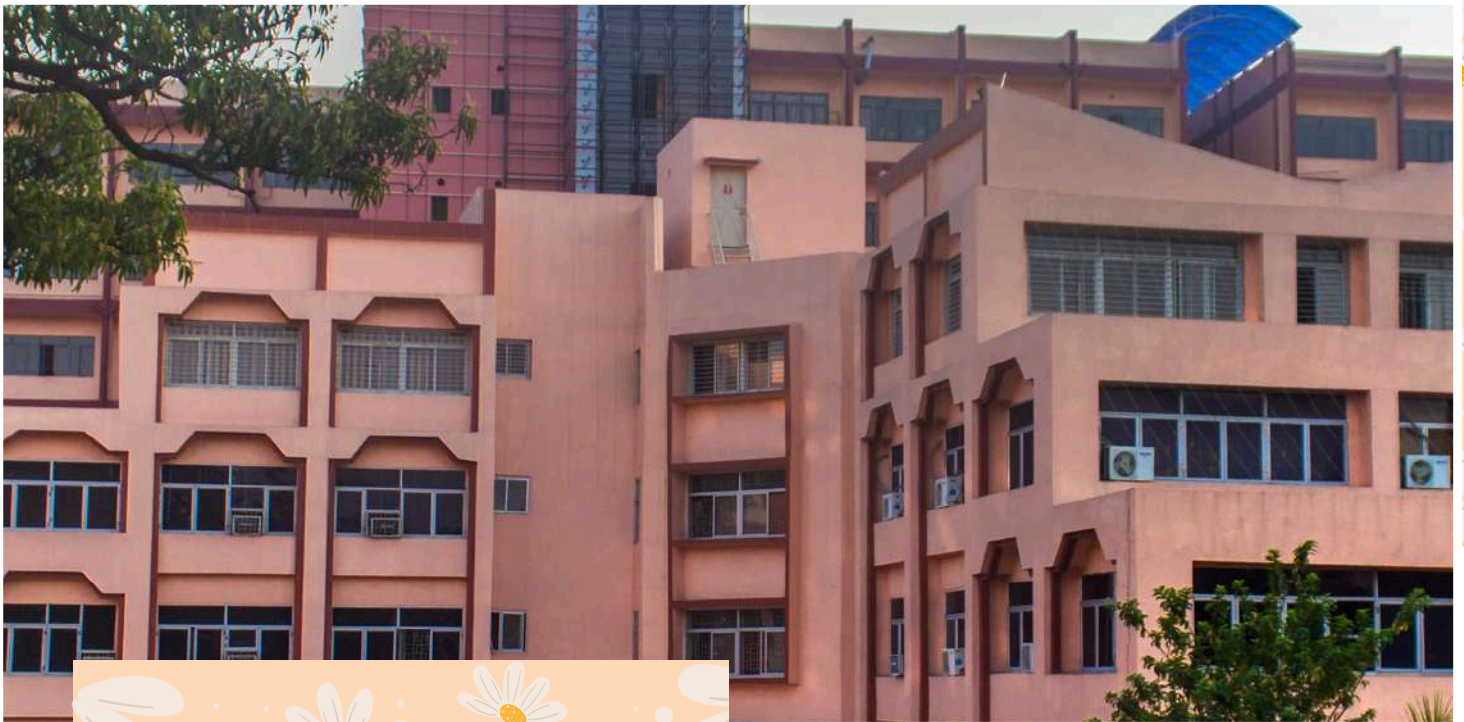


APRIL 2025

BYTE STREAM



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

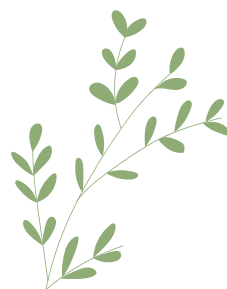
MONTHLY **NEWSLETTER**

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



Programs must be
written for people to read,
and only incidentally for
machines to execute.”

— Harold Abelson



Guest Lecture on Data-Driven Campaign Management for Better Healthcare Outcomes

The Department of Computer Science and Engineering was honored to host an expert lecture by Dr. Sreekanth Vinnakota, a distinguished data analytics professional from Tata Consultancy Services (TCS), Texas, United States on April 7th. The session, facilitated by Prof. Dharavath Ramesh, focused on the transformative topic, "Data-Driven Campaign Management: Enhancing Member Engagement and Healthcare Outcomes for Payers." The session offered valuable insights into how healthcare payer organizations can leverage data and advanced technologies to drive member engagement, foster healthier behaviours, and improve care outcomes.

