

i-Aabhyantar

Newsletter of the Department of CSE & IT, JIIT, Noida

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Department of Computer Science & Engineering and Information Technology
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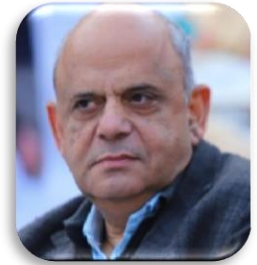


**Prof. S. C.
Saxena**
Pro-Chancellor

I am happy to know that the Department of CSE&IT is publishing its second issue of second volume of the newsletter “i-Aabhyantar”. Like previous issues, I believe that “i-Aabhyantar” will showcase the various activities of the Department in the areas of teaching, research, placements, conferences, workshops, training programs, expert lectures and collaborations. In present time, computer science and IT is one of the fastest growing technology field. Modern society infrastructures and functions are mostly based upon IT. It is playing an important role in our daily live. At JIIT we aim to motivate and nurture our students to excel in multifaceted computing and IT technologies. I would like to congratulate the editorial team for bringing out this volume.

I am pleased to learn that the Department of Computer Science and Engineering and Information Technology (CSE&IT) at Jaypee Institute of Information Technology (JIIT) Noida is preparing to release the second issue of second edition of their newsletter, “i-Aabhyantar”.

The Department is committed to fostering a supportive learning environment that encourages students to expand their knowledge and provides them with additional opportunities for extracurricular participation. The Newsletter is a testament to the exceptional standard of teaching and research that is taking place in the CSE&IT Department. I am sure that the Department's accomplishments and activities described in the forthcoming Newsletter will be very useful to student, faculty and other stake holders.



**Prof. (Dr.) Bodh
Raj Mehta**
Vice-Chancellor

I am delighted and excited to present you the fourth issue of ‘i-Aabhyantar’, the newsletter of CSE&IT Department, at Jaypee Institute of Information Technology (JIIT), Noida. It’s a matter of pride and satisfaction that the department, with 110 faculty members and 130 Ph.D scholars, is successful in achieving the prime goal of a university to create and disseminate the knowledge. This newsletter is a small step to display various activities, academic achievements & success stories of our students and faculty. I strongly believe that ‘i-Aabhyantar’, will provide another platform for our students and stakeholders to get enlightened and participate in the growth of the department. I am very thankful to Prof. Charu and editorial team members, Dr. Mukesh Saraswat, Dr. Himani Bansal, Dr. Pulkit and Dr. Vikash, who worked very hard to this newsletter.



**Prof. Vikas
Saxena**
*Director and
Head (CSE&IT)*

We are delighted to present to you the latest edition of our annual newsletter, “i-Aabhyantar,” from the Computer Science and Engineering & Information Technology department. This newsletter is a platform for us to share our achievements, updates, and progress over the past year. We are proud to say that despite the unprecedented challenges that the world has faced, we have continued to work in hybrid mode towards our goals.

Our department has achieved many significant milestones over the past year. We have been successful in creating a collaborative and supportive environment that encourages creativity and innovation. Our faculty and students have actively participated in numerous research projects and presented their findings in several national and international conferences.

We are proud to say that we have continued to adapt to new technological advancements and emerging fields, which has helped us stay ahead of the curve. Our students have been provided with cutting-edge resources and tools to prepare them for a rapidly evolving world of Information Technology.

As we move forward, we remain committed to excellence and to fostering a culture of learning and growth. We are excited about the future, and are confident that our department will continue to be at the forefront of innovation and excellence in the years to come.

We hope that you enjoy this edition of “i-Aabhyantar” and that it gives you a glimpse into the amazing work being done by our department. We welcome your feedback and suggestions for future editions.



With Best Regards
Editors

Vision and Mission of the Institute

Vision

To become a Centre of Excellence in the field of IT & related emerging areas education, training and research comparable to the best in the world for producing professionals who shall be leaders in innovation, entrepreneurship, creativity and management.

Mission

1. To develop as a benchmark University in emerging technologies.
2. To provide state-of-the-art teaching learning process and R&D environment.
3. To harness human capital for sustainable competitive edge and social relevance.

Vision and Mission of CSE&IT Department

Vision

To be a Centre of Excellence for providing quality education and carrying out cutting edge research to develop future leaders in all aspects of computing, IT and entrepreneurship.

Mission

1. To offer academic programme with state-of-the-art curriculum having flexibility for accommodating the latest developments in areas of computer science and IT.
2. To conduct research and development activities in contemporary and emerging areas of Computer Science & Engineering and IT.
3. To inculcate IT & entrepreneurial skills to produce professionals capable of providing socially relevant and sustainable solutions.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOS) OF B.TECH. (CSE)

PEO 1: To provide core theoretical and practical knowledge in the domain of Computer Science & Engineering for leading successful career in industries, pursuing higher studies or entrepreneurial endeavours.

PEO 2: To develop the ability to critically think, analyze and make decisions for offering techno-commercially feasible and socially acceptable solutions to real life problems in the areas of computing.

