DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

QUARTERLY NEWSLETTER

Faculty of Engineering and Technology (FET)
Gurukula Kangri (Deemed to be) University, Haridwar

A Newsletter from
Department of Computer Science & Engineering
Faculty of Engineering and Technology
Gurukula Kangri (Deemed to be) University, Haridwar

⟫⟫⟫ EDITOR'S NOTE

Dear Readers,

It gives me great pleasure to present the January–March 2025 edition of our quarterly magazine — a vibrant snapshot of the energy, innovation, and collaboration that continue to define the Department of Computer Science and Engineering.

As we step into a new year, the pace of technological change remains relentless. Artificial Intelligence, cybersecurity, and automation are not just buzzwords — they are at the heart of the transformation reshaping industries, economies, and the very way we live and think. In this ever-evolving landscape, our department remains committed to preparing students to navigate and contribute meaningfully to these exciting domains. Through a dynamic mix of academic inquiry, hands-on learning, and community engagement, we continue to cultivate not just technical competence but also curiosity, creativity, and a strong ethical foundation.

The first quarter of 2025 was marked by a range of enriching and memorable activities. The National Conference on Automation for Sustainable Future brought together thought leaders from academia and industry to discuss the role of intelligent systems in creating a sustainable future. The event saw active participation from faculty and students, both as contributors and keen learners. The Alumni Meet rekindled connections across generations and reminded us of the enduring bonds that continue to support and inspire the department's growth. Most vibrantly, the quarter culminated in Jnanagni 2025 —the annual technical and cultural fest of our college, where talent met passion across a dazzling array of events. It was a delight to see students who code with precision by day, perform with rhythm and grace by night — on guitars, flutes, and the stage alike.

This magazine seeks to capture the highlights of the past three months while offering thoughtful glimpses into broader trends shaping the tech world. From research updates and event reflections to student achievements and creative expressions, this issue reflects the well-rounded spirit of our department — one that values excellence not just in labs and classrooms, but also in dialogue, collaboration, and cultural engagement.

I extend my heartfelt appreciation to the editorial team, student contributors, and faculty mentors for their efforts in putting together this edition. May it serve as a source of inspiration and pride for all members of our community.

Looking ahead, we remain excited for the journey ahead — one marked by learning, innovation, and shared growth.

Dr. Mayank Aggarwal
Professor & Head
Department of Computer Science & Engineering
GK(DU), Haridwar

RESEARCH/CONFERENCE/FDP (FACULTY)

- Mrs. Anjali Sharma and Dr. Mayank Aggarwal Published a paper entitled"A holistic review of Image to text conversion: Techniques, Evaluation Metrics, Multilingual Captioning, Storytelling and Integration", Springer Nature Computer Science (Scopus), Online ISSN 2662-995X, Vol 6 , Article No 225, 25 Feb, 2025

- Dr. Mayank Aggarwal Presented a paper entitled "Efficient Image Captioning with Xception Net Nystromformer: A Linear Attention Approach", in International Conference on Automation for Sustainable Future (INCASF- 2025), 7-8 March 2025 conducted by Faculty of Engineering Technology, GK(DU), Haridwar.

- Dr. Mayank Aggarwal & Dr. Rakhi Mutha Presented a paper entitled "Optimization Sustainable Industrial Process Efficiency Supervised ML Algorithm to Improve Energy Consumption by Comparative Studies in Thermal and Utility Sector", in International Conference on Automation for Sustainable Future (INCASF- 2025), 7-8 March 2025 conducted by Faculty of Engineering Technology, GK(DU), Haridwar.

- Dr. Aman Tyagi and Mr. Namit Khanduja Published a paper entitled "Automatic laptop purchase system based on case base reasoning technique', Int. J. Business Forecasting and Marketing Intelligence, Vol. 10, No. 2, pp.165–184 in Feb 2025.

- Dr. Aman Tyagi Published a patent entitled "AI-BASED OXYGEN CONCENTRATOR', Patent NO. - 424310-001.

- Dr. Suyash Bhardwaj presented a paper entitled "A Systematic Review for Anomaly Detection in Financial Transactions" in 4th international conference on mathematical modelling and computational science (ICMMCS-2025) organized by Society for Intelligent Systems held at Pattaya, Thailand on 10-11 January, 2025.