Dr. Sreekanth Vinnakota emphasized the transformative power of integrating predictive analytics, machine learning, and AI-driven automation into campaign management strategies. These technologies enable the creation of highly personalized outreach efforts tailored to individual health profiles and member preferences. Targeted communication is key to improving adherence to wellness programs, preventive screenings, and chronic disease management.

The key aspect of the lecture was intelligent member segmentation, which involves using demographics, behavioural insights, and risk-based data to group members into meaningful categories for tailored outreach. This segmentation supports precise targeting through omnichannel communication methods such as SMS, email, phone calls, and mobile apps, ensuring these campaigns are more effective in reaching and engaging members.

Dr. Sreekanth Vinnakota also highlighted the critical role of real-time monitoring and performance optimization in campaign success. Payers can enhance responsiveness, boost ROI, and facilitate early interventions by continuously tracking engagement and adjusting strategies based on data-driven feedback. These strategic practices not only reduce avoidable healthcare costs but also contribute to a superior member experience and improved population health.

In conclusion, Dr. Vinnakota's lecture provided a comprehensive view of how data-driven approaches reshape healthcare campaign management, equipping stakeholders with the tools needed for meaningful transformation in an increasingly complex healthcare landscape. Ultimately, he conveyed that such strategic approaches foster proactive care and early intervention techniques.



Foreign Visit By Faculty Member: Prof. Haider Banka



Prof. Haider Banka concluded a fruitful visit to Baghdad, Iraq, during March 7th-17th, engaging with leading scholars and industry experts to explore collaborative opportunities in artificial intelligence and technology development.

Invited by Prof. Abdul Amir H. Kadhum, Prof. Banka delivered a keynote lecture at Alameed University titled "AI Technology Utilization in the Medical Sector." The event sparked a lively exchange of ideas with faculty and researchers, focusing on the transformative role of AI in healthcare and the potential for joint research ventures between Indian and Iraqi institutions.

In addition to academic engagements, Prof. Banka met with several managers from Iraq's growing IT sector. These meetings opened discussions on potential partnerships between IIT Dhanbad and Iraqi tech firms, underscoring the country's expanding interest in integrating advanced technology into industry.

"The visit underscored the promise of academic-industry collaborations in Iraq's emerging tech landscape," Prof. Banka noted. "There is a strong willingness to innovate, and I believe this can be the beginning of long-term cooperation."

Cultural enrichment also marked the visit, with Prof. Banka touring the historic Mustansiriyah Madrasah, one of the oldest centers of learning in the Middle East, located in the heart of Baghdad.

Prof. Banka's visit reflects a broader commitment to fostering international research connections and advancing the global dialogue on the role of AI in societal development.

Fruit Salad Fiesta: A Fruitastic Battle

As a part of the Yaadein'25 farewell celebrations, the Department of Computer Science and Engineering organised a refreshing and vibrant pre-event — the Fruit Salad Competition — held on April 7 at 9 AM in front of the CSE Department. Five enthusiastic teams joined the competition, showcasing their creativity, teamwork, and decorating skills.

The competition started with a fun twist — each team got their fruits through draw of lots, which added surprise and pushed them to be creative. Teams were then given 50 minutes to craft their best fruit salad presentation, blending both visual appeal and taste into their final dish.

Judgement took place in two parts. A panel of esteemed professors, including Prof. Chiranjeev Kumar, Prof. Dharavath Ramesh, Prof. Prasanta K. Jana, Prof. Mauajama Firdaus, and Prof. Nikhil Tripathi, evaluated the entries on-site based on visual appeal and taste. The panel conferred the Judges' Choice Award – Best in Bowl to Team Kanyarasi, comprised of Sai Teja, Sai Shashank, and Dinesh Chandan Reddy, for their exceptional presentation and flavor. Subsequently, a virtual judgment segment engaged the broader community. Each team's creation was posted on the official CSE Society's Instagram page, and the team receiving the highest number of likes was declared the overall champion. Team Fruit Ninjas, featuring Samudra Mitra, Spandan Kundu, and Saksham Jha, won in this category, earning the title of Overall Champion – Fan-Favourite Fiesta Winner.

The Fruit Salad Competition brought fun, freshness, and colour to the farewell celebrations, showcasing the creativity and team spirit of the CSE students.



Chasing Curiosity: Spandan Kundu's CAT 2024 Experience

"All challenges do not start with fervor. Some of them start through curiosity, and that's precisely how my CAT 2024 experience began. I did not go to it with some grand strategy or months of dogged preparation. It was an experiment of a personal nature, a means to be challenged and gauge where I am. I didn't solve sets strictly every day, nor did I relearn all of Quant's formulas or practice thick RC strategies. But after a while, I had developed some intuition, through school, problem-solving, or just the way I think—and that served me better than I anticipated.