PEO 3: To imbibe lifelong learning, professional and ethical attitude for embracing global challenges and make positive impact on environment and society.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOS) OF B.TECH. (IT)

PEO 1: To impart core theoretical and practical knowledge of Computer Science & Engineering and emerging Information Technologies for leading successful career in industries, pursuing higher studies or entrepreneurial endeavours.

PEO 2: To develop the ability to critically think, analyze, design and develop IT based solutions.

PEO 3: To imbibe the life-long learning and understanding of ethical values, their duties toward environmental issues and sensitize them toward their social responsibility as IT professional.

Recognitions

We are delighted to highlight the exceptional achievements of our Computer Science and Engineering & Information Technology students and faculty in this edition of i-Aabhyantar. Our department has demonstrated outstanding performance in various academic and extracurricular activities, and we want to recognize their hard work and dedication.

We would also like to express our gratitude to the faculty members who have nurtured and guided our students. Their unwavering support and encouragement have played a significant role in our students' success.

We are confident that our students will continue to be trailblazers in the field of Computer Science and Information Technology and will make us proud with their future accomplishments.

The major achievements are mentioned below:

- ❖ Karan Bamal elevated with coding award entitled, “VAJRA” organized by Manthan, Ministry of Education, Ministry of Innovation cell, Government of India.
- ❖ Fellowship of INR 60,000 + granted to Ms. Ishita Gupta and Ms. Janani Pradeep in TIH Foundation for IoT and IoE CHANAKYA Graduate Internship program. Dr. Suma Dawn is their Faculty Mentor.
- ❖ Dr. Payal Khurana Batra elevated as primary evaluator for Toycathon organized by Ministry of Education’s Innovation Cell, Ministry of Information and Broadcasting, Ministry of MSME, Ministry of Women and Child Development, Ministry of Commerce and Industry Ministry of Textile, Government of India.
- ❖ Kritika Rani elevated as primary evaluator for Toycathon organized by Ministry of Education’s Innovation Cell, Ministry of Information and Broadcasting, Ministry of MSME, Ministry of Women and Child Development, Ministry of Commerce and Industry Ministry of Textile, Government of India.
- ❖ Dr. Neetu Sardana won the best paper award entitled, “ Role of Popularity and Recency for discovery of experts in Stack Exchange Software Engineering Q&A website” in Proceedings of Third Doctoral Symposium on Computational Intelligence, organized by Institute of Engineering and Technology, a constituent college of Dr. APJ Abdul Kalam Technical University Lucknow Indian in association with University of Calabria, Italy.

PH.D Awarded



Candidate Name	Thesis Titles	Date
Varsha Garg	Effective Identification of Endometrial Tuberculosis for Infertility using Machine Learning	16-Aug-22
Sandhya Mishra	Analysis and Detection of Phishing in Textual Messages to Ensure Smartphone Security	26-Aug-22
Bansidhar Joshi	Effective Schemes for Allocation of Virtual Channels and Routing in Network-on-Chip	31-Aug-22
Nitin Kumar Tyagi	Smart Electronic Governance using Blockchain and Intelligent Techniques	18-Oct-22
Ankita	Meta-heuristic guided detection of spatial and spatiotemporal hotspots for societal applications	31-Oct-22
Nidhi Gupta	Optimization of SPARQL Federated Query Processing for the Integration of Healthcare Data	13-Dec-22

INTERNATIONAL CONFERENCE

The International Conference on Contemporary Computing (IC3) is being organized every year since 2008 by jointly Jaypee Institute of Information Technology (JIIT), Noida, India and University of Florida, Gainesville, USA. It focuses on topics that are of contemporary interest to computer and computational scientists and engineers. IC3-2022 brought together researchers and practitioners from academia, industry and government to deliberate upon the algorithmic, systemic, applied, and educational aspects of contemporary computing. The conference is held in Noida (outskirts of New Delhi), India, and typically features multiple eminent keynote speakers, and presentation of more than 100 peer reviewed papers and exhibits.

Keynote and Invited Speakers



Ram D. Sriram,
Chief Collaborator,
Software and Systems Division,
NIST, USA.



Prof. Prabhat Mishra,
Director,
Embedded Systems Lab,
University of Florida, USA.



Prof. Kannappan Palaniappan,
University of Missouri, USA.



Prof. K. Madhava Krishna,
IIIT, Hyderabad, India.



Prof. Krishna Moorthy Sivalingam,
IIT Madras, India.

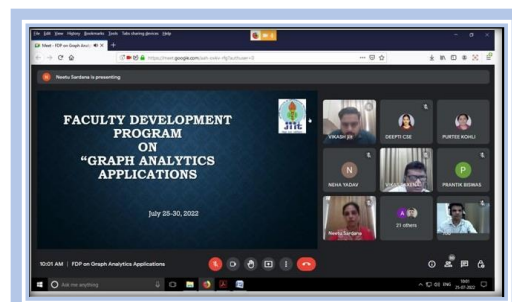
One week Faculty Development Programme on Full Stack Engineering

Department of CSE&IT, IIIT, Noida conducted a week-long online Faculty Development Program on Full Stack Engineering from July 4 to 9, 2022. This program aimed to enhance the knowledge and skills of faculty members in the field of Full Stack Engineering, covering both front-end and back-end development. The program featured a comprehensive curriculum, including topics such as web development frameworks, database management, server-side programming, and responsive design. The participants had the opportunity to learn from expert trainers through interactive sessions, hands-on exercises, and collaborative projects. The program provided a platform for faculty members to stay updated with the latest trends and technologies in Full Stack Engineering, enabling them to deliver quality education and mentor students effectively in this rapidly evolving field.