- Dr. Suyash Bhardwaj & Mr. Aman Tyagi presented a paper entitled "Early Detection of Tomato Leaf Disease Using Machine Learning" in International Conference on Innovative Computing & Communication in The Field of Life Sciences, Agriculture and Technology" Organized by Department of Computer Science & Department of Agriculture Engineering, CCS University, Meerut on 7-9 February 2025.

- Dr. Suyash Bhardwaj presented a paper entitled "Machine Learning Applications for Solar Radiation Prediction and Effects of solar radiation in Himalayan Terrain" in International Conference on Innovative Computing & Communication in The Field of Life Sciences, Agriculture and Technology" Organized by Department of Computer Science & Department of Agriculture Engineering, CCS University, Meerut on 7-9 February 2025.

- Dr. Suyash Bhardwaj presented a paper entitled "Smart Farming Using Artificial Intelligence and Robotics" in 4th International Conference on Global Perspectives on Smart Agriculture: From Precision Farming to Community Empowerment organized by RNB Global University, Bikaner on 27-28 February, 2025.

- Dr. Suyash Bhardwaj presented a paper entitled "Machine Learning for Stock Market Forecasting: Trends and Techniques" in International Conference on Automation for Sustainable Future (INCASF- 2025) organized by Faculty of Engineering & Technology, Gurukula Kangri (Deemed to be University), Haridwar on 07-08 March, 2025

- Dr. Suyash Bhardwaj & Mr. Aman Tyagi presented a paper entitled "Early Detection of Tomato Leaf Disease using Machine Learning Techniques" in International Conference on Automation for Sustainable Future (INCASF- 2025) organized by Faculty of Engineering & Technology, Gurukula Kangri (Deemed to be University), Haridwar on 07-08 March, 2025.

- Dr. Suyash Bhardwaj presented a paper entitled "Preserving Traditional Knowledge using IPR" in two day national conference on GI Tags: Enhancing Global Recognition of Local sponsored by Uttarakhand State Council of Science and Technology organized by Swami Vivekanand Govt. Post Graduate College, Lohaghat (Distt. Champawat), Uttarakhand on 24-25 March, 2025.

- Mr. Abhishant Sharma presented a paper entitled "The Transformative Impact of AI on the Modern World" in International Conference on Automation for Sustainable Future (INCASF- 2025) organized by Faculty of Engineering & Technology, Gurukula Kangri (Deemed to be University), Haridwar on 07-08 March, 2025.

- Mr. Ashwani presented a paper entitled "Enhancing Agricultural Productivity through Machine Learning - Based on Selection" in International Conference on Automation for Sustainable Future (INCASF- 2025) organized by Faculty of Engineering & Technology, Gurukula Kangri (Deemed to be University), Haridwar on 07-08 March, 2025.

- Mr. Kuldeep Giri presented a paper entitled "Machine Learning for Predictive Environmental Analysis: Enhancing Forecasting and Decision-Making" in International Conference on Automation for Sustainable Future (INCASF- 2025) organized by Faculty of Engineering & Technology, Gurukula Kangri (Deemed to be University), Haridwar on 07-08 March, 2025.

- Mr. Namit Khanduja, Dr. Nishant Kumar & Dr. Arun Chauhan presented a paper entitled "Text Classification Techniques for Low-Resource Indian Languages: Challenges and Trends" in International Conference on Automation for Sustainable Future (INCASF- 2025) organized by Faculty of Engineering & Technology, Gurukula Kangri (Deemed to be University), Haridwar on 07-08 March, 2025.

≫ Digital Volunteer Workshops at Haridwar, Champwat and Pauri Districts.

The Faculty of Engineering and Technology (FET), GK(DU), Haridwar, in collaboration with UCOST (Uttarakhand State Council for Science and Technology), successfully organized a two-day outreach program under the "Digital Volunteers for Uttarakhand" initiative on 24th and 25th March 2025 at Lohaghat, District Champawat, Uttarakhand. The primary objective of the event was to spread awareness and provide foundational knowledge on emerging digital technologies such as Artificial Intelligence (AI), Internet of Things (IoT), and Cloud Computing among school students from various hilly regions of Uttarakhand.

Dr. Mayank Aggarwal, Head of the Department, Computer Science and Engineering, GK(DU), Haridwar, delivered an inspiring and interactive session where he introduced students to the concepts of AI, IoT, and Cloud Computing. He explained how these technologies are transforming industries and daily life, encouraging students to explore future career opportunities in the tech domain.

Dr. Suyash Bhardwaj, another distinguished academician, also shared his insights and simplified complex digital concepts to make them accessible to young minds. He emphasized the importance of curiosity, digital literacy, and innovation in the modern world.

