CHANDIGARH
ENGINEERING COLLEGE
CGC, LANDRAN, MOHALI
Building Careers. Transforming Lives.

The Communiqué

(Capturing Moments, Preserving Memories)

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An Institution of Excellence

2025

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Vision of the Chandigarh Engineering College- CGC, Landran, Mohali

To become a leading institute of the country for providing quality technical education in a research based environment for developing competent professionals and successful entrepreneurs.

Mission of the Chandigarh Engineering College- CGC, Landran, Mohali

1. To provide state of the art infrastructure and engage proficient faculty for enhancing the teaching learning process to deliver quality education.
2. To give a conducive environment for utilizing the research abilities to attain new learning for solving industrial problems and societal issues.
3. To collaborate with prominent industries for establishing advanced labs and using their expertise to give contemporary industry exposure to the students and faculty.
4. To cater opportunities for global exposure through association with foreign universities.
5.To extend choice based career options for students in campus placements, entrepreneurship and higher studies through career development program.

(Prof.) Dr. Rajdeep Singh
Director Principal

Chandigarh Engineering College-CGC, Landran, Mohali

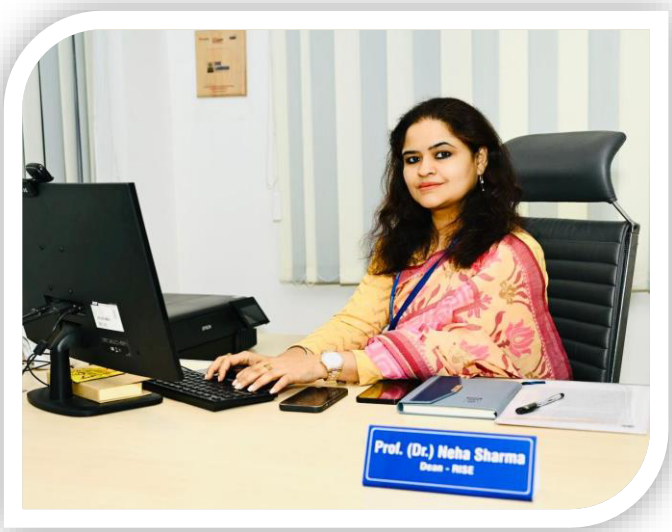
Dear Students, Faculty, and Staff,

Reflecting on the past quarter, I feel a deep sense of pride and gratitude for the rich array of achievements, innovations, and teamwork that has characterised our institution. This edition of our magazine captures significant milestones while honouring the resilience and ingenuity that drive our academic community forward.

The past three months have been a testament to the power of perseverance. Our students have excelled in national competitions, pioneered groundbreaking research projects, and showcased exceptional talent in cultural and sporting arenas. Faculty members, too, have elevated our academic stature through insightful publications, interdisciplinary collaborations, and mentorship that transcends conventional boundaries. These accomplishments are not mere accolades; they are a reflection of our shared commitment to excellence and the unwavering belief in the transformative potential of education.

Equally commendable is our collective focus on fostering inclusivity and empathy. From community outreach initiatives to dialogues on sustainability and social equity, our campus has emerged as a crucible of progressive thought and compassionate action. Such endeavors remind us that true learning extends beyond textbooks—it lies in our ability to uplift, inspire, and innovate for the greater good.

As we stride into the next quarter, let us embrace challenges as opportunities for growth. I urge each one of you to continue nurturing curiosity, embracing diversity, and striving for ethical leadership in all pursuits. In the words of Rabindranath Tagore, *"Don't limit a child to your own learning, for he was born in another time."* Let this philosophy guide us as we prepare future generations to thrive in an ever-evolving world. Together, we shall remain steadfast in our mission to cultivate minds that question, create, and lead with integrity. My heartfelt appreciation to every member of this institution for your dedication and passion. Here's to scaling new heights and scripting yet another chapter of excellence.



Dr. Neha Sharma
Dean Research, CGC Landran

Greetings Everyone!!!

Dear Colleagues and Students,

As we usher in a new quarter brimming with intellectual vigour and boundless possibilities, it is both a privilege and a pleasure to reflect on the strides we have collectively made in advancing the frontiers of knowledge. CGC Landran's steadfast commitment to fostering a culture of innovation, inquiry, and interdisciplinary collaboration continues to position us as a beacon of academic excellence.

The past quarters have been a testament to our unwavering dedication. Our faculty has illuminated global platforms with groundbreaking publications, secured prestigious grants, and spearheaded projects that bridge academia and industry. To our students, your ingenuity in hackathons, research symposiums, and entrepreneurial ventures has not only brought laurels to the institution but also reaffirmed the transformative power of curiosity. I urge each one of you to embrace challenges as catalysts for growth, to question conventions, and to persist in the pursuit of solutions that address humanity's pressing challenges.

To our faculty, your mentorship shapes futures; to our students, your zeal fuels progress. Let us continue to synergize our efforts, for it is in collaboration that true innovation thrives. As we navigate this quarter, remember that every experiment, every hypothesis, and every idea—no matter how nascent—holds the potential to redefine paradigms. In closing, I extend my deepest gratitude for your tireless contributions. Together, let us script a narrative of excellence that resonates beyond our campus, inspiring generations to come.

From the Editor's Desk….

Dear Readers,

With profound joy, we proudly unveil the 36th edition of *Communiqué*—CEC-CGC's revered quarterly chronicle. This edition is more than a publication; it is a living record of our institution's history, reimagined for the modern age. Here, tradition and innovation intertwine, creating a dynamic relationship that fuels our academic spirit.

Within these pages, timeless wisdom dances with groundbreaking ideas—a balance that defines us as a hub of knowledge. Our writers, driven by passion, have transformed raw inspiration into thought-provoking works. These are not fleeting articles but enduring guides, mapping our institution's brightest achievements and cementing CEC-CGC as a guiding light in academia.

We celebrate the boundless curiosity of our students, whose achievements across disciplines shine under the mentorship of our dedicated faculty. Through their teaching—a blend of challenging questions and creative inspiration—they nurture versatile thinkers prepared to tackle tomorrow's global challenges.

The editorial team is awed by the dazzling creativity, fleeting yet unforgettable moments, and tireless effort poured into this publication. Every contributor has turned words into lasting legacies, transforming these pages into a treasury of shared knowledge. This edition is not just a collection of works but an intellectual journey—a space where past lessons meet future possibilities. It is a testament to timeless learning, weaving together eras into an unbreakable thread of discovery. Dive into this world of insight and inspiration!!

Dr. Inderjot Kaur
Editor-in-Chief

RANKING & AWARDS 2025

1 **Chandigarh Engineering College (CEC)-CGC Landran** has been **conferred** with the prestigious **Platinum Rating certification in the QS I-GAUGE College Ratings 2025. The detail is given below:**

- Teaching and Learning-Platinum
- Faculty Quality-Platinum
- Employability-Platinum
- Diversity and Accessibility-Platinum
- Facilities-Platinum
- Social Responsibility-Platinum
- Governance and Structure-Platinum
- Entrepreneurship-Platinum
- Innovation-Platinum

2 **Outlook I-Care Rankings 2025-India's Best Colleges**

- 50th among top 200 private institutes in India.
- 2nd private institute among Punjab including (University's Institutes)
- 1stprivate college in Punjab (excluding university's Institutes)

3 **India Today Ranking 2025**

- 1st Rank in Private Colleges in Punjab (Self-Financed).
- 52nd Rank across country's Private Colleges.
- 80th Rank across country's Private and Govt Colleges

4 **THE WEEK-Hansa Research Survey 2025**

- 1st Rank in Private College in Punjab (Self-Financed).
- 2nd Rank in Private Colleges (Including Universities) in Punjab.
- 62nd Rank in Govt and Private Institutes all Over India.
- 37th Rank in Private Colleges all over India.
- 8th in North Zone Govt and Private Colleges in all over India.

5 **Chandigarh Engineering College-CGC, Landran** has been ranked 7th in Punjab in the **Education World India Higher Education Rankings 2025-26** under the category **Private Engineering Institutes.**

6 **GHRDC Engineering College Survey 2025**

- Overall 11th Position in Ranking of Top Engineering Colleges in India.
- 4th Position in Ranking of Top Engineering Colleges of Emerging Super Excellence in India.
- 2nd position in Ranking of Engineering Colleges by State (Punjab).
- 5th position in Ranking of Engineering Colleges by Region (North).

7 Dataquest T School Rankings 2025

- 4th rank in the Northern Region.
- 13th rank among the Top Private T-Schools in India.
- 16th rank among Top 100 T-Schools (Government and Private) in India.
- 41st rank among Top 50 T-Schools (North Zone).

8 Chandigarh Engineering College-CGC Landran, Punjab, has been **selected for certification** under the prestigious **"Institution of Happiness (IOH)" project 2024** conducted by QS I-GAUGE.