Faculty Development Program on Graph Analytics Applications

Department of CSE&IT, IIIT, Noida conducted an Online One-week Faculty Development Program on Graph Analytics Applications under the aegis of Institute Industry Linkage Cell (IILC) from July 25-30, 2022.

In the program, numerous Industry and academia experts shared their insights related to Graph analytics. This FDP provided knowledge about the modern graph analytical tools and methodologies. This course provided a great platform for researchers and practitioners from academia to gain insights about current technological developments in the relevant fields along with the applications of graph analytics in the different domains like robotics, network analysis, trajectory optimization, Internet of Things etc.



Faculty Development Program on Blockchain and its Applications (BTA' 22)

The Jaypee Institute of Information Technology organized a ground-breaking Faculty Development Program centered around blockchain technology from July 25 to 30, 2022. This innovative initiative aimed to equip faculty members with the necessary knowledge and skills to harness the potential of blockchain in various domains. With the institute's commitment to fostering cutting-edge research and technological advancements, the program sought to bridge the gap between academia and industry in the rapidly evolving blockchain ecosystem.

The faculty development program featured an impressive lineup of more than 10 esteemed speakers, including renowned experts from academia, industry leaders, and blockchain practitioners. These speakers brought their vast experience and deep insights into blockchain technology, exploring its applications, challenges, and future prospects. Through engaging lectures, interactive workshops, and hands-on training sessions, the faculty members were exposed to the fundamental concepts of blockchain, smart contracts, decentralized applications, and the underlying cryptographic principles.

The program witnessed an enthusiastic response from the academic community, drawing over 50 participants from various educational institutions. The diverse audience, comprising professors, researchers, and industry professionals, actively engaged in discussions, networking, and knowledge-sharing sessions. This collaborative environment fostered interdisciplinary learning and paved the way for potential research collaborations and industry partnerships.

The screenshot shows a Zoom meeting interface. At the top, it says "You're presenting to everyone" and "Presentation audio". The main content is a "SCHEDULE" table with columns for Date & Day, Time (IST), Topic, Speaker, and Google Meet Link. The schedule covers dates from July 25th to 30th, 2022. Below the schedule is a grid of participants, including Potukuchi Rag..., Shariq Murtuza, Prakash Kumar, Abhishek Saxena, Charu Gandhi, Deep Suman Dev, Vishal Kumar, and 41 others.

Date & Day	Time (IST)	Topic	Speaker	Google Meet Link
25 th July 2022 (Monday)	09:30 – 10:00	Inauguration	Dr. P. Raghu Varad, Assistant Professor (Senior Grade), Dept of CSE/IT, JIIT, Noida.	https://meet.google.com/vqj-qrvi-hgd
	10:00 – 11:30	Building Blocks of Blockchain	Dr. Vikas Kaulija, Postdoc Researcher, National University of Singapore, Singapore.	
26 th July 2022 (Tuesday)	10:00 – 11:30	How NFTs are revolutionizing the blockchain ecosystem	Dr. Himanshu Agrawal, Assistant Professor (Senior Grade), Dept of CSE/IT, JIIT Noida	https://meet.google.com/rch-tdhm-fix
	11:30 – 13:00	Role of Consensus algorithms in Blockchain	Dr. Himanshu Agrawal, Assistant Professor (Senior Grade), Dept of CSE/IT, JIIT Noida	
27 th July 2022 (Wednesday)	10:00 – 11:30	IPFS and Blockchain Application for Land Registration in India.	Dr. Anurek Singh Yadav, Associate Professor, Shaarda University, Greater Noida.	
	11:30 – 13:00	Ethereum Blockchain and Smart Contracts	Dr. Shaanvi Makka, Professor, Vellore Institute of Technology, Vellore.	
28 th July 2022 (Thursday)	10:00 – 11:30	Ethereum Programming on Remix IDE	Dr. Naveen Kumar Gupta, Assistant Professor (Senior Grade), Dept of CSE/IT, JIIT Noida.	https://meet.google.com/qm-erdb-fip
	11:30 – 13:00	Ethereum Programming on Remix IDE	Dr. Naveen Kumar Gupta, Assistant Professor (Senior Grade), Dept of CSE/IT, JIIT Noida.	
29 th July 2022 (Friday)	10:00 – 11:30	Deployment Strategies for Blockchain Projects	Mr. Tejraj Khanna, Assistant Professor, Dept of CSE, Shaarda University, Noida.	https://meet.google.com/low-tkx-nrk
	11:30 – 13:00	Recent Trends in Security & Privacy of Sustainable Internet of Things with Blockchain	Dr. K. Raja Lakshmi, Associate Professor, Dept of CSE/IT, JIIT Noida.	
30 th July 2022 (Saturday)	10:00 – 11:30	Blockchain and Its Applications	Dr. Shelly Sachdeva, Associate Professor, Dept of CSE, NIT India.	https://meet.google.com/tz-kjr-gfa
	11:30 – 13:00	Blockchain Tools and Techniques for Healthcare: Research and Future Trends	Dr. Adarsh Kumar, Senior Associate Professor, Dept of CSE, University of Petroleum and Energy Studies, Dehradun.	
30 th July 2022 (Saturday)	09:45 – 11:00	Blockchain for Cyber Security	Dr. Sharaha Porwal, Assistant Professor (Senior Grade), Dept of CSE/IT, JIIT Noida.	https://meet.google.com/jos-sqj-lpb
	11:05 – 12:20	Blockchain databases	Dr. Parmet Kaur, Associate Professor, Dept of CSE/IT, JIIT Noida.	
	12:35 – 12:45	Quiz & Feedback Collection		
	12:45 – 13:00	Valdictory		