A large number of students from multiple schools actively participated in the sessions and demonstrations, showing keen interest in the technological topics presented.

डिजिटल वालंटियर कार्यशाला का आयोजन

हरिद्वार। गुरुकुल कांगड़ी समविश्वविद्यालय के अभियांत्रिकी एवं प्रौद्योगिकी संकाय के कंप्यूटर विज्ञान और अभियांत्रिकी विभाग तथा टेक्नो हब, देहरादून के सहयोग से 29 जनवरी को उत्तराखंड राज्य विज्ञान और प्रौद्योगिकी परिषद द्वारा प्रायोजित पीएम श्री राजकीय बालिका इंटर कॉलेज, कोटद्वार दुगड्डा में डिजिटल वालंटियर कार्यशाला का आयोजन किया गया। कार्यक्रम की अध्यक्षता विद्यालय की प्रधानाचार्य सुनीता मड़वाल ने की, जिन्होंने विशेषज्ञों का स्वागत किया और छात्रों को नवीनतम तकनीकों को सीखने के लिए प्रेरित किया।

कार्यशाला में प्रो. मयंक अग्रवाल, विभागाध्यक्ष, कंप्यूटर विज्ञान और अभियांत्रिकी, गुरुकुल कांगड़ी विश्वविद्यालय, हरिद्वार ने कृत्रिम बुद्धिमत्ता और मशीन लर्निंग पर विस्तार से चर्चा की। उन्होंने इन तकनीकों के स्वास्थ्य, ऑटोमेशन और साइबर सुरक्षा जैसे क्षेत्रों में उपयोग को समझाया और छात्राओं को

ए आई आधारित करियर विकल्पों के बारे में जानकारी दी।

सिद्धार्थ माधव (टेक्नो हब, देहरादून) एवं उनकी टीम ने ऑगमेंटेड रियलिटी और वर्चुअल रियलिटी पर एक इंटरैक्टिव सत्र लिया, जिसमें छात्राओं को इन तकनीकों के वास्तविक उपयोग और अनुप्रयोगों का अनुभव करने का अवसर मिला। उन्होंने बताया कि कैसे शिक्षा, गेमिंग और औद्योगिक सिमुलेशन में इसका उपयोग किया जा रहा है।

इस कार्यशाला में विद्यालय की लगभग 70 छात्राओं ने सक्रिय भागीदारी की और विभिन्न तकनीकों का व्यावहारिक अनुभव प्राप्त किया। उज्ज्वला सामाजिक संस्था ने इस कार्यक्रम को सफल बनाने में महत्वपूर्ण भूमिका निभाई। आयोजन में समन्वय, छात्राओं की भागीदारी सुनिश्चित करने और अन्य व्यवस्थाओं में सहयोग प्रदान किया। संस्था के डिजिटल साक्षरता को बढ़ावा देने के प्रयासों ने कार्यशाला की सफलता में महत्वपूर्ण योगदान दिया।

यह कार्यशाला यू कोस्ट द्वारा समर्थित थी और इसका उद्देश्य शिक्षा और नवीनतम तकनीकों के बीच की खाई को पाटना था। इस कार्यक्रम के माध्यम से छात्राओं को डिजिटल दुनिया में आगे बढ़ने के लिए आवश्यक कौशल प्रदान किए गए। कार्यशाला के अंत में सभी सहभागियों और आयोजकों को धन्यवाद दिया गया और छात्राएं प्रेरित होकर आगे भी तकनीकी क्षेत्रों में अपनी रुचि विकसित करने के लिए प्रोत्साहित हुईं।

Group Discussion on Technology & Innovation under NDLI Event

A Group discussion was held on 22 April 2025 between 11:00 AM to 12: 00 PM at IBM Lab, Department of Computer Science & Engineering, Faculty of Engineering & Technology, Gurukula Kangri Deemed to be University, Haridwar. The Brainstorming session had total 39 Students, the event was graced by Dr. Mayank Agarwal, Dr.Nishant Kumar.

⫸JNANAGNI 2025

JNANAGNI 2025, the annual cultural fest of the Faculty of Engineering and Technology, Gurukula Kangri (DU), Haridwar, was held on 7th and 8th March 2025. The two-day celebration unfolded as a vibrant expression of youthful energy, artistic talent, and cultural harmony.

The Event was smoothly Co-ordinated by Dr. Nishant Kumar and Dr. Sanjeev Lambha. Furthormore, the event anchored by students Pratham Mishra, Shubham Nigam, and Ayush Yadav, whose engaging presence kept the audience connected throughout. Archit Padha (3rd year) served as the student coordinator, actively managing the event. Key contributions also came from Priyanshu Pandey, Samrendra Yadav, and Vishal Kumar, who were instrumental in the planning and execution. Dr. Prashant Kaushik played role in mentoring students, conducting auditions, and shaping performances. Faculty members Assistant Professor Praveen K. Pandey and Assistant Professor Lokesh Joshi also supported the event actively.

The program opened with a devotional Saraswati Vandana by Ketan Pant (CSE 2nd Year), setting a graceful and spiritual tone. He later returned with a soulful performance of Apne Hi Rang Mein Rang De, leaving a lasting impression.

Among the highlights were:

·Nitin Pankaj's dynamic fusion of Shiv Tandav and Rajasthani folk, which drew great appreciation.

·Naman's (2nd year, CSE) emotional rendition of Saiyaan and Vimal's touching version of Is Dard-e-Dil Ki Sifarish (1st Year, CSE).

·Ujjwal Chaubey (1st Year, CSE) mesmerized the audience with a melodious flute performance.

·Aman Hooda impressed with his romantic singing of Jeena Jeena.

·Bhavya captivated the crowd with a powerful and unapologetic rap performance.

·Sushil Kumar, Dhruv Sharma, Priyanshu Pandey, Om Singh Jaduan, and Vyomkesh Pushkar showcased a rich range of poetic expression — from youth-centric and romantic verses to regional and cultural reflections.

·In the dance category, Rajat Bharti delivered an electrifying solo performance, while Samrendra Yadav wowed with a high-energy mashup. The duet by Dwijesh Prabhal and Pavan was another memorable act that blended grace and coordination.
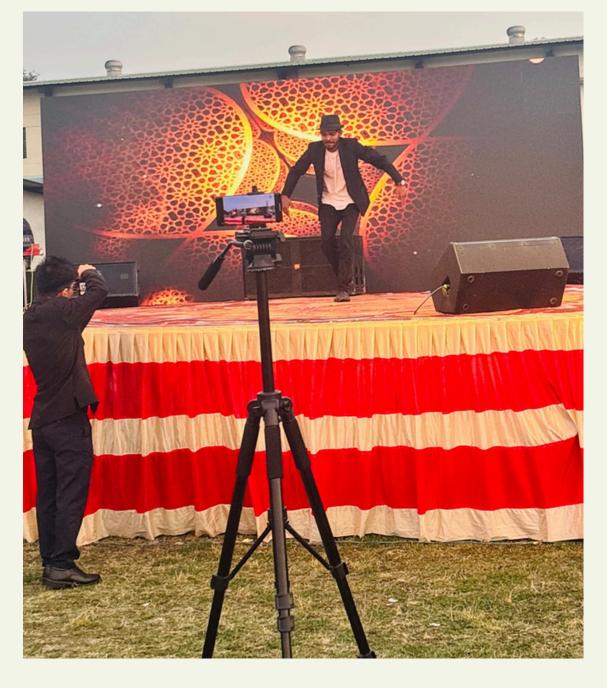
The grand finale, a powerful group performance by Ketan, Naman, Dhruv, Aman, Anshu, Sushil, and Rupesh, brought the event to a spectacular conclusion. Their musical harmony left the audience energized and deeply moved.

A heartfelt vote of thanks was delivered by Assistant Professor Prashant Kaushik, who acknowledged the efforts of all participants, organizers, and supporting faculty. The Dean, Professor Vipul Sharma, also congratulated the students and faculty for organizing such a successful event. The enthusiastic participation of students and wholehearted involvement of faculty made JNANAGNI'25 a resounding success — a festival of talent, teamwork, and joy.
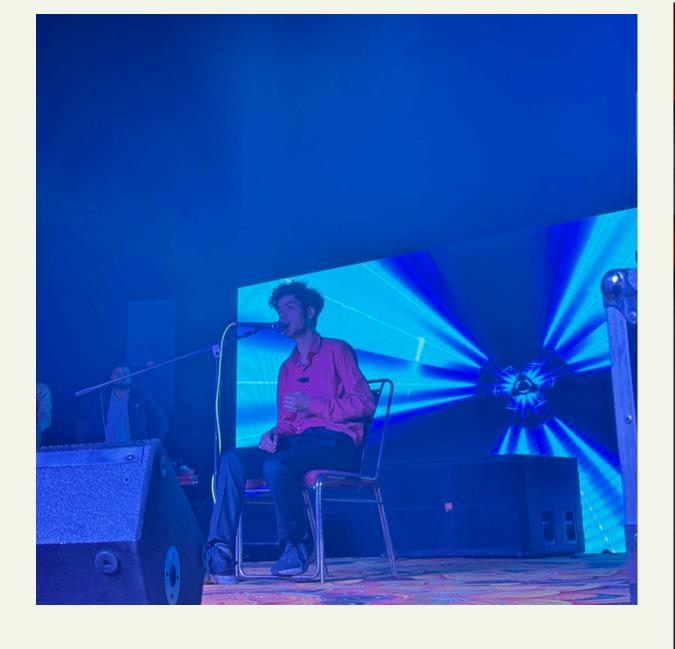
LECTURES DELIVERED

≫ UGC SPONSORED REFRESHER COURSE AT HRDC, GNDU UNIVERSITY, AMRITSAR

UGC Sponsored Refresher Course organized by the Human Resource Development Centre (HRDC), Guru Nanak Dev University (GNDU), Amritsar, an expert lecture was delivered by Dr. Mayank Aggarwal, Head of the Computer Science and Engineering Department at GK(DU), Haridwar on 03/02/2025. Dr. Aggarwal presented an insightful and engaging session on "Emerging Trends in Artificial Intelligence, Information Technology, and Cloud Computing." The lecture covered significant advancements and practical applications of AI in various domains, including education, healthcare, and smart cities. He further elaborated on the role of IT infrastructure in driving digital transformation and highlighted the scalability and flexibility offered by cloud computing technologies. The session was well-received and appreciated for its depth of knowledge, clarity, and relevance to contemporary academic and technological advancements.

Department of Computer Science & Engineering
Quarterly Newsletter - Jan - March 2025

Unlock the power of technology to revolutionize learning

LECTURE DELIVERED IN DIGITAL VOLUNTEER WORKSHOPS AT HARIDWAR, CHAMPWAT AND PAURI DISTRICTS.

Dr. Mayank Aggarwal, Head of the Department, Computer Science and Engineering, GK(DU), Haridwar, delivered an inspiring and interactive session under the "Digital Volunteers for Uttarakhand" initiative on 24th and 25th March 2025 at Lohaghat, District Champawat, Uttarakhand where he introduced school students to the concepts of AI, IoT, and Cloud Computing. He explained how these technologies are transforming industries and daily life, encouraging students to explore future career opportunities in the tech domain.

Unlock the power of technology to revolutionize learning

- Dr. Suyash Bhardwaj delivered an Invited talk on "NPTEL Awareness and Enrolment" in the NPTEL awareness workshop organized by SWAYAM NPTEL Local chapter Gurukula Kangri University, haridwar on 18 Jan 2025.

- Dr. Suyash Bhardwaj delivered an Invited talk on "Innovation and Design Thinking" in Digital Volunteers Workshop organized by Faculty of Engineering & Technology, Gurukula Kangri Deemed to be University, Haridwar supported by Uttarakhand State Council for Science & Technology, Dehradun on 24 Jan, 2025.

- Dr. Suyash Bhardwaj delivered an invited talk on "Artificial Intelligence and Modern Technologies" in Digital Volunteers Workshop organized by Faculty of Engineering & Technology, Gurukula Kangri Deemed to be University, Haridwar supported by Uttarakhand State Council for Science & Technology, Dehradun at Rajkiya Polytechnic Siggadi, Kotdwar, Uttarakhand on on 31 Jan, 2025.

Unlock the power of technology to revolutionize learning

- Dr. Suyash Bhardwaj delivered an Invited talk on "Application of AI and ML in Pharmaceutical Sciences" organized by Department of Pharmaceutical science, Gurukula Kangri Deemed to be University, Haridwar on 04 Feb 2025.

- Dr. Suyash Bhardwaj delivered an Invited talk on "AI in Research and R Programming" in National Workshop on Advance Computational & Statistical Techniques for Research organized by Department of Pharmaceutical Science, Gurukula Kangri Deemed to be University, Haridwar on 06 March 2025.

Unlock the power of technology to revolutionize learning

- Dr. Suyash Bhardwaj acted as session chair and delivered the lecture on "Scientific Temperament in students" in the "Uttrakhand Tech Summit" organized by Reacha Foundation in collaboration with IBM at ITI Niranjanpur, Dehradun on 18 March 2025.

- Dr. Suyash Bhardwaj acted as resource person and delivered an invited talk on "Digital Volunteer for Uttarakhand and introduction to Artificial Intelligence" in Digital Volunteers Workshop organized by Faculty of Engineering & Technology, Gurukula Kangri Deemed to be University, Haridwar supported by Uttarakhand State Council for Science & Technology, Dehradun at Swami Vivekananda Government PG College, Lohaghat, Champawat, Uttarakhand on 24 March, 2025.

- Dr. Suyash Bhardwaj acted as resource person and delivered an invited talk on "Digital Volunteer for Uttarakhand and Latest Technologies" in Digital Volunteers Workshop organized by Faculty of Engineering & Technology, Gurukula Kangri Deemed to be University, Haridwar supported by Uttarakhand State Council for Science & Technology, Dehradun at Government Girls Inter College, Lohaghat, Champawat, Uttarakhand on 25 March, 2025.

AWARDS RECEIVED

- Dr. Suyash Bhardwaj awarded with Special Aspirant Active SPOC Award for July- Dec 2024 Session at NPTEL SPOC Felicitation workshop at Manav Rachna University, Faridabad on March 01, 2025 by National program on technology enhanced learning, NPTEL, Govt. of India.

- Dr. Suyash Bhardwaj awarded with Top Performing Mentor Award in Programming for Java for July- Dec 2024 Sessions at NPTEL SPOC Felicitation workshop at Manav Rachna University, Faridabad on March 01, 2025 by National program on technology enhanced learning, NPTEL, Govt. of India.

- Dr. Suyash Bhardwaj awarded with Active Mentor Award in The Joy of Computing using Python for July- Dec 2024 Sessions at NPTEL SPOC Felicitation workshop at Manav Rachna University, Faridabad on March 01, 2025 by National program on technology enhanced learning, NPTEL, Govt. of India.

- Dr. Suyash Bhardwaj awarded with Active Mentor Award in Problem Solving Through Programming in C for July- Dec 2024 Sessions at NPTEL SPOC Felicitation workshop at Manav Rachna University, Faridabad on March 01, 2025 by National program on technology enhanced learning, NPTEL, Govt. of India.

BOOK CHAPTER

- Dr. Suyash Bhardwaj published a Book Chapter titled "Machine Learning Applications for Solar Radiation Prediction and Effects of solar radiation in Himalayan Terrain", Innovative Computing & Communication in The Field of Life Sciences, Agriculture and Technology, Department of Computer Science & Department of Agriculture Engineering, CCS University, Meerut 9 Feb 2025 ISBN- 978-93-341-9383-1.

- Dr. Suyash Bhardwaj published a Book Chapter titled "INTOCS: Neural Network inspired Oversampling based secure and optimized Transaction Framework for Credit Card", 2nd International Conference on Advances in Computation, Communication and Information Technology (ICAICCIT) IEEE 13 March 2025 Electronic ISBN:979-8-3315-4121-7, Print on Demand(PoD) ISBN:979-8-3315-4122-4.

STUDENT'S PLACEMENT

Congratulations to **Nishkarsh Verma** from Computer Science & Engineering (CSE) Department for getting Placement in **KodNest .**

Congratulations to **Rupesh Pratap Singh** from Computer Science & Engineering (CSE) Department for getting Placement in **KodNest.**

Congratulations to **Marda Sai Varun** from Computer Science & Engineering (CSE) Department for getting Placement in **Pentagon Space.**

Congratulations to **Mrityunjay** from Computer Science & Engineering (CSE) Department for getting Placement in **Pentagon Space.**

Congratulations to **Kunamalla Prashanth** from Computer Science & Engineering (CSE) Department for getting Placement in **KodNest.**

Congratulations to **Harsh Kumar** from Computer Science & Engineering (CSE) Department for getting Placement in **Construct Learning Solutions Pvt Ltd.**

Congratulations to **Nishant Chaudhary** from Computer Science & Engineering (CSE) Department for getting Placement in **TCS Ninja.**

Congratulations to **Lakshay punia** from Computer Science & Engineering (CSE) Department for getting Placement in **TCS Ninja.**

Editorial Team:
Dr. Suyash Bhardwaj
Mr. Aman Tyagi
Mr. Prashant Kaushik
Mr. Abhishant Sharma

Department of Computer Science & Engineering
Quarterly Newsletter - Jan - March 2025