9 NAAC A+ Grade obtained in March 2024

- CEC-CGC Landran has achieved NAAC A+ Grade by NAAC

10 Dataquest Tech School survey, 2024

- 1st in Punjab in Top 100 T-Schools (Overall) – Government and Private
- 1st in Punjab in Top T-Schools (Private)
- 5th rank in North India (Zone Wise)
- 12th rank in Top 100 T-Schools (Private)
- 17th rank in Top 100 T-Schools (Overall) – Government and Private

11 India Today Ranking 2024

- 7th In Top 10 Colleges with Best Value for Money (Private All Over India)
- 1st Rank in Private College in Punjab (Self-Financed)
- 57th Rank across country Private Colleges
- 85th Rank across country Private and Govt Colleges

12 DQ-CMR T-School Employability Index Survey 2024

- 13th Top 100 T-Schools (Factual Ranking) Employability Index
- 7th Top Private T-Schools (Factual Ranking)
- 7th in North Zone- Top 10 Zone Wise Institutes
- 90th in Top 100 T-Schools (Perceptual Ranking) Employability Index
- 16th in Regional Top 50 Ranking (North - Perceptual Ranking)

13 Outlook 2024

- 138th among top 160 private institutes in India

14 THE WEEK-Hansa Research Survey 2024

- 64th Rank in Govt and Private All Over India
- 38th Rank in Private Colleges In all over India
- 8th in North Zone Govt and Private Colleges in all over India

15 Times of India Engineering Survey 2024

- 141st in Top 175 Engineering Institute Rankings 2024

16 NIRF 2024 (Engineering Category)

- CEC-CGC Positioned in the band of 101-150 in the Engineering Category

17 NIRF 2024 (Overall Category)

- CEC-CGC Positioned in the band of 151-200 in the Engineering Category

CEC-CGC Landran received QS I-GAUGE Platinum Ranking Certificate, stands tall among Indian Engineering Institutions

Chandigarh Engineering College (CEC)-CGC Landran has been conferred with the prestigious Platinum Rating certification in the QS I-GAUGE College Ratings 2025. The honour, presented by Mr. Ravin Nair, Managing Director, and Mr. Cyril Benz, Associate Director of QS I-GAUGE, was formally received by S. Rashpal Singh Dhaliwal, Esteemed President of CGC Landran, in the presence of distinguished attendees including institutional Directors, Deans, and Faculty members.

Marking a historic milestone, CEC-CGC Landran now stands unparalleled as the only Engineering college in India to earn this top-tier accreditation. The QS I-GAUGE framework rigorously assesses Indian higher education institutions across pivotal benchmarks, spotlighting institutional prowess through comprehensive performance metrics.

President Dhaliwal lauded the concerted efforts of team CEC-CGC, whose relentless dedication and behind-the-scenes contributions were instrumental in securing this accolade.

President CGC formally receiving the certificate from QS I-GAUGE officials

President S. Rashpal Singh Dhaliwal addressing the gathering

Group photograph of team CEC-CGC with President CGC and QS I-GAUGE officials

CHANDIGARH Engineering College (CEC)-CGC Landran has been honoured with the QS I-GAUGE Platinum Rating Certificate for 2025, recognising it as the only engineering college in India to achieve this prestigious rating. The certificate was presented to Rashpal Singh Dhaliwal, President, CGC Landran, by Mr. Ravin Nair, Managing Director, QS I-GAUGE, and Mr. Cyril Benz, Associate Director, QS I-GAUGE, during an on-campus ceremony attended by directors, deans, and faculty.

The QS I-GAUGE rating assesses Indian higher education institutions across nine key criteria: teaching & learning, faculty quality, employability, diversity & accessibility, facilities, social responsibility, governance & structure, entrepreneurship, and innovation. CEC-CGC Landran achieved full scores in teaching quality, student and faculty satisfaction, ens our commitment to excellence in higher education."

Mr. Ravin Nair congratulated CEC-CGC Landran, stating, "As an independent rating system tailored for India, QS I-GAUGE promotes academic excellence. CEC-CGC Landran's Platinum Rating underscores its

Rashpal Singh Dhaliwal, President

ਸੱਚ ਦਾ ਪਹਿਰੇ

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ਰੋਜ਼ਾਨਾ ਸਪੋਕਸਮੈਨ
RozanaSpokesman.com

ਈਸੀ-ਸੀਜੀਸੀ ਲਾਂਡਰਾਂ ਨੂੰ ਮਿਲਿਆ ਸਮਾ

ਸੀਜੀਸੀ ਲਾਂਡਰਾਂ ਕਿਊ.ਐਸ ਆਈ-ਗੇਜ ਪਲੈਟੀਨਮ ਰੇਟਿੰਗ ਸਰਟੀਫਿਕੇਟ ਕੀਤਾ ਹਾਸ

ਸਰਟੀਫਿਕੇਟ ਪ੍ਰਾਪਤ ਕਰਦੇ ਸੀਜੀਸੀ ਲਾਂਡਰਾ ਦੇ ਪ੍ਰੈਸਿਡੈਂਟ ਰਾਸ਼ਪਾਲ ਸਿੰਘ ਢਾਲੀਵਾਲ।

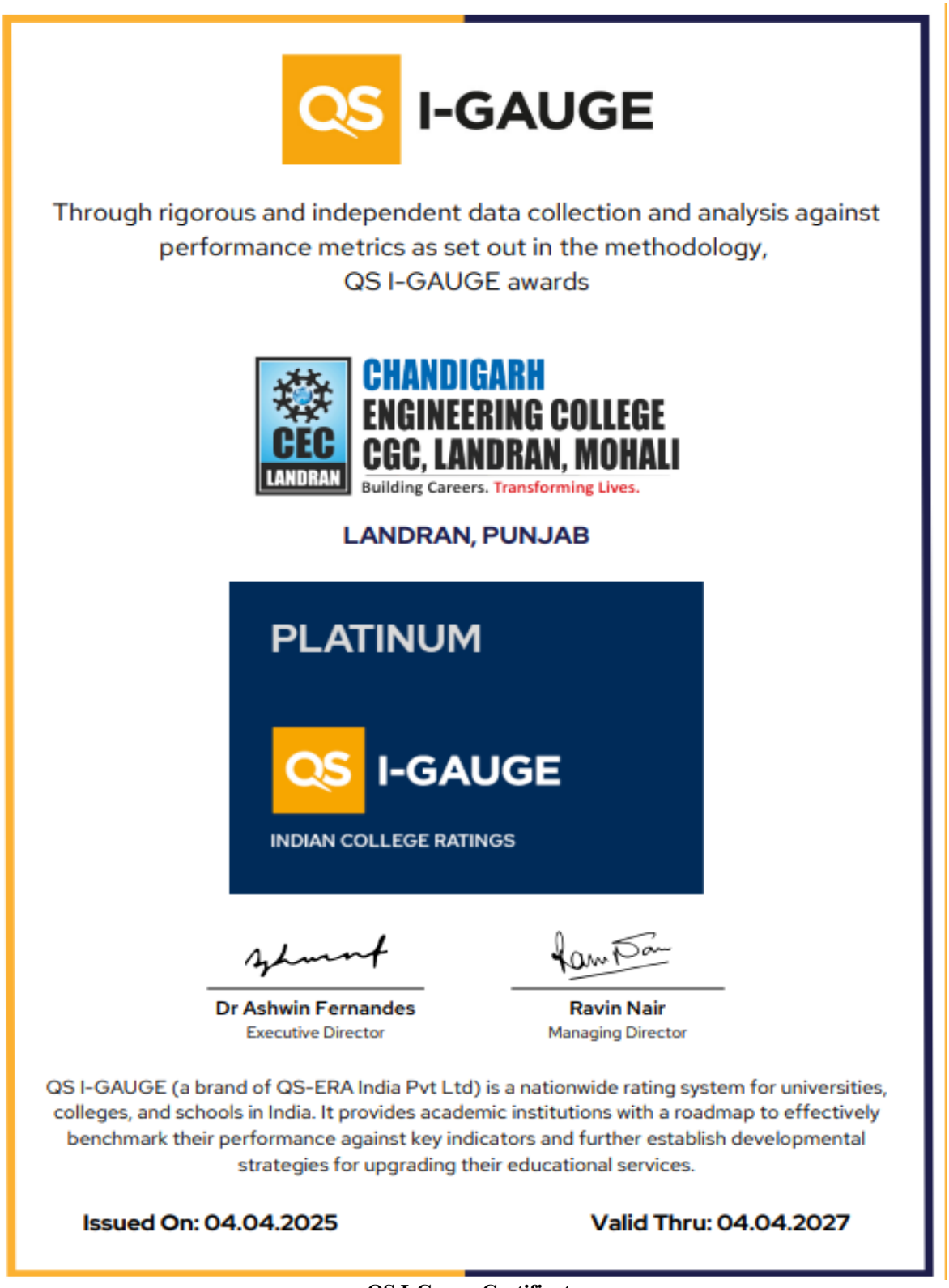
सीजीसी लांडरां क्यूएस आई-गेज प्लेटिनम रेटिंग से सम्मानित

सीजीसी लांडरां के प्रेसिडेंट रशपाल सिंह ढालीवाल सर्टिफिकेट क्यूएस आई-गेज के मैनेजिंग डायरेक्टर रविन नायर से सर्टिफिकेट हासिल करते।