Summer School on Quantum Computing and its Applications (QCA'22)

Jaypee Institute of Information Technology organized a two-week summer school, Quantum Computing and its Applications (QCA'22), from July 25 to August 5, 2022. The program aimed to provide participants with a comprehensive understanding of quantum computing and its applications in various domains.

The summer school brought together a distinguished group of experts from both industry and academia. These experts shared their insights, knowledge, and experiences, covering topics such as quantum algorithms, quantum information theory, quantum cryptography, and quantum machine learning. Participants had the opportunity to interact with these experts, engage in discussions, and gain practical insights into the potential of quantum computing.

The summer school served as a platform for knowledge exchange and collaboration. It attracted a diverse audience, including researchers, faculty members, students, and professionals, interested in exploring the emerging field of quantum computing. Participants had the chance to network with peers and establish connections with experts, fostering potential collaborations and research opportunities.

By the end of the two-week program, participants gained a solid foundation in quantum computing, enabling them to explore its applications in areas such as optimization, simulation, and cryptography. They acquired the necessary tools and techniques to contribute to the advancement of this rapidly evolving field. The QCA'22 summer school at Jaypee Institute of Information Technology played a vital role in promoting quantum computing education and research, paving the way for future innovations and breakthroughs in this transformative technology.

Invited Lecture on Entrepreneurship and Innovation as Career Opportunity

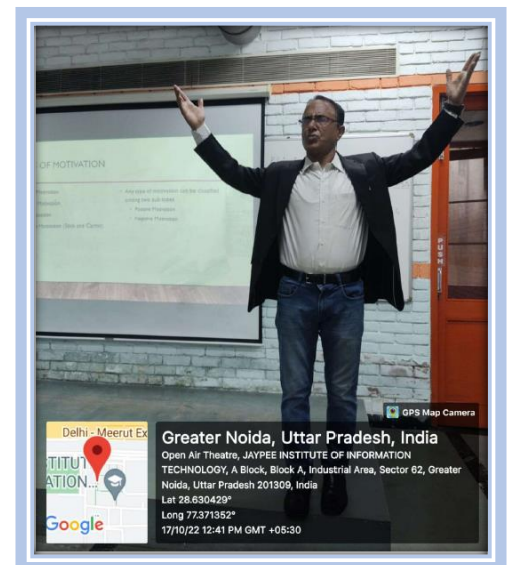
A lecture on "Entrepreneurship and Innovation as Career Opportunity" was conducted at IIIT Noida on October 4, 2022. The session aimed to highlight the potential of entrepreneurship and innovation as viable career paths. The lecture emphasized the importance of identifying and capitalizing on business opportunities, fostering creativity, and embracing risk-taking. The speaker discussed the role of entrepreneurship in driving economic growth, job creation, and technological advancements. Students were encouraged to explore their entrepreneurial potential, develop innovative ideas, and pursue ventures that can make a positive impact. The lecture served as a source of inspiration, motivating students to consider entrepreneurship and innovation as promising career opportunities in today's dynamic and ever-evolving business landscape.

Invited Talk on Need of Motivation in Various walks of Life!!

Motivation plays a crucial role in various walks of life, as highlighted in an expert lecture delivered by Mr. Madhur Kant Chaturvedi, Assistant General Manager (R) at State Bank of India, at IIIT Noida on October 17, 2022. The need for motivation arises from several key reasons:

