in local traditional dresses. The puja, with chanting of Vedic hymns, along with offerings of flowers and sweets for the deities, created an aura of spiritual bliss.

All the students and faculty members participated in the aarti and prasad distribution, forging the essence of unity and devotion in the department. Cultural performances in music and arts—a tribute to the goddess of wisdom—also formed a part of the celebrations.

Further highlighting the importance of the occasion, the department announced the release of Buffered Reader version 6.2. Dr. Chiranjeev Kumar, Head of CSE Department, was thrilled to witness the union of tradition and technology. "Saraswati Puja represents the quest for knowledge, and it is only befitting that we announce Buffered Reader 6.2 on this auspicious occasion," he said. This shows our transform towards cultural values and our commitment towards technology."

The day's events ended on a high note with students and university faculty vibing in talks about upcoming university tech projects. The occasion not only added color to the department's cultural outlook but also highlighted its center of excellence towards innovation.

With the blessings of Saraswati maa and the nature of technological progression, the CSE Department of IIT (ISM) Dhanbad is optimistic for another year of knowledge, research, and innovation.
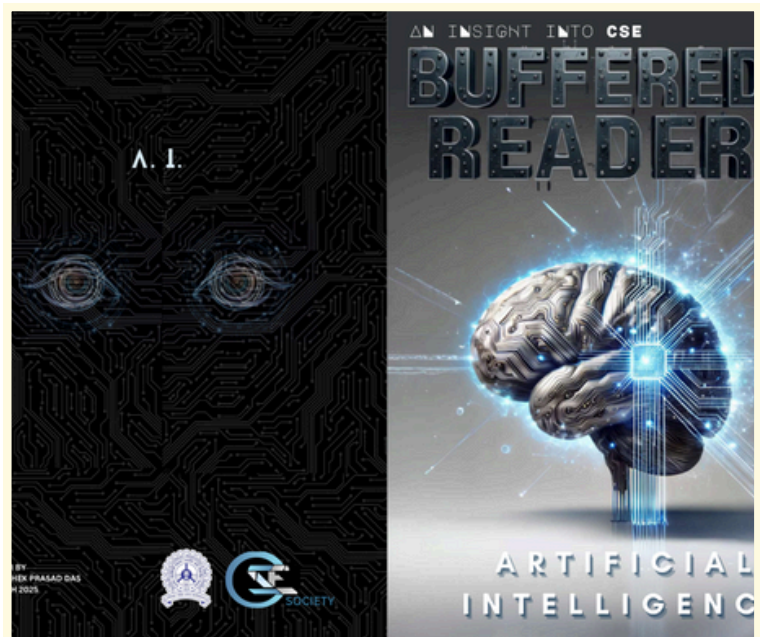
Launch of Buffered Reader 6.2

The CSE Department of IIT(ISM) Dhanbad is pleased to release the new version of Buffered Reader, our bi-annual magazine that features the success, experience, and innovation of our department. This version features major departmental events, student success, and thrilling competitions such as coding competitions and hackathons.

It also includes motivating alumni talks, glimpses into contemporary research, and student's first-hand internship experiences. Moreover, the magazine offers placement figures, providing a glimpse of our student's career progression. Buffered Reader is not merely a magazine—it is an expression of our department's enthusiasm for learning, problem-solving, and technology.

With this publication, we seek to honour our students and faculty member's hard work, innovation, and achievements to another forward step towards our path of excellence!

Bootcamp on Cryptography & Network Security Report

The Department of Computer Science and Engineering, Indian Institute of Technology (Indian School of Mines) Dhanbad organized an 8 day Bootcamp on "Cryptography & Network Security" during 12th - 19th February, 2025.

The objective of the program was to introduce the participants to Cryptography and Network Security.

A total of 71 participants attended this Bootcamp. They came from different institutions across the country.

Day-wise summary of the event is noted as follows:

Day 1: (12th February 2025)
On day 1, after the inaugural ceremony Prof. Sachin Tripathi (IIT ISM Dhanbad) delivered the session on Basics of Cryptography. The objective of the session was to introduce participants to cryptography and various types of cyber-attacks. In the afternoon session Mr. Dipnarayan Das (PhD Scholar, IIT ISM Dhanbad) made participants familiar to hardware devices that are used in cryptographic encryption algorithms.

Day 2: (13th February 2025)
On day 2, Prof. Dharavath Ramesh (IIT ISM Dhanbad) delivered a session on RSA and Some Common Attacks. In the afternoon, Mr. Dipnarayan Das took the hands-on session on the

Day 3: (14th February 2025)
On day 3, Prof. Arup Kumar Pal (IIT ISM Dhanbad) delivered the session on Advance Encryption Standard. The main objective of the session was to make students familiar with the AES (symmetric encryption algorithm). In the afternoon, Mr. Dipnarayan Das conducted a hands - on session on implementation of symmetric cryptographic algorithms like AES,ECC. Groups of 7 participants were made to do hands-on sessions tasks.