ਸੀਜੀਸੀ ਲਾਂਡਰਾਂ ਕਿਊ.ਐਸ ਆਈ-ਗੇਜ ਪਲੈਟੀਨਮ ਰੇਟਿੰਗ ਸਰਟੀਫਿਕੇ

ਸੀ.ਜੀ.ਸੀ. ਲਾਂਡਰਾਂ ਨੇ ਕਿਊ.ਐੱਸ.ਆਈ.-ਗੇ ਪਲੈਟੀਨਮ ਰੇਟਿੰਗ ਸਰਟੀਫਿਕੇਟ ਕੀਤਾ ਹਾਸ

Glimpse of Media coverage of QS I-Gauge Ranking



QS I-Gauge Certificate

CEC-CGC's QS I-Gauge Platinum rating criteria's

Chandigarh Engineering College-CGC ascends the Pinnacle of Academic Leadership in GHRDC Survey 2025

Chandigarh Engineering College-CGC has cemented its stature as a trailblazer in technical education, securing illustrious accolades once again in the GHRDC Engineering College Survey 2025. With an impressive 11th rank among India's top engineering institutions, the college exemplifies academic rigor and innovation. Its 4th position in the "Emerging Super Excellence" category underscores its dynamic growth and commitment to cutting-edge pedagogy, while clinching the 2nd spot in Punjab and 5th in North India highlights its regional dominance. These accolades, rooted in world-class infrastructure, industry-aligned curricula, and faculty expertise, position CGC as a beacon of transformative education, shaping tomorrow's engineering leaders with unwavering excellence.

CEC-CGC's ranking in GHRDC Engineering College Survey 2025

FDP on AICTE-IDEA Lab Implementation

Chandigarh Engineering College – Chandigarh Group of Colleges (CEC-CGC) Landran, has been granted funding by the AICTE for the establishment of an IDEA Lab. Dr. Rachin Goyal, Head of the Department of Mechanical Engineering and Faculty Coordinator of the AICTE-approved IDEA Lab, participated in a five-day Faculty Development Program (FDP) focused on the setup and operationalization of IDEA Labs. Hosted at Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Sonepat, Haryana, from May 5th to May 9th, 2025, the program delivered comprehensive insights into the logistical, technical, and pedagogical frameworks essential for the successful establishment of the IDEA Lab. The FDP equipped participants with actionable strategies and best practices to ensure seamless integration and effective implementation of the initiative at their institution, aligning with AICTE's vision of fostering innovation and hands-on learning in technical education.

Group photograph of FDP participants

Dr. Rachin Goyal, Faculty Coordinator AICTE-IDEA Lab attended FDP on IDEA LAB

Team Rudraksh participated in National Conference at GCET Jammu

Team *Rudraksh* comprising of Mechanical Engineering Students of 6th semester participated in the National Conference & Exhibition on Emerging and Innovative Trends in Engineering Technology, held on 22nd –23rd April 2025 at Government College of Engineering and Technology, Jammu. The team showcased their innovative project titled "ResQ-Bot | Dynamic Rescue Assist Mechanism"**.**

Team Rudraksh showcased their project "ResQ-Bot | Dynamic Rescue Assist Mechanism

Mechanical Engineering Students secured 1st position in National Robotics Event

Mechanical Engineering Students of 6th semester (Team *Rudraksh*) secured 1st position in the event Robo Mania**,** Next Quantum 2.0 Hackathon**,** held on 4th and 5th April 2025 at Gulzar Group of Institutions, Khanna, Punjab**.**

ME Students secured 1st position at Robo Mania

Skill Sets for Thriving in the Dynamic BFSI Sector

In collaboration with Bajaj Finserv, the MBA department launched the Certified Program in Banking, Finance, and Insurance (CPBFI), for MBA students. This intensive 30-day program was conducted in a hybrid format by seasoned professionals from Bajaj Finserv. It started on March 13, 2025 and the program had enrolled a batch of 48 students spanning 96 hours of structured learning. Divided into four meticulously designed modules, CPBFI provided a comprehensive understanding of the banking, finance, and insurance sectors. The curriculum integrated theoretical knowledge, practical case studies, and interactive sessions, equipping participants with the essential skills needed to navigate industry challenges, adhering to regulations, and staying ahead of emerging trends. By combining industry expertise with a hands-on learning approach, CPBFI empowered students to build a strong foundation for a successful career in the BFSI sector.

Glimpse of the online Program in Banking, Finance, and Insurance

Alumni talk on Engineering Career Roadmap: From Campus to Corporate Success

Alumni Talk on “Engineering Career Roadmap: From Campus to Corporate Success” was conducted by Mr. Krishna Kumar Thakur (L&T Construction, Mumbai), alumnus of 2014–2018 batch. Mechnorobs Club, Department of Mechanical Engineering, CEC-CGC, Landran organized the event on April 2, 2025. Mr. Thakur shared his professional journey and valuable insights into transitioning from college life to the corporate world.

Felicitation of Mr. Krishna Kumar Thakur during the Alumni Talk

FDP on Vistas of Innovation: Multidisciplinary Approach in Science and Technology

The Department of Applied Sciences & Mechanical Engineering Department of CEC-CGC, Landran organized 5 days FDP on "Vistas of Innovation: Multidisciplinary Approach in Science and Technology" from 30th June 2025 to 4th July 2025. The inaugural day of the 5-day Faculty Development Program commenced on 30th June 2025 with a warm welcome of the guests and an introduction to the event by Ms. Namrata Thakur**,** highlighting the objective of promoting innovation through a multidisciplinary lens.

The session featured a thought-provoking address by Mr. Joseph Jude**,** Chief Technology Officer, Net Solutions, Chandigarh**.** He delivered an insightful talk on the evolution of the internet, technological advancements, ChatGPT, and their transformative impact on sectors like education and banking. He traced the journey of these domains from ancient times to the present digital era, highlighting the rapid pace of change and the need for continuous learning and adaptation. Mr. Joseph Jude also delved into the relevance of human-centric disciplines and skills such as philosophy, psychology, sociology, and epistemology**.** He emphasized that despite technological advancements, these areas will always require human insight and judgment. He also explained how ethics, principals and morals evolve based on societal norms**,** and reflected on complex issues like copyrights and piracy, suggesting they are often negotiable based on context. The session concluded with a discussion on the challenges and opportunities brought by ChatGPT and AI**,** encouraging a balanced and responsible use of emerging technologies. The session set an inspiring tone for the FDP, engaging the audience with practical perspectives and forward-thinking ideas.

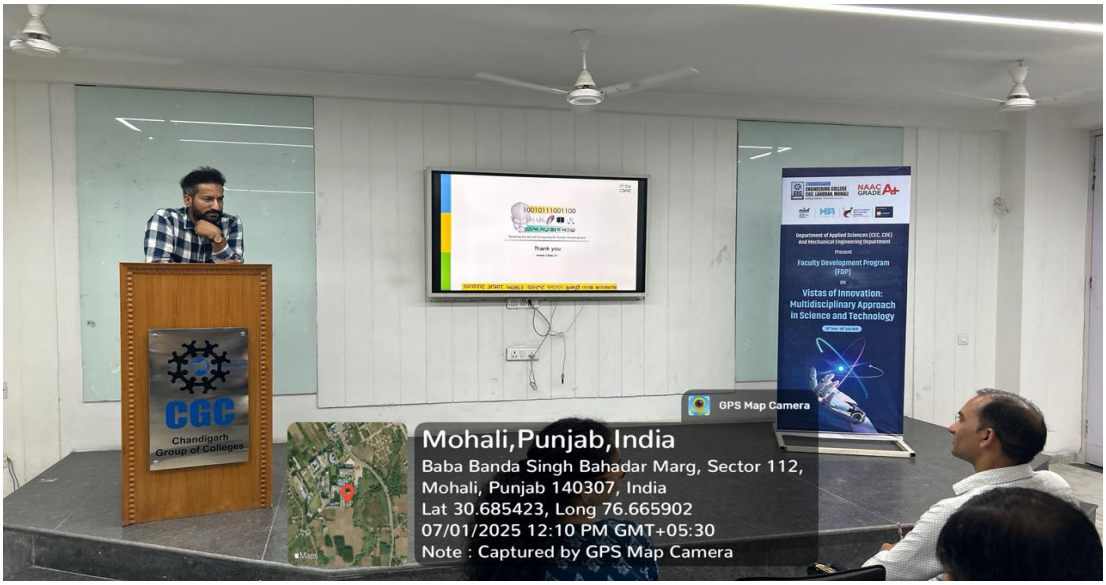
Mr. Joseph Jude being felicitated with a momento by the Head of Department

On Day 2 of the FDP, Dr. Balwinder Singh, serving as Joint Director and Head at C-DAC Mohali, delivered an insightful session on "Agricultural Innovation: Harvesting E-Nose Technology with AI and IoT" by providing a historical context to India's technological advancement. He recalled the arrival of supercomputers from America in 1988**,** which sparked India's pursuit of indigenous computing power, leading to the development of its first supercomputer in 1990 under C-DAC. Dr. Singh emphasized the importance of building a strong Agricultural Innovation System to ensure sustainability, food security, and economic resilience. He raised a thought-provoking question: Why do we need innovation and

entrepreneurship in agriculture? In response, he highlighted issues like resource depletion, unpredictable climate patterns, and the growing demand for food, which necessitate the adoption of IoT-enabled smart agriculture.