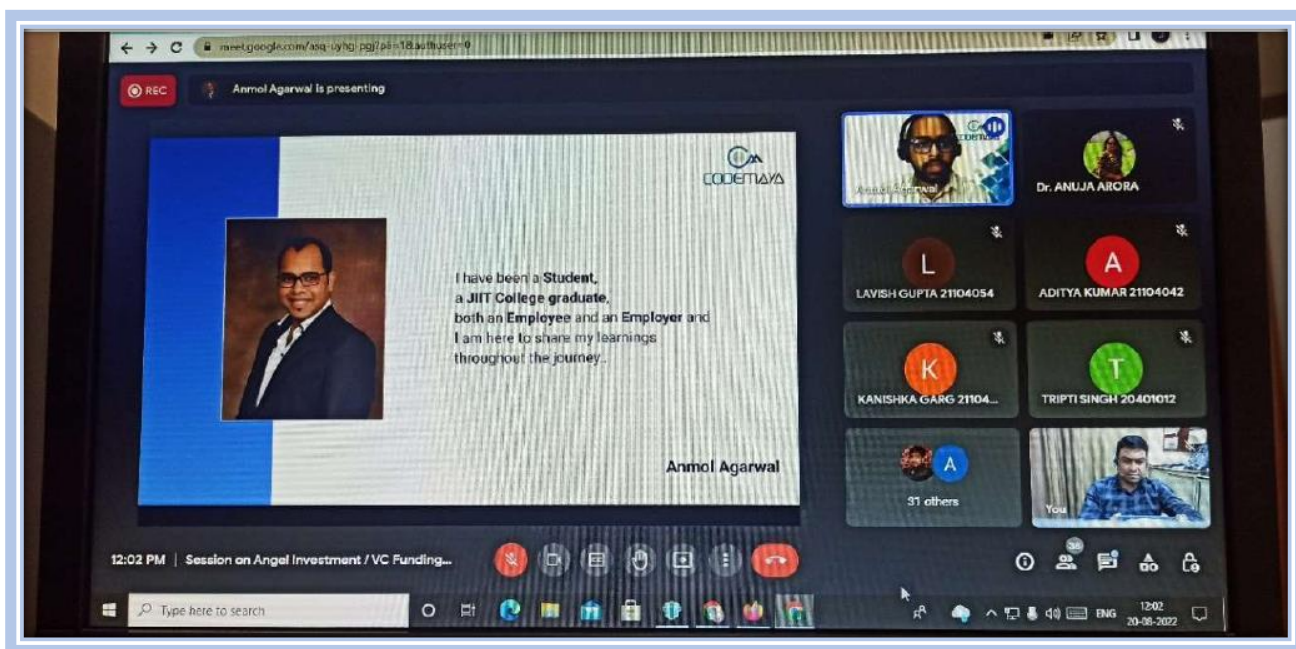
Helps one achieve big milestones: Motivation provides the drive and determination required to set ambitious goals and work towards achieving them. It fuels the desire to go beyond one's comfort zone and strive for success.

In conclusion, motivation plays a vital role in various aspects of life, driving individuals towards success, helping them overcome challenges, and inspiring both themselves and others to reach their full potential.



Invited Talk on Angel Investment / VC Funding Opportunity for Early Stage Entrepreneurs

Motivation plays a crucial role in various walks of life, as highlighted in an expert lecture delivered by Mr. Madhur Kant Chaturvedi, A session on angel investment and venture capital (VC) funding opportunities for early-stage entrepreneurs was organized at IIIT by CS/IT Department to create awareness among B.Tech and M.Tech students regarding how entrepreneurship can generate funds. The event aimed to educate students about the benefits of seeking funding for their startup ventures by the speaker Mr. Anmol Agarwal, Owner & Co-founder of CodeMaya. The session garnered enthusiastic participation from students who actively engaged by asking questions and discussing their ideas. The event provided a valuable learning experience, allowing students to acquire essential skills and knowledge related to fundraising in the entrepreneurial landscape. Overall, the session successfully facilitated a platform for students to explore the potential of securing angel investments and VC funding to fuel their entrepreneurial aspirations.



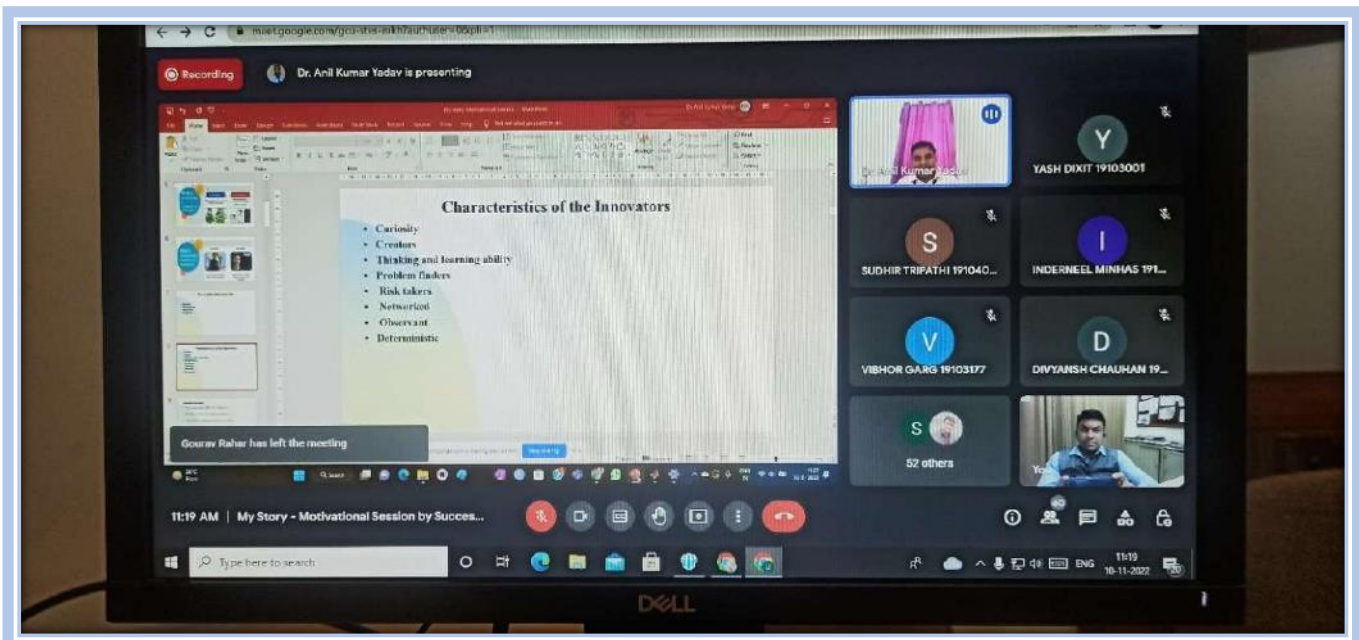
Invited Talk on Role of Youth in Social and Rural Economic Development