Day 4: (15th February 2025)
On day 4, Prof. Hari Om (IIT ISM Dhanbad) delivered a lecture on the topic- Elliptic Curve Cryptography. In the afternoon session, Mr. Dipnarayan Das conducted a challenge session on "Cryptography", and awarded one group among 10 groups of participants as the best performer of the challenge session.
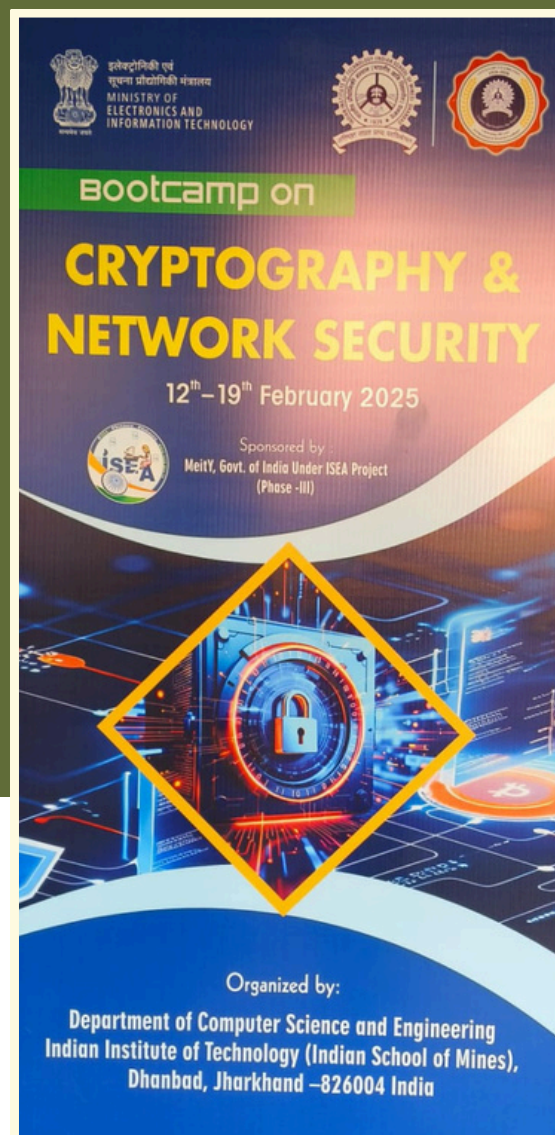
Day 5: (16th February 2025)
On day 5, Prof. Devendra Mani Tripathi (ASE (IT Security, IIT ISM Dhanbad) started the session on Network Security. He delivered the lecture on "Network and Web Vulnerability" . In the afternoon session, he conducted a hands-on session on Burp Suite.

Day 6: (17th February 2025)
On day 6, Mr. Rajesh Mishra (CISO, SBI Mutual Fund Mumbai), was invited to deliver a lecture on "Use of AI and ML in Cyber security and Wireshark Configuration and Use. In the afternoon session, a hands-on session on Wireshark was taken by Mr. Rajesh Mishra. It was an informative session for participants.

Day 7: (18th February 2025)
On day 7, Mr. Rajesh Mishra continued the session and made students familiar with Security Logs Configuration for servers.
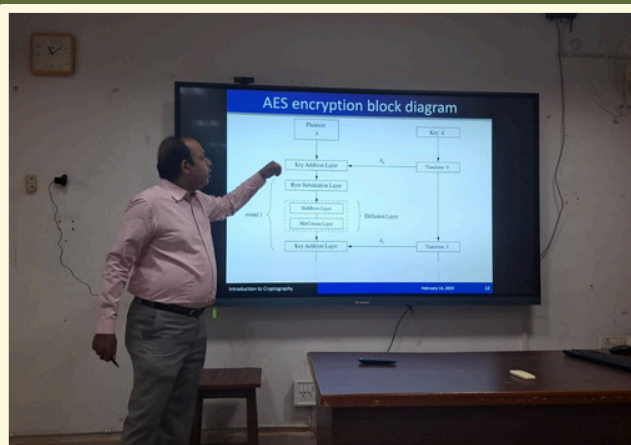
Day 8: (19th February 2025)
On day 8, Mr. Devendra Mani Tripathi (IIT ISM Dhanbad) delivered a session on Malware Analysis, Google Dorking and Open-Source Tool. In the afternoon session, a challenge session on "Network Security" was organized by Mr. Devendra Mani Tripathi and he awarded best performer to a group out of 10.