Dr. Balwinder Singh also introduced the cutting-edge concept of the Electronic Nose (E-Nose)**,** a device designed to detect and analyze odors and gases with exceptional accuracy. He elaborated on why we need an electric nose in agriculture—for early disease detection, environmental monitoring, and quality control in storage and transport. By comparing the E-Nose vs. human nose**,** he illustrated the advantages of machine precision over human subjectivity. The session also covered futuristic farming techniques like hydroponics and the cultivation of quadraphonic vegetables**,** which require precise monitoring and controlled environments. He discussed the innovative project E-Bagan, a tech-driven initiative for smart orchard management using E-Nose and IoT. The session concluded with an impressive research highlight: the development of a cattle identification algorithm based on biometric muzzle patterns, utilizing deep learning to enhance livestock tracking, and disease management.

Faculty participants listened attentively to the expert session



Dr. Balwinder Singh addressing the gathering with his insights

On day3 of the FDP, Dr. Neha Sharma and Dr. Shashi Bala were the speakers. Dr. Neha Sharma, Dean Research at CEC-CGC Landran, delivered an insightful session on "Pitching a Funding Agency for Sponsored Grant Acquisition: Drafting to Execution," focusing on the fundamental aspects of securing research grants and their significance in advancing academic inquiry and innovation. She elaborated on how to identify and choose the right funding agency by aligning research goals with the agency's objectives. Highlighting the growing gap between academic and industrial research, Dr. Sharma emphasized the need for translational research and commercialization to make academic findings more impactful. She discussed emerging trends in PhDs, particularly the shift towards application-driven research, and advocated for a top-down approach to align projects with national and global priorities. The session also covered essential elements of a strong research proposal; the criteria for evaluation, and common pitfalls to avoid, ensuring researchers are well-equipped to develop competitive and effective proposals.

Dr. Shashi Bala, Assistant Professor at CEC-CGC Landran, conducted an engaging session titled "Strategies for Writing an Effective Research Paper," where she guided participants through the essential steps of starting a research paper, beginning with identifying a relevant research gap. She emphasized the importance of a well-structured paper, covering how to choose an appropriate title, craft a concise and informative abstract, and develop a strong introduction. The session further detailed the methodology, result and discussion sections, as well as how to effectively present conclusions and acknowledge limitations. Dr. Shashi Bala also highlighted the significance of proper referencing and citing works.

Faculty participants listened attentively to the expert session

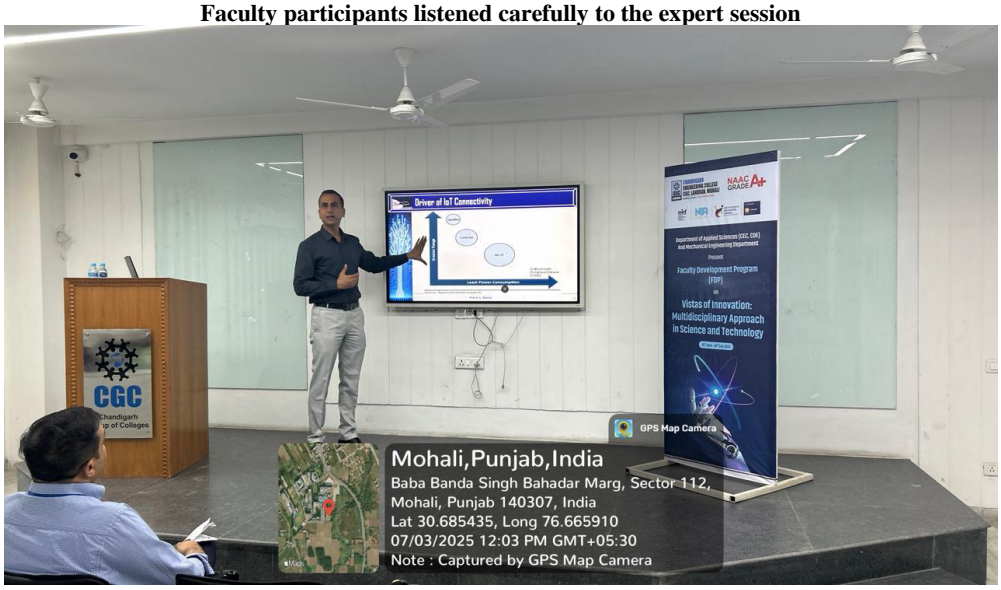
Dr. Neha Sharma addressing the gathering with her insights

On the 4th day of the Faculty Development Programme (FDP), an insightful lecture on "Internet of Medical Things (IoMT)" was delivered by Dr. K.G. Sharma, Professor, ECE Department, Chandigarh College of Engineering and Technology, Sector 26, Chandigarh. The session introduced the audience to the fundamental concepts of the Internet of Things (IoT)**,** explaining how it enables smart devices to collect and exchange data through sensors and connectivity. Dr. Sharma elaborated on how IoT plays a pivotal role in healthcare—used to track locations**,** monitor health conditions**,** and analyze daily activities such as running, sleeping, and driving**.** The focus then shifted to IoMT, a healthcare-specific extension of IoT, which integrates smart medical devices with communication technologies for real-time health monitoring and decision-making**.** He also discussed the working of IoT, highlighting the role of sensors, wireless communication, cloud computing, and data analytics in enabling seamless operations.

In the second part of the lecture, Dr. Sharma emphasized the progress of IoMT technology and its deployment in various domains. He discussed four major areas of implementation: on-body IoMT (wearables like fitness bands and ECG monitors), in-hospital IoMT (smart beds, connected imaging devices), in-home IoMT (remote health monitoring tools for chronic

patients), and outdoor IoMT (ambulance telemetry, mobile health units). These applications have enhanced patient care, enabled early diagnosis, and reduced hospital visits. However, Dr. Sharma also addressed the challenges and disadvantages of IoT in healthcare, including data privacy concerns**,** cybersecurity threats**,** high implementation costs**,** and interoperability issues**.**

Faculty participants listened carefully to the expert session



Dr. K.G. Sharma addressing the gathering with his insights

On the 5th day of the FDP, the expert lecture on "Malware Detection and Threat Intelligence" was delivered by Dr. Sanjeev Kumar, Scientist E at C-DAC Mohali. Dr. Kumar began the session by tracing the evolution of internet usage, starting from its basic applications to its integration into nearly every aspect of daily life. He highlighted the emerging challenges brought about by this digital dependency, especially the rise of cyber security threats. The session emphasized the growing significance of cyber security and introduced participants to the concept of malware—malicious software that disrupts, damages, or gains unauthorized access to computer systems. He elaborated on various malware analysis techniques used to identify and understand such threats. Further, he

explained the working mechanism of antivirus software and its traditional signature-based detection method, which is now often inadequate in dealing with rapidly evolving threats. Concepts like ransom ware, which locks users out of their systems until a ransom is paid, and digital arrest, a scare tactic used by cybercriminals, were discussed to demonstrate the seriousness of cyber vulnerabilities.

In the second half of the session, Dr. Kumar shed light on the key trends in malware attacks and their sophistication over time. He pointed out the limitations of traditional antivirus solutions and introduced advanced technologies developed by C-DAC for enhanced cyber defense. These included MTIS (Malware Threat Intelligence System), DTMIC (Dynamic Threat Monitoring and Intelligence Centre), and ADAR (Advanced Digital Arrest Response) — systems that use real-time threat intelligence and behavior-based analysis to detect and mitigate malware. He emphasized that unlike static signature-based methods, these tools offer adaptive and proactive cyber protection, vital for today's digital ecosystem. The lecture concluded with a call to stay vigilant and adopt multi-layered security mechanisms to combat the ever-changing cyber threat landscape.

Faculty participants listened carefully to the expert session

Dr. Sanjeev Kumar addressing the gathering with his insights

Group photograph on the last day of the FDP

CSE Department organized Technical Event “Nexus”

The Phoenix Club of CSE department successfully organized the technical event “Nexus” on April 1, 2025. It was a combination of two events: Party Pong and Code Marathon. Party Pong was designed to test participants’ general knowledge, quick thinking, and accuracy through an engaging quiz contest combined with a fun pong-style challenge. Code Marathon aimed to evaluate participants’ problem-solving abilities, coding efficiency, and technical knowledge through a 60-minute competitive coding challenge. The event was a great success, with the participation of 170 students, and it was conducted independently. The primary objective was to encourage students to participate in such competitions and to prepare them for future opportunities like placements.