Mr. Kamal Kumar Patel, Co-founder and CEO of Social Pillars, delivered a lecture on the role of youth in social and rural economic development at JIIT Noida on October 13, 2022. The session emphasized the significant impact that young individuals can make in driving positive change in society and rural areas. Mr. Patel highlighted the importance of active participation and engagement of youth in various initiatives aimed at uplifting underprivileged communities and promoting economic growth in rural areas. The lecture encouraged students to explore innovative ideas, entrepreneurial ventures, and social enterprises to contribute to social and economic development. Mr. Patel's insightful talk inspired the audience, creating a sense of responsibility and motivation among the youth to actively work towards creating a more inclusive and prosperous society.



Invited talk on My Story - Motivational Session by Successful Innovators

Dr. Anil Kumar Yadav, Assistant Professor in the Artificial Intelligence Division at Vellore Institute of Technology, Bhopal, delivered a motivational session titled "My Story - Motivational Session by Successful Innovators" at IIIT Noida on November 10, 2022. The session aimed to inspire and motivate students by showcasing the personal journeys of successful innovators. Dr. Yadav shared his own experiences and challenges, highlighting the importance of perseverance, determination, and continuous learning in achieving success. The session provided students with valuable insights and practical advice to overcome obstacles, embrace innovation, and pursue their dreams. Dr. Yadav's motivational session left a lasting impact, empowering students to strive for excellence and make their own mark in their chosen fields.



GUEST LECTURES

- ❖ An expert lecture on **Hadoop** by **Dr. Parmeet Kaur** at **NIT Delhi** in Atal FDP on "Information System Frontiers" 06/10/2022
- ❖ A lecture on **Blockchain Databases** by **Dr. Parmeet Kaur** in FDP on Blockchain Technology and Its Applications (BTA'22) organized by Department of Computer Science & Engineering and IT, Jaypee Institute of Information Technology, Noida from 25-30 July 2022.
- ❖ An expert lecture on **Enhancing Green Internet of Things using Enabling Technologies** by **Dr. K. Rajalakshmi** at Faculty Development Programme (FDP) on Green IoT for Sustainable Development, JIIT, Noida from 13 - 17 June 2022.
- ❖ An expert lecture on **Trends in Security & Privacy of Sustainable IoT with Blockchain** by **Dr. K. Rajalakshmi** at FDP on BLOCKCHAIN TECHNOLOGY AND ITS APPLICATIONS JIIT., Noida 25-30 July 2022
- ❖ An expert lecture on **Scraping, Pre-processing for NLP and Analyzing Data using Python** by **Prof. Devpriya Soni** at the faculty development program on Data Analytics and Machine Learning sponsored by ATAL at Department of CSE, IIMT college of Engineering, Greater Noida on 17 December 2022.



Dr. Parmeet Kaur



Dr. K Rajalakshmi



Prof. Devpriya Soni

Research Accomplishments

We are thrilled to share with our readers the latest research accomplishment of i-Aabhyantar, which has been featured in our newsletter. The research team has made significant strides in Computer Science and Engineering & Information Technology, demonstrating their deep knowledge and commitment to advancing this field. Our newsletter highlights the impact and advancements made, and we are proud to showcase the team's work. We hope that this research will inspire further developments in the industry and help pave the way for a brighter future in Computer Science and Engineering & Information Technology. The highlights are as follows:

Funded Projects

- IIIT sanctioned INR 3 Lacs for the project entitled “Context-Aware Image Enhancement of Digitized X-Ray Film for Better Radiography Imaging” with file number DRID/Projects/2022.
- IIIT sanctioned INR 75 lacs to develop Center of Excellence: Artificial Intelligence for Education with file number DRID/Projects/2022.