On the day of the exam, I relied on composure. I didn't overemphasize DILR, largely because I hadn't practiced it well enough, and that was reflected. Looking back, there was certainly more to be covered in Verbal and Quant as well, I could sense that a little more concentration there would've taken the score even further. But I didn't pursue perfection on the paper. I aimed to do well with what I had, came to terms with what I lacked.

The 99.72 percentile wasn't a reward for slogging; it was a reflection of presence—of staying alert, keeping nerves in check, and playing to my strengths. And maybe that's something worth holding onto: you don't need to know everything, but knowing yourself well enough to adapt calmly is a skill in itself.

It's easy to romanticize preparation. But sometimes, not burning out, not freaking out, and not overdoing it can be just as strong. If you do decide to enter CAT, enter with clarity, with faith in your thinking, and with sufficient calmness to allow your mind to do what it's been taught to do, without you realizing it. The way forward, like the solution to any good mystery, is not always clear—but it becomes clear one piece at a time. To all the juniors navigating their own journeys, may your curiosity lead you to beautiful places, and may you find the courage to embrace every step of your journey."



- Spandan Kundu (21JE0937)

Writer's Pen

Exploring the Horizons of Generative AI and Chatbots

"The true magic of AI in education is not in replacing human thought, but in amplifying the wonder, empathy & originality that only humans can bring."

Generative AI and chatbots are rapidly transforming the landscape of education, opening up unprecedented opportunities while also presenting complex challenges for students. Advanced AI-driven tools like ChatGPT, Bard, Ada, Replika and Socratic have become familiar companions in classrooms and study sessions, delivering instant feedback, personalized tutoring and support tailored to each student's needs. Whether answering questions, explaining difficult concepts, or assisting with homework and test preparation, these technologies are making learning more interactive and accessible than ever before.

Beyond academic support, generative AI chatbots foster collaboration, enhance communication skills and even provide mental health support. For educators, AI assistants automate repetitive administrative tasks, freeing up valuable time for teaching and mentoring. By analyzing learning patterns, generative AI enables lesson plans, assessments and feedback to be customized for every student, ensuring no learner is left behind and making education more inclusive and effective.

AI's influence extends beyond learning, it is also reshaping creativity. Experiments with AI-powered writing tools, such as the SciFiQ algorithm, demonstrate that generative AI can spark new narrative ideas, suggest innovative plot twists and offer stylistic guidance. By comparing a writer's work to a database of classic stories and providing targeted feedback, AI helps writers break creative barriers and discover unexpected directions for their stories. For example, when an author used SciFiQ to craft a science fiction story, the algorithm provided unique plot instructions and stylistic suggestions, resulting in a narrative that was both original and true to the genre. Here, AI did not replace the writer's creativity but acted as a collaborator-offering inspiration, structure and new perspectives.

The integration of generative AI and chatbots into education is not just about efficiency, it's about reimagining how students learn, think and create. To harness the full potential of these technologies, we must balance innovation with ethical responsibility. This means developing transparent, empathetic AI systems, establishing clear guidelines for their use and fostering a culture that blends technological advancement with human creativity.

However, despite their promise, generative AI and chatbots raise important ethical and practical concerns. Issues of data privacy, bias and the accuracy of AI-generated responses must be carefully managed. There is also the risk of over-reliance, where students may use these tools for quick answers at the expense of developing critical thinking and problem-solving skills. In creative fields, questions arise about authorship, originality and the trustworthiness of AI-generated content. As AI becomes more involved in the creative process, it is essential to ensure that human values, empathy and integrity remain at the heart of education and artistic expression.

The future of chatbots and language models unfolds a myriad of possibilities, from enhanced conversational abilities to applications across diverse domains. As AI and language models redefine human-computer interaction, the journey ahead will be marked by exploration, refinement and the quest for responsible and ethical AI applications. Let us not fear the rise of AI, but embrace it as a catalyst for deeper learning, greater creativity and a more connected world. The future belongs to those who can imagine and build it-with both heart and algorithm as their guide.

- Dakshta Wadibhasme (24JE0608)

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)
Sumit Kumar (23JE0985)
Merla Meghana (24JE0654)
Mirthipati Krishna Balaji (22JE0573)
Rahul Joshi (24JE0678)

Share your ideas, stories, or articles by mailing us at bufferedReader@iitism.ac.in

Follow Us:



[@CSE_IITISM](https://www.linkedin.com/company/@CSE_IITISM)



[@cse_iitism](https://twitter.com/@cse_iitism)



[@cse_iitism_dhanbad](https://www.instagram.com/@cse_iitism_dhanbad)