Students Participating in Code Marathon Event

Students Participating in Party Pong Event

CSE Department organized Industrial Visit to Antier Solutions Pvt. Ltd., Mohali

The Department of Computer Science & Engineering at Chandigarh Engineering College (CGC), Landran, organized an industrial visit to Antier Solutions Pvt. Ltd. on April 3, 2025. The visit began with an introductory session, where a company representative provided insights into the establishment of the company and its core objectives. This was followed by a series of technical sessions that focused on various domains, including an introduction to blockchain, cryptography and its features, and hashing techniques. The sessions also covered Bitcoin and the mechanisms behind Bitcoin transactions. After the technical discussions, students were taken on a company tour, giving them a closer look at the workplace environment. For over 10 years, Antier Solutions has been helping businesses adopt new technologies to stay ahead in a rapidly evolving digital landscape. Their approach is driven by rigorous research, design thinking, and a focus on strategy, consulting, technology, and operations. Antier provides innovative roadmaps that help enterprises transition from conventional platforms to blockchain-driven systems. Their mission is to identify and seize opportunities arising from digital disruption, delivering transformational outcomes for a decentralized digital world. The visit was an enriching experience for the students, as they learned about Antier Solutions, its operations, and emerging technologies such as blockchain and cryptography. They also gained valuable insights into the company's work culture and the functioning of Bitcoin transactions through the technical sessions.

Students with faculty members inside the company

Students attending the technical session at Antier Solutions Pvt. Ltd.

CSE Department organized Technical Event "FUSION-X"

The Department of Computer Science and Engineering organized a technical event, "Fusion-X," on April 4, 2025. The event consisted of two rounds. The first round, Buzzer Blast, was a high-energy coding riddle challenge designed to test quick thinking and programming knowledge. This round was conducted in three time slots, with teams divided into various groups. The second round, Prompt-X AI Showdown, was an innovative AI-powered web development challenge for the qualifiers from Round 1. Participants were given 10 minutes to review a frontend prototype, followed by 1 hour of development time. The use of AI tools such as ChatGPT and code generators was mandatory for implementation. Teams were judged based on accuracy in replicating the prototype, effective use of AI prompting (optional), and feature enhancements. The top three teams secured 1st, 2nd, and 3rd positions, winning cash prizes of Rs 1500, Rs 1200, and Rs 1000 respectively, along with trophies and certificates. This technical event aimed to provide students with a platform to enhance their coding and problem-solving skills through competitive challenges. Featuring programming riddles and AI-powered tasks, it simulated real-world tech scenarios while fostering innovation. The event sought to bridge academic and industry needs by developing time management, teamwork, and adaptability using modern tools.

Students Participating in Buzzer Blast

Group Photograph with Award winners

CSE Department organized online Expert Talk on “From Models to Agents: The dawn of autonomous AI”

The expert talk titled "From Models to Agents: The Dawn of Autonomous AI" was held on April 9, 2025, for B.Tech 4th semester students. The session was delivered by Mr. Karanbir Singh, Senior Software Engineer at Salesforce, USA. The talk was an exciting and enriching experience for students interested in the future of technology. It highlighted how AI is rapidly evolving—from traditional machine learning models that passively respond to input to autonomous agents capable of thinking, reasoning, and acting with a level of independence once only imagined. Mr. Singh guided the audience through how these agents work, the frameworks used to build them (such as LangChain, AutoGPT, and others), and the real-world applications they power—from smart assistants and automation tools to complex problem-solving systems. The session was not purely theoretical; it provided a glimpse into how AI is already transforming industries and what this means for our future as developers, researchers, and problem-solvers. Beyond the technical discussion, the event sparked deeper conversations around AI ethics, safety, and the continued role of humans as machines become more capable. It was inspiring to see students asking thoughtful questions, actively engaging, and brainstorming project ideas during and after the session.

Students attending the session

Doubt Session

ECE Department conducted "Vision AI Workshop' in Collaboration with the Core Systems

The Vision AI Workshop, held on April 7th 2025 was a remarkable event organized by the ECE Department in cohesion with Industry Institute Interaction Cell (IIIC). The workshop was conducted by Er. Rohit Khosla, Director, The Core Systems, Chandigarh, an expert in Embedded System IoT, AI, and Data Science. The workshop aimed to provide participants with a comprehensive understanding of cutting-edge technologies in AI, IoT, and Smart Vision. The workshop was meticulously planned and executed, reflecting the organizers' commitment to delivering a high-quality learning experience. The session began with an engaging overview of AI, IoT, and Smart Vision, setting a strong foundation for the technical content that followed. Er. Rohit Khosla expertly guided attendees through practical applications, focusing on Python, Open CV, and TensorFlow in Visual Studio, as well as camera integration with Python.

Session by Er. Rohit Khosla, Director THE CORE Systems, Chandigarh

Interaction with students

FDP on Arduino programming and IOT applications powered by AI"

The Department of Electronics and Communication Engineering at Chandigarh Engineering College, CGC Landran, in collaboration with the Electronics & ICT Academy, CDAC Mohali, successfully organized a One-Week Faculty Development Programme on "Arduino Programming and IoT Applications powered by AI" from 30th June to 4th July 2025. Sponsored by the Ministry of Electronics and Information Technology (MeitY), Government of India, the FDP featured dynamic sessions by experts from premier institutes and industries, including CDAC Mohali, NITTTR Chandigarh, The CORE Systems, Chandigarh Institute of Drones, Hoping Minds and Kaizen Systems, among others. The inaugural session was led by Dr. Ankush Kansal (TIET, Patiala), while the valedictory session was graced by Dr. Balwinder Singh, Joint Director at CDAC Mohali. The event provided hands-on exposure, real-time IoT implementations, and AI integration strategies to participating faculty. Certificates of participation were distributed, and the FDP concluded with a vote of thanks by the coordinator, Dr. Bhawna Tandon.

Glimpse of the FDP

The Transformative Power of IoT and its Real World Applications

Article by: Mr. Sachin Dogra
Assistant Professor, Applied Sciences Department

The Internet of Things (IoT) has rapidly transformed the way we interact with technology, making our world smarter and more interconnected. IoT refers to the network of physical devices ranging from household appliances to industrial machines that are embedded with sensors, software, and connectivity to exchange data over the internet. This integration brings unprecedented opportunities for efficiency, convenience, and innovation across multiple sectors.

The importance of IoT lies in its ability to collect real-time data, enabling better decision-making and automation. By connecting devices and systems, IoT facilitates seamless communication and coordination, reducing human intervention and errors. This connectivity leads to optimized resource use, cost savings, and improved productivity. For businesses, IoT offers valuable insights through data analytics, allowing for predictive maintenance, enhanced customer experiences, and new revenue streams.

One of the most visible applications of IoT is in smart homes, where devices like thermostats, lighting, and security cameras can be controlled remotely for comfort, safety, and energy efficiency. In healthcare, IoT devices monitor patient's vital signs continuously, enabling timely interventions and personalized treatment plans. The industrial sector benefits through IoT powered automation and monitoring, which increase operational efficiency and reduce downtime. Additionally, smart cities employ IoT to manage traffic flow, waste management, and public safety, contributing to sustainable urban living. Agriculture also leverages IoT through precision farming, where soil sensors and weather data help optimize irrigation and crop management, boosting yields while conserving resources. In retail, IoT improves inventory management and customer engagement through smart shelves and personalized promotions.

Despite its many advantages, IoT also poses challenges such as data security and privacy concerns, which must be addressed through robust policies and technologies.

In conclusion, IoT is a pivotal technology shaping the future of our world. Its diverse applications enhance efficiency, safety, and quality of life, making it an indispensable part of modern society. As IoT continues to evolve, it promises even greater innovations that will further transform industries and everyday living.

Mathematics: The Hidden Language of the Universe

Article by: Dr. Priti Sharma
Assistant Professor, Applied Sciences Department

Mathematics is not just a subject taught in classrooms, it is the hidden language that shapes our world. Every time you check the time, send a message, or admire the symmetry of a flower, you are witnessing mathematics in action. It is the silent force behind technology, nature, art, and innovation. Mathematics is not about memorizing formulas; it is about training the mind to think logically, creatively, and persistently. Many students often wonder, "Why study math if I don't want to be a mathematician?" The answer is simple: mathematics sharpens your thinking. It teaches you how to break down complex problems, spot patterns, discover smart solutions, skills that are useful in every career and aspect of life.

For example, let's talk about one of the most beautiful and fascinating patterns in mathematics, the **Fibonacci series**. This sequence is named after the Italian mathematician **Leonardo of Pisa**, widely known as **Fibonacci**. It's not just a list of numbers; it's a magical pattern that creates shapes and designs that are naturally pleasing to the eye. The Fibonacci sequence starts with 0 and 1, and every next number is the sum of the two before it like 0, 1, 1, 2, 3, 5, 8, 13, 21**,** and so on. What's fascinating is to know how often this sequence appears in **nature and universe**. The way leaves grow on a stem, how seeds are arranged in a sunflower, the spiral of a snail shell, or the number of petals on flowers like daisies or lilies, all often follow the Fibonacci pattern. Even numbers like 3, 5, 8, and 13 are commonly found in petals and plant spirals. This pattern also connects deeply to **art and architecture**. One famous shape born from the Fibonacci series is the **golden spiral**, which expands outward in a smooth and beautiful curve. This spiral appears in galaxy formations, hurricane clouds, animal horns, and classical works of art. When we divide one Fibonacci number by the one before it (like 8/5 or 21/13), the answer gets closer to a number known as the **Golden Ratio (≈1.618),** a value long admired for its perfect proportions. The **Golden Ratio** can be seen in a**rt and architecture** like the Parthenon in Greece, the Egyptian pyramids, and even in the painting of Leonardo da Vinci's Mona Lisa. Also it can be seen in human body like, the ratio between your forearm and hand, or the spacing of your facial features, often reflects this same ratio.