Books Published

- Megha Rathi, Adwitiya Sinha, “Advanced Computational Techniques for Sustainable Computing,Eds.,” Taylor & Francis Group, Chapman and Hall, CRC Press, 338 pages, 2022 (ISBN: 9781003046431) (doi: 10.1201/9781003046431)
- Shikha Jain, Kavita Pandey, Princi Jain, Kah Phooi Seng, “Artificial Intelligence, Machine Learning, and Mental Health in Pandemics: A Computational Approach,” (2022). Netherlands: Elsevier Science.(ISBN: 978-0-323-91196-2) (<https://doi.org/10.1016/C2020-0-04085-5>)

International Journals

- Gujral, H., Sharma, A., Jain, P. Juneja S, Mittal S. Design and Implementation of a Quantitative Network Health Monitoring and Recovery System. *Wireless Pers Commun* 125, 367-397 (2022).
- Rachit Shukla, Adwitiya Sinha, Ankit Chaudhary, TweezBot: An AI-Driven Online Media Bot Identification Algorithm for Twitter Social Networks, *Electronics*, vol. 11, no. 5: 743, pp. 1-21, 2022
- Paul N, Bhatt AJ, Rizvi S. Malware Detection in Android Apps Using Static Analysis. *Journal of Cases on Information Technology (JCIT)*. 2022 Aug 1;24(3):1-25.
- Rathi, M., Sahu, S., Goel, A., & Gupta, P. (2022). Personalized Health Framework for Visually Impaired. *Informatica*, 46(1).
- Mayuri Gupta, Adwitiya Sinha, Multi-Class Autoencoder-Ensembled Prediction Model for Detection of COVID-19 Severity, *Evolutionary Intelligence*, Springer, pp. 1-11, 2022
- Deepanshi, Adwitiya Sinha, Self-Aware Contextual Behavior Analysis for Service Quality Assurance over Social Networks, *Journal of Cases on Information Technology*, IGI Global, pp. 1-17, 2022
- Parmeet Kaur, Sanya Deshmukh, Pranjal Apoorva, and Simar Batra. "Analysis and Outcome Prediction of Crowdfunding Campaigns." *International Journal of Information Retrieval Research (IJIRR)* 12, no. 1 (2022): 1-14.

Book Chapters

- Rawat, Tara, and Shikha Jain, "Depression detection: approaches, challenges and future directions" *Artificial Intelligence, Machine Learning, and Mental Health in Pandemics*. Academic Press, 2022. 209-234.
- Sood, Rishik, et al. "Predicting loneliness from social media text using machine learning techniques" *Artificial Intelligence, Machine Learning, and Mental Health in Pandemics*. Academic Press, 2022. 259-275.
- Bisht, Sankalp Singh, et al. "Perceiving the level of depression from web text" *Artificial Intelligence, Machine Learning, and Mental Health in Pandemics*. Academic Press, 2022. 277-298.
- Rishik Sood and Hrishav Varma and Kavita Pandey and Shikha Jain and Degala Sriram and Arshpreet Singh Guglani, Chapter Eleven – "Predicting loneliness from social media text using machine learning techniques," in book titled as *Artificial Intelligence, Machine Learning, and Mental Health in Pandemics*, Academic Press, Elsevier, May, 2022, pp. 259-275
- Paras Chaudhary, Adwitiya Sinha, and Somya Jain, "Sustainable Computing: An Overview" *Advanced Computational Techniques for Sustainable Computing (2022)*: 1-19.
- Sherry Garg, and Rajalakshmi Krishnamurthi, "Smart Health Analytics for Sustainable Energy Monitoring Using IoT Data Analytics" In *Advanced Computational Techniques for Sustainable Computing*, pp. 107-121. Chapman and Hall/CRC, 2022.
- S. M. Anirban Dutta, Parul Agarwal, Anushka Mittal, Shishir Khandelwal, "Detection of Diabetic Retinopathy Using Ensemble Learning Techniques - Fundamentals and Methods of Machine and Deep Learning," Wiley Online Library, in *Fundamentals and Methods of Machine and Deep Learning: Algorithms, Tools and Applications*, 2022, pp. 153-175.
- Saraswat, M., Sharma, H. and Arya, K.V., "Intelligent Vision in Healthcare," In *Intelligent Vision in Healthcare* (pp. 1-8). Springer, Singapore, 2022.
- V Puri, P Kaur, S Sachdeva, "Efficient Clustering of Transactional Data for Privacy-Preserving Data Publishing," In book: *Cyber Security and Digital Forensics* (pp.153-160) , 2022
- Dutta, A., Mittal, A., Khandelwal, S., & Sinha, A, "Assessing Land Cover and Drought Prediction for Sustainable Agriculture," In *Advanced Computational Techniques for Sustainable Computing* (pp. 33-51), 2022. Chapman and Hall/CRC.

- Agarwal, M., Parashar, P., Mathur, A., & Sinha, A, “Customer Analytics for Purchasing Behavior Prediction,” In *Advanced Computational Techniques for Sustainable Computing*, pp. 123-137, 2022 Chapman and Hall/CRC
- Puri, R., Bhandari, J., Gupta, R., & Sinha, A, “Time Series Analysis and Trend Exploration of Stock Market,” In *Advanced Computational Techniques for Sustainable Computing*, pp. 197-212, 2022. Chapman and Hall/CRC
- Saini, S., Tripathi, V., Tyagi, K., & Sinha, A, “Assessing Impact of Global Terrorism Using Time Series Analysis,” In *Advanced Computational Techniques for Sustainable Computing*, pp. 225-244, 2022, Chapman and Hall/CRC
- Gupta, A., Chahal, E. S., Haritosh, A., Sinha, A., & Chandra, S, “Sports Analytics for Classifying Player Actions in Basketball Games,” In *Advanced Computational Techniques for Sustainable Computing*, pp. 301-316, 2022 Chapman and Hall/CRC
- Shikha Singhal, Adwitiya Sinha, Buddha Singh, “Context Awareness for Healthcare Service Delivery with Intelligent Sensors,” In *Book: Frontiers of Data and Knowledge Management for Convergence of ICT, Healthcare, and Telecommunication Services*, EAI/Springer Innovations in Communication and Computing, Springer, pp. 61-83, 2022
- Rathi, M., Garg, M., Wahi, J. S., & Thar, M. D, “Ambient Air Quality Analysis and Prediction Using Air Quality Index and Machine Learning Models:The Case Study of Delhi,” In *Advanced Computational Techniques for Sustainable Computing*, pp. 21-31, 2022 Chapman and Hall/CRC.
- Arora, P., Singh, S., & Rathi, M, “Medical Search Engine,” In *Advanced Computational Techniques for Sustainable Computing*, pp. 213-224, 2022 Chapman and Hall/CRC.
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The Recent Trends and Technologies in CSE