On the last day of Bootcamp, a valedictory ceremony was organized and certificates were distributed to the participants.

The feedback received from the students were positive and the department foresees many more such activities in future.

Changeover Ceremony of CSE Society

The Computer Science and Engineering Society at IIT (ISM) Dhanbad recently held its annual changeover ceremony, officially announcing the new office bearers for the upcoming term. The event acknowledged the valuable contributions of the previous leadership and welcomed the new team to lead the society in the coming year.

There were several changes in responsibilities this year. Mr. Shubham Varshney, who was the Vice-President, handed over his role to Mr. Anil Kumar. The position of Secretary previously held by Mr. Spandan Kundu was passed on to Mr. Karthik Mohan. Mr. Ram Krishna, the previous Joint Secretary, gave his responsibilities to Aditya Vikram Chaudhary. In the BufferedReader team, Bitra Sri Pragna is now the Content Head, replacing Sarthak Saumya. Monil Chandgadhiya has taken over as Design Head, succeeding Abhishek Prasad. Finally, the responsibility of WebCSE Coordinator moved from Srikant Agarwal to Pratham Aggarwal.

During the ceremony, the newly appointed secretary, Mr. Karthik Mohan, expressed his appreciation for the great leadership and dedication shown by his predecessor, Mr. Spandan Kundu. He acknowledged the outstanding contributions made by the outgoing secretary and assured the society members that he is committed to leading with the same passion and responsibility.

The ceremony ended with thanks to the outgoing team for their hard work and achievements, and excitement for the future with the new team. The Computer Science and Engineering Society at IIT (ISM) Dhanbad is ready for another year of growth and success.
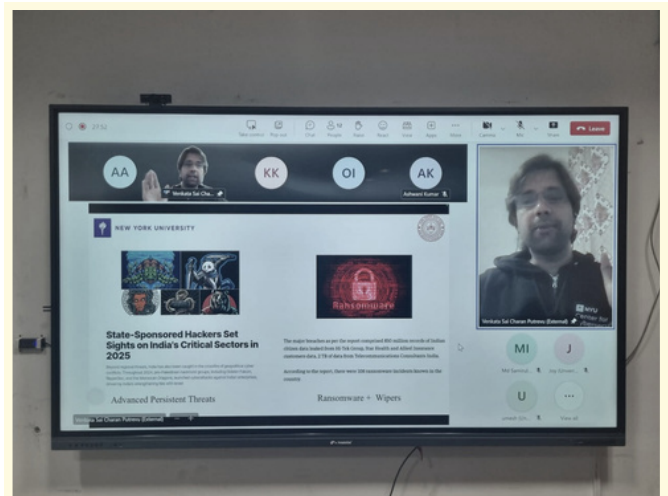
Safer Internet Day

On the occasion of Safer Internet Day, February 11, 2025, under the Information Security Education and Awareness (ISEA) Phase-III, the Centre for Development of Advanced Computing (C-DAC) Patna organized a two-hour awareness workshop on "Essential Cybersecurity Practices: Safe Cyber Hygiene and Incident Reporting," aimed at educating the widest possible audience including students, educators, and citizens alike. The workshop was coordinated by Prof. Sachin Tripathi, Dept. of CSE and Mr. Dipnarayan Das, Ph.D. Scholar, Dept. of CSE was nominated as master trainer to OSD (R&D), Centre Head, CDAC Patna, for engaging the session. The workshop was attended by UG, PG, and Ph.D. students from IIT (ISM), as well as other interested participants from outside the institute.

Guest Talk by Dr. Venkata Sai Charan Petrevu

Dr. Venkata Sai Charan Putrevu, a Postdoctoral Scholar at New York University and Ph.D. graduate from IIT Kanpur, delivered an insightful talk on evolving cybersecurity challenges. This two-part talk explores two critical dimensions of contemporary cybersecurity. The first segment delves into state-sponsored cyber threat actors, commonly known as APT groups, outlining current research methods for their engagement and attribution. The second segment shifts focus to the growing impact of ransomware on India's cyberspace, highlighting ongoing research in early detection and mitigation of crypto-ransomware. Concluding with an overview of India's cybersecurity landscape, the presentation identifies anticipated future threats, essential research directions, and the pressing need for skilled professionals to bolster the nation's digital defences.

Contact Us:

Prof Chiranjeev Kumar
Head of the Department
Email: cse@iitism.ac.in
Phone: +91-326-2235273 (O)
Fax: +91-326-2296563

Credits:

Prof Saurabh Srivastava (Faculty Coordinator)
Abhishek Prasad Das (23MT0015)
Rohan Garg (23JE0822)
Ishika Acharya (24JE0623)
Mirthipati Krishna Balaji (22JE0573)

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