But the magic of Fibonacci doesn't end with nature or art. It has important uses in **modern science and technology** too. In **computer science** algorithms and data structures like Fibonacci heaps make computer programs faster and more efficient. In **medicine**, the researchers use Fibonacci-based models to study population growth, cell division, and even the structure of DNA. The Fibonacci sequence teaches us that mathematics is not just about

solving textbook problems, it's a bridge between logic and beauty, connecting patterns in the natural world to human creativity and scientific discovery. When we study patterns like Fibonacci, we start to see the world with new eyes.

We learn that math is not boring or distant; it's deeply connected to who we are and how the universe works. As we move forward into an age of artificial intelligence, space travel, and advanced medicine; patterns like these will continue to inspire innovation and breakthroughs. Who knows the next big idea in science or technology may come from someone who notices a hidden pattern, just like Fibonacci did centuries ago. So the next time you see a sunflower, a seashell, or a piece of art, take a moment to appreciate the math behind it. Because mathematics isn't just about numbers, it's about understanding the universe, one beautiful pattern at a time. **Keep exploring. Keep wondering. Keep counting.**

Time Travel and Physics: Fiction, Fact, or Future?

Article by: Ms. Lisha
Assistant Professor, Applied Sciences Department

The idea of time travel has long fascinated the human imagination. From ancient legends to contemporary science fiction films, the concept of moving backward or forward through time has remained a captivating theme. However, beyond the realm of fiction, physics offers intriguing possibilities about whether time travel could, in fact, be real. Although it still sounds like science fiction, certain theories within general relativity and quantum mechanics suggest that, under specific conditions, nature might permit something akin to time travel—at least in principle.

Albert Einstein's theory of general relativity profoundly changed our perception of space and time. Rather than being separate and absolute, time is intricately linked with space, forming a unified four-dimensional entity known as space-time. This fabric can be stretched, curved, or warped by the presence of mass and energy. As a result, time does not pass uniformly for all observers. For instance, clocks on rapidly moving spacecraft or near extremely massive objects such as black holes run more slowly than those on Earth. This phenomenon, known as **time dilation**, has been experimentally verified through the use of atomic clocks on airplanes and satellites. Although the time differences are typically very small, they offer concrete evidence that time travel into the future is not just theoretical, but a measurable reality.

One of the most fascinating possibilities predicted by Einstein's theory of relativity is the existence of closed time like curves—paths through space-time that could, in theory, allow an object to travel back to its own past. These hypothetical loops might occur near rotating black holes or within theoretical structures known as **wormholes**, which serve as shortcuts through space-time. In principle, a wormhole could link distant regions of space and even different points in time. If one end of a wormhole were accelerated to near the speed of light and then returned to its original position, the effects of time dilation could cause the two ends to become desynchronized, potentially forming a passage to the past. However, such scenarios remain entirely theoretical and come with significant scientific hurdles. Chief among them is the requirement for exotic matter with negative energy to stabilize a wormhole—something that has not yet been detected in nature.

Quantum mechanics, the fundamental theory that describes the behaviour of particles at the smallest scales, presents even more unusual possibilities when it comes to time travel. Some interpretations propose that particles could be entangled across time or that multiple parallel timelines might exist within a vast multiverse. In such scenarios, traveling into the past may not necessarily lead to paradoxes—such as the well-known "**grandfather paradox**," where a person could prevent their own birth by changing past events. Instead, any change made in the past could give rise to an alternate timeline, leaving the original history intact. While these ideas remain speculative, they offer a theoretical framework in which time travel might not be entirely impossible.

Despite the intriguing theoretical possibilities, time travel remains far from achievable in practice. Immense energy requirements, formidable engineering challenges, and the absence of experimental evidence impose strict limitations on what can currently be realized. Additionally, many physicists argue that the logical paradoxes and inconsistencies associated with traveling to the past make such a feat fundamentally impossible. Some theories even propose that the laws of nature may inherently prevent such scenarios from occurring—a concept known as the "chronology protection conjecture," introduced by Stephen Hawking, which suggests that the universe safeguards its timeline from being altered.

While backward time travel may remain impossible, forward time travel is a proven reality according to Einstein's theory of relativity. Astronauts aboard the **International Space Station** age slightly more slowly than people on Earth because of their high speed and exposure to a weaker gravitational field. Though the time difference is very small, it has been accurately measured and confirms Einstein's predictions. With future advancements in technology, it may one day be possible to send humans on space missions where they return having experienced significantly less time than those who stayed behind—effectively making forward time travel a practical reality.

Time travel remains one of the most intriguing and mysterious concepts in physics. Although it has not been entirely ruled out by current theories, the gap between what is scientifically possible and what is practically achievable remains significant. Even so, continued exploration in fields such as black hole physics, quantum gravity, and cosmology may one day bring us closer to understanding whether time travel can truly occur. For now, it exists at the intersection of scientific inquiry and human imagination—a reflection of our deep curiosity about the universe and our place within it. Whether it remains a dream or becomes a scientific breakthrough, time travel challenges us to rethink the nature of time and to explore possibilities far beyond the boundaries of current knowledge.

Human Digital Twins in Healthcare

Article by: Dr. Ashima Kalra
Associate Professor, ECE Department

Human Digital Twins (HDTs) are virtual replicas of individuals created using real-time data, simulations, and predictive models to mirror and monitor the physiological and behavioral characteristics of a person. In healthcare, this emerging technology holds transformative potential in personalizing medical treatment and improving patient outcomes.

A Human Digital Twin integrates data from various sources—genomics, medical imaging, wearable sensors, and electronic health records—to create a dynamic, data-driven model of an individual. This model can simulate disease progression, predict treatment responses, and even assess the risk of future illnesses, enabling truly personalized and preventive care.

One of the most impactful applications is in chronic disease management. For example, a digital twin of a patient with diabetes can be used to forecast blood sugar variations based on lifestyle patterns, thus helping physicians tailor interventions. In surgery, HDTs enable virtual rehearsals by simulating how a specific patient's body might respond to a procedure, reducing risks and enhancing precision.

Furthermore, digital twins are instrumental in clinical trials. Synthetic populations created from HDTs allow for in-silico trials, accelerating drug development and minimizing ethical concerns. They also support remote monitoring, which is especially valuable in telehealth and elder care.Despite the promise, challenges remain. These include the need for standardized data integration, high computational requirements, data privacy, and ethical considerations regarding consent and digital identity. In conclusion, Human Digital Twins represent a cutting-edge fusion of AI, IoT, and healthcare data science. As the technology matures, it is set to revolutionize patient-centric care, ushering in an era of truly intelligent and adaptive healthcare systems.

Ethical and Moral Issues v/s Values

Article by: Ms. Monika Takhi
Assistant Professor, CSE Department

In a rapidly evolving global society where technology, culture, and personal identities intersect, individuals constantly navigate a complex web of decisions. These decisions often demand a careful evaluation of right and wrong, fairness, justice, and human dignity. At the core of such evaluations lie two crucial concepts: ethical and moral issues and values. While they are deeply interconnected and often used interchangeably, understanding the distinction between them is essential for personal growth, professional integrity, and the development of a just society. This essay explores the definitions, key differences, interrelationships, and real-world implications of ethical and moral issues versus values, providing a detailed insight into how they shape human behaviour and social norms.

Understanding Ethical and Moral Issues

Ethical and moral issues arise when individuals or groups encounter situations where they must choose between competing principles of right and wrong. These issues typically involve dilemmas in which any choice has consequences, and there is no clear or absolute solution. They require deep reasoning and often demand that people weigh personal beliefs, social norms, and potential outcomes to make informed decisions.

The term ethics is often associated with rules or standards of behaviour expected in professional or institutional settings. For example, medical ethics guide how doctors treat patients, ensuring confidentiality, consent, and respect. Morality, on the other hand, is more personal and refers to an individual's sense of right and wrong shaped by upbringing, religion, culture, and experience. However, the two terms are often blended, as both deal with human conduct and decision-making.

Common ethical and moral issues include:

- Privacy and surveillance in a digital age.
- Abortion and reproductive rights.
- Use of artificial intelligence in decision-making (e.g., autonomous weapons).
- Capital punishment.
- Euthanasia and end-of-life care.
- Discrimination in hiring or education.
- Environmental responsibility and sustainability.

Such issues become more complex when different cultures, belief systems, or professional standards clash, making it difficult to determine a universally acceptable resolution.

Defining Values

Values are the core principles and beliefs that guide an individual's or society's behaviour and judgments. They are deep-seated and often unconscious preferences for certain behaviours or outcomes over others. Values are not rules, but rather guiding lights that influence how people perceive the world and how they interact with others.

Values can be personal, cultural, religious, or societal. For instance, in some cultures, collectivism (valuing the group over the individual) is prioritized, while in others, individualism is a central value. Likewise, while some individuals might value achievement and success, others may prioritize contentment and peace.

Values influence ethical behaviour, but they are not always aligned with institutional ethics. For example, a person who deeply values loyalty may refuse to report a close colleague's unethical behaviour, even though professional ethics would demand whistleblowing.

The Relationship between Values and Ethical/Moral Issues

Despite their differences, values and ethical/moral issues are deeply connected. In fact, ethical decisions are usually grounded in values. When faced with an ethical dilemma, individuals often turn to their core values to help guide their decision-making.

For example, consider the ethical issue of whether to allow euthanasia for terminally ill patients. A person who deeply values autonomy may support the patient's right to choose when to die, while someone who values sanctity of life may oppose it on the grounds that all life must be preserved regardless of suffering.

In this way, values serve as the foundation upon which ethical reasoning is built. However, ethical dilemmas often arise because different people prioritize different values. Society must then engage in collective dialogue to balance these competing interests.

Rise of Autonomous Workplaces: The Future of Jobs

Article by: Ms. Dapinty Saini
Assistant Professor, CSE Department

Introduction:
Welcome to the Fourth Industrial Revolution, where machines don't just assist humans—they work beside or replace them. From AI-driven customer service bots to automated warehouse robots, the autonomous workplace is becoming a reality faster than anticipated.

But what does this mean for the future of jobs?
Imagine walking into an office where lights adjust based on your presence, AI assistants schedule your meetings, robots handle inventory, and reports are generated without a single keystroke. You're not in the future—you're in an autonomous workplace, a rapidly emerging reality in today's digital world. The world of work is undergoing a silent revolution. As industries embrace automation, artificial intelligence, and smart systems, the very structure of how tasks are executed—and who executes them—is being reshaped. In this new era, efficiency isn't just about human effort; it's about how well humans and machines can collaborate or coexist. This shift is more than technological—it's deeply economic, social, and cultural. While machines take over routine and data-heavy jobs, humans are being pushed to reinvent themselves in roles that require creativity, empathy, and complex decision-making.

What is an Autonomous Workplace?
An autonomous workplace refers to a work environment where technologies such as Artificial Intelligence (AI), Machine Learning (ML), Robotic Process Automation (RPA), and Internet of Things (IoT) handle tasks without constant human intervention.

Benefits:
Increased efficiency & productivity
Cost reduction in long-term operations
Enhanced accuracy in repetitive tasks
Faster decision-making via real-time analytics

Challenges:
Job displacement in low-skill roles
Data privacy and cybersecurity concerns
Skill gaps among existing workforce

New Jobs in the Age of Automation
While automation eliminates some jobs, it also creates new ones, especially in:
AI model training & auditing
Human-machine collaboration design
Robotic maintenance & troubleshooting
Cybersecurity and data ethics management
Emotional intelligence-based roles (mentors, therapists, creative leads)

Adapting for the Future: What Should Workers Do?

"It’s not automation that replaces jobs—it’s workers who don’t adapt to it."

Strategies to stay relevant*:*

Upskill in digital tools (Python, SQL, Data Analytics)

Learn soft skills like critical thinking, collaboration

Understand AI ethics and design thinking

Stay open to interdisciplinary learning

The Benefits of Mindfulness Meditation: A Path to Mental Clarity and Well-being

Article by: Dr. Reetu Sharma
Assistant Professor, MBA Department

In today's fast-paced world, stress, anxiety, and mental fatigue have become part of everyday life. Amid this turbulence, mindfulness meditation has emerged as a simple yet powerful practice for promoting emotional balance, mental clarity, and overall well-being. Rooted in ancient Buddhist traditions and now widely embraced by modern science and medicine, mindfulness meditation offers a range of benefits supported by research and personal testimonials alike.

What Is Mindfulness Meditation?

Mindfulness meditation involves focusing one's attention on the present moment, accepting it without judgment. Practitioners typically sit quietly, concentrate on their breath, and gently redirect their thoughts back to the present whenever the mind wanders. Over time, this practice helps cultivate awareness, patience, and a deeper connection to oneself and the surrounding world**.**

Key Benefits of Mindfulness Meditation

1. Reduces Stress and Anxiety

Numerous studies show that mindfulness meditation can significantly reduce stress and anxiety. By learning to observe thoughts and emotions without reacting to them, individuals become better equipped to manage stressors. Mindfulness-based stress reduction (MBSR) programs are now widely used in clinical settings to treat anxiety and chronic stress.

2. Improves Emotional Health

Mindfulness fosters a more balanced and positive outlook. Research indicates that regular practice can help reduce symptoms of depression and increase overall emotional well-being. It enables practitioners to respond more thoughtfully rather than impulsively to challenging emotions.

3. Enhances Focus and Concentration

Mindfulness meditation trains the brain to stay present, which improves attention span and mental clarity. Studies using brain imaging have shown increased activity in areas related to focus and memory in long-term meditators.

4. Promotes Better Sleep

By calming the mind and reducing rumination, mindfulness meditation can help people fall asleep more easily and experience deeper, more restful sleep. It’s especially beneficial for those struggling with insomnia or restless nights due to stress.

5. Encourages Self-Awareness

Meditation enhances introspection and self-awareness, helping individuals identify and break unhelpful patterns of thought and behavior. This heightened self-understanding can lead to more conscious decision-making and personal growth.

6. Supports Physical Health

Mindfulness has been linked to a range of physical health benefits, including lower blood pressure, improved immune function, and reduced chronic pain. By lowering stress hormones like cortisol, mindfulness supports the body's natural healing processes.

How to Get Started

Starting a mindfulness practice doesn't require any special equipment or lengthy training. Begin with just 5–10 minutes a day:

- Find a quiet space.
- Sit comfortably with your back straight.
- Focus on your breath—feel the air entering and leaving your body.
- Gently bring your attention back when your mind wanders.

There are also many apps and guided meditations available to help beginners establish a routine.

Conclusion

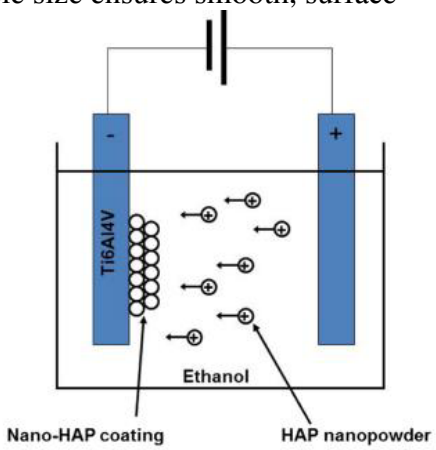
Mindfulness meditation is more than just a trend—it's a scientifically backed, accessible tool for enhancing mental, emotional, and physical health. Whether you're looking to manage stress, improve focus, or deepen your sense of self, mindfulness offers a path to a calmer and more fulfilling life. In a world full of distractions, taking a few minutes each day to simply be present may be one of the most valuable investments you can make.

Beyond Titanium: Crafting Bio-Interactive Implants with Hydroxyapatite Composites

Article by: Mr. Gurkirat Singh
Assistant Professor, ME Department

Hydroxyapatite (HA), a bioceramic that closely resembles the mineral component of bone, has become central to next-generation biomedical implants. However, HA alone lacks the strength required for demanding orthopedic applications. To enhance its performance, researchers now focus on combining HA with polymers and strengthening agents like chitosan, bioglass, graphene oxide, and metal oxides to form composite coatings. These coatings are applied to implant surfaces using a technique called Electrophoretic Deposition (EPD), which enables uniform, controlled layering.

Recent studies have demonstrated that these HA-based coatings significantly improve corrosion resistance, biocompatibility, and bone regeneration potential. Materials such as titanium, magnesium, and stainless steel have been successfully coated, resulting in implants that better integrate with bone tissue and reduce post-operative complications. For instance, HA-chitosan coatings show excellent cell adhesion, while HA-copper composites introduce antibacterial properties The quality of these coatings depends heavily on deposition parameters—voltage, time, pH, and particle size—all of which affect coating thickness, porosity, and bioactivity. For example, high voltage increases coating thickness but risks cracking, while optimal particle size ensures smooth, surface



Recent research has contributed to a growing database of over 25 recent studies, each highlighting unique HA composites tailored for orthopedic and dental implants. From magnesium-based biodegradable materials to high-strength titanium alloys, the aim is clear: create implants that are not only durable and corrosion-resistant but also foster rapid bone integration.

As the field advances, future research will focus on multi-layered smart coatings with antibacterial, osteogenic, and drug-delivery capabilities. These innovations promise to reshape the future of implant technology—making surgeries safer and recovery faster for patients around the world.

Faculty Achievements

- **Dr. Harpal Singh,** Head, Department of Applied Sciences felicitated by the authorities for his 10 years completion at CGC Landran.

- **Mr. Gurveer Singh,** Assistant Professor, Department of Applied Sciences felicitated by the authorities for his 10 years completion at CGC Landran.

Faculty Achievements (Publications)

The following faculty members have published their research in esteemed, high-impact academic journals:

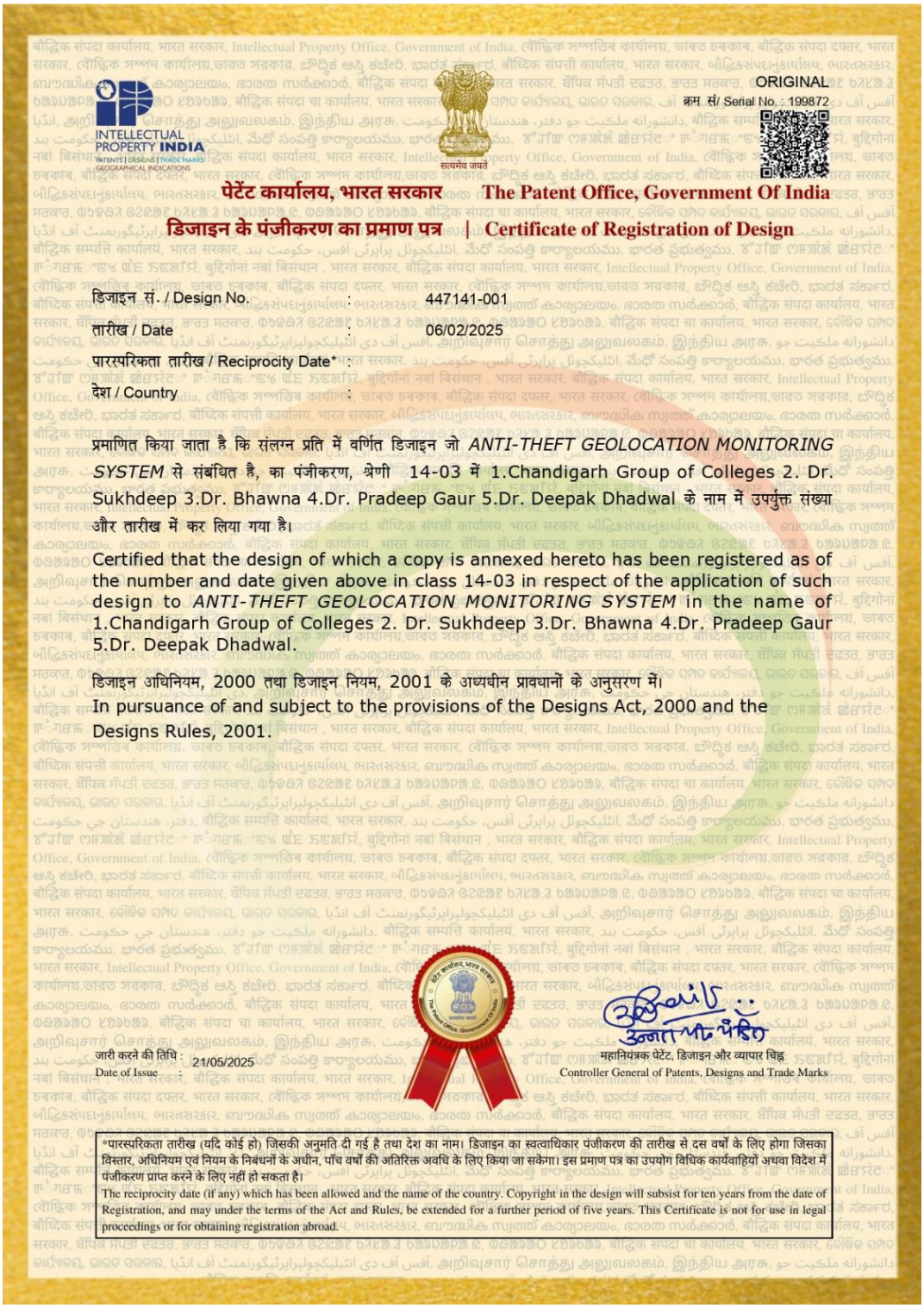
- **Dadwal, D., Sahni, P., Mittal, V., Agarwal, N., & Mittal, R. (2025)**. Graphene and RT-duroid based microstrip patch antenna with complementary SSTR metamaterial for dual band 5G communication. *Expert Systems with Applications, 278*, 127231.
- **Kalra, A., & Rani, S. (2025).** Precision agriculture: Fuzzy logic or deep neural network models for robust crop disease screening. In S. Rani, S. Dutta, Á. Rocha, & K. Cengiz (Eds.), AI and data analytics in precision agriculture for sustainable development (Vol. 1215, pp. 75-90, Springer.
- **Gupta, S., Singh, D., Singhal, A., Dadwal, D., Kumar, B., & Garg, A. (2025).** Unveiling the power of neuromorphic computing: An introductory overview. In Revolutionizing AI with brain-inspired technology: Neuromorphic computing (pp. 79–98). IGI Global.
- **S. Jindal, A. Kalra, B. Tandon and Ruchi**, "A Novel Approach to Fennel Variety Classification in India: Employing CNN and RNN to Distinguish Florence, Selma, and Perfection," 2025 ,IEEE Xplore ,3rd International Conference on Disruptive Technologies (ICDT), Greater Noida, India, 2025, pp. 94-98, doi: 10.1109/ICDT63985.2025.10986559.

Faculty Achievements (Patents)

- **Anushka, Aparna, Divyanshul Sharma, Dr. Ashima Kalra filed a patent on** *"*A Smart Portable Water Purifying Bottle with Real-Time Water Quality Monitoring", with application no. 202511045458, filed on 08/05/2025.
- **Siddharth Karn, ShynaGarg, Ms. Rachna, Dr. Pooja Sahni**, **filed a patent on** "*Vitaguard: A Smart Safety Jacket for Miners"*, filed on 02/04/2025.
- **Ankur Singhal, Vinay Bhatia, Tarun Singhal, Deepak Dadwal, Nidhi Chahal, Tanish Bhangu, Kunal Dhar**, **filed a patent on** "AI-Powered Pothole Detection and Fall Prediction System*"*, filed on 09/04/2025.
- **Kunal Dhar, Tanish Bhangu, Ankur Singhal, Dr. Rinkesh Mittal**, **filed a patent on** "*Safe Suite"* with application no. 202511000000), filed on 16/04/2025.
- **Deepika Kumari, Anu Kumari, Anubhaw Shrivastava**, **Varsha Sood, Dr. Vinay Bhatia, Dr. Sukhdeep Kaur, Dr. Simarpreet Kaur, Ms. Nidhi Chahal**, **filed a patent on** "Smart Screen Monitoring and Alert System", filed on 24/04/2025.
- **Shri Krishna Pathak**, **Dr. Rinkesh Mittal**, **filed a patent on** "AI–Powered Agricultural Robot with Integrated Drone Surveillance for Crop Monitoring and Disease Detection", filed on 22/04/2025.
- **Kunal, Rachna Manchanda, Dr. Pooja, filed a patent on** *"*Ride Buddy", filed on 20/06/2025.

Patents Granted

- A novel design titled **"Anti-Theft Geolocation Monitoring System"** has been successfully **registered under the Designs Act, 2000**, and **Designs Rules, 2001**. This innovation has been registered under **Design No. 447141-001.**



ORIGINAL

क्रम सं/ Serial No. : 199872

INTELLECTUAL PROPERTY INDIA
PATENTS | DESIGNS | TRADE MARKS | GEOGRAPHICAL INDICATIONS

सत्यमेव जयते

पेटेंट कार्यालय, भारत सरकार — **The Patent Office, Government Of India**

डिजाइन के पंजीकरण का प्रमाण पत्र | Certificate of Registration of Design

डिजाइन सं. / Design No.	:	447141-001
तारीख / Date	:	06/02/2025
पारस्परिकता तारीख / Reciprocity Date*	:	
देश / Country	:	

प्रमाणित किया जाता है कि संलग्न प्रति में वर्णित डिजाइन जो *ANTI-THEFT GEOLOCATION MONITORING SYSTEM* से संबंधित है, का पंजीकरण, श्रेणी 14-03 में 1.Chandigarh Group of Colleges 2. Dr. Sukhdeep 3.Dr. Bhawna 4.Dr. Pradeep Gaur 5.Dr. Deepak Dhadwal के नाम में उपर्युक्त संख्या और तारीख में कर लिया गया है।

Certified that the design of which a copy is annexed hereto has been registered as of the number and date given above in class 14-03 in respect of the application of such design to *ANTI-THEFT GEOLOCATION MONITORING SYSTEM* in the name of 1.Chandigarh Group of Colleges 2. Dr. Sukhdeep 3.Dr. Bhawna 4.Dr. Pradeep Gaur 5.Dr. Deepak Dhadwal.

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