by Dr. Dharmveer Singh Rajpoot



Now a days, every industry is looking for the employee, who knows about the recent trends and technologies of computer science engineering. Because the employee who have the knowledge and experience about the emerging trends and technologies of computer science will be very helpful in growing the organization as well as sustainable development of the organization for the long-term future. Here I have mentioned few technologies of computer science, which are very popular based on some study such as Artificial Intelligence, Machine Learning, Augmented Reality, Virtual Reality, Blockchain, 5G, and Internet of Things (IoT) etc. The basic concepts about some recent technologies are as follows:

Artificial Intelligence: The Artificial Intelligence (AI) is combination two words first one is *Artificial* or non-natural that means the things which are created by human being and another one is *Intelligence* which means the ability to learn, think, reason, decision making etc. So, we can say that Artificial Intelligence is a study of how to create a machine or program that mimic human behaviour because human being is considered as most intelligent creature. There are multiple applications of Artificial Intelligence techniques in Searching, Learning, Knowledge Representation, Expert Systems, Computer vision, Image processing and Robotics etc.

Machine Learning: The Machine Learning (ML) is considered as a subset of Artificial Intelligence, where the machine is trying to learn based on the past experience or sample data. Its methods are broadly divided into three categories such as Supervised, Unsupervised and Reinforcement learning. Supervised learning methods always used labelled dataset in which class labels are already given to prepare a model for prediction. These methods are known as classification and regression. Unsupervised learning methods used unlabelled dataset and try to group the objects based on the similarity of their features or attributes.

These methods are known as clustering and dimension reduction. Reinforcement learning methods always produces sequence of actions as output, which are mostly used in Games. These methods are known as Q Learning etc. Deep Learning is the further subset of machine learning which uses huge dataset for learning.

Augmented Reality and Virtual Reality: Augmented Reality (AR) is an application that help someone to visualise how selected items will look like at their home before they buy it. The app overlays virtual version of the products on to the real live image of customer's living space. So, customer can have a look how it suitable at home such as snap chat. We can Real world + Virtual world = Augmented reality. Where as Virtual Reality is the use of computer technologies to create an artificial or simulated environment and make user feel like he or she exist in that environment. Virtual Reality includes the feature such as vision, hear, vibration and smell etc.

Blockchain: Blockchain has developed as a reliable and strong technology in contrast to conventional server-oriented design. Blockchain is a way to store and commit data that virtually eliminates any possibility of system manipulation, editing hacking or influence. A distributed digital ledger of transactions known as a blockchain is replicated at each node and dispersed throughout the whole blockchain network of computer systems.

5G: 5G is the fifth-generation wireless data network. It is the advanced version of 3G and 4G in which can use augmented reality and virtual reality with real time response. It has mainly three features such as High Bandwidth, Low Latency and Dense Connections.

Internet of Things (IoT): IoT is a very trending idea to connect all devices to internet. The smart home is a very perfect example of IoT, where we can connect our home appliances such TV, AC, Washing Machine, Fan, Lights, CCTV Cameras etc. with the internet, so that we can operate them from outside the home using our mobile phones. This technology is very popular now a days.

As per the demand of current industry, I suggest students, who are looking for a new job to learn about these technologies. it gives them knowledge about the current technologies as well as higher pay.

Alumni Spotlight

I joined Jaypee Institute of Information Technology in the year 2017 in Computer Science branch. JIIT have an excellent course curriculum which is kept updated. The faculty members are extremely knowledgeable and always ready to help. I liked the competitive coding culture of our college and it helped me in developing and enhancing my skills. I would really like to mention our college faculty Dr. Himani Bansal Ma'am who has been my mentor in college and I am thankful to her for all her guidance, support, motivation. The college brings a lot of opportunities for learning, sports, events, internships and placements. Currently I am working as a Software Developer at Amazon.



Satyam Mittal
Batch of 2021



Parikha Goyanka
Batch of 2021

Journey from JIIT to EY was not possible without the expertise of professors and exceptional learning experience that JIIT provided. The fantastic atmosphere of campus, day to day hackathons, webinars, workshops are ample to prepare the students to face the world. Both studies and co-curricular activities is given equal importance that keeps students motivated and concentrated. At last but not least, JIIT plays a crucial role in overall development of students for secured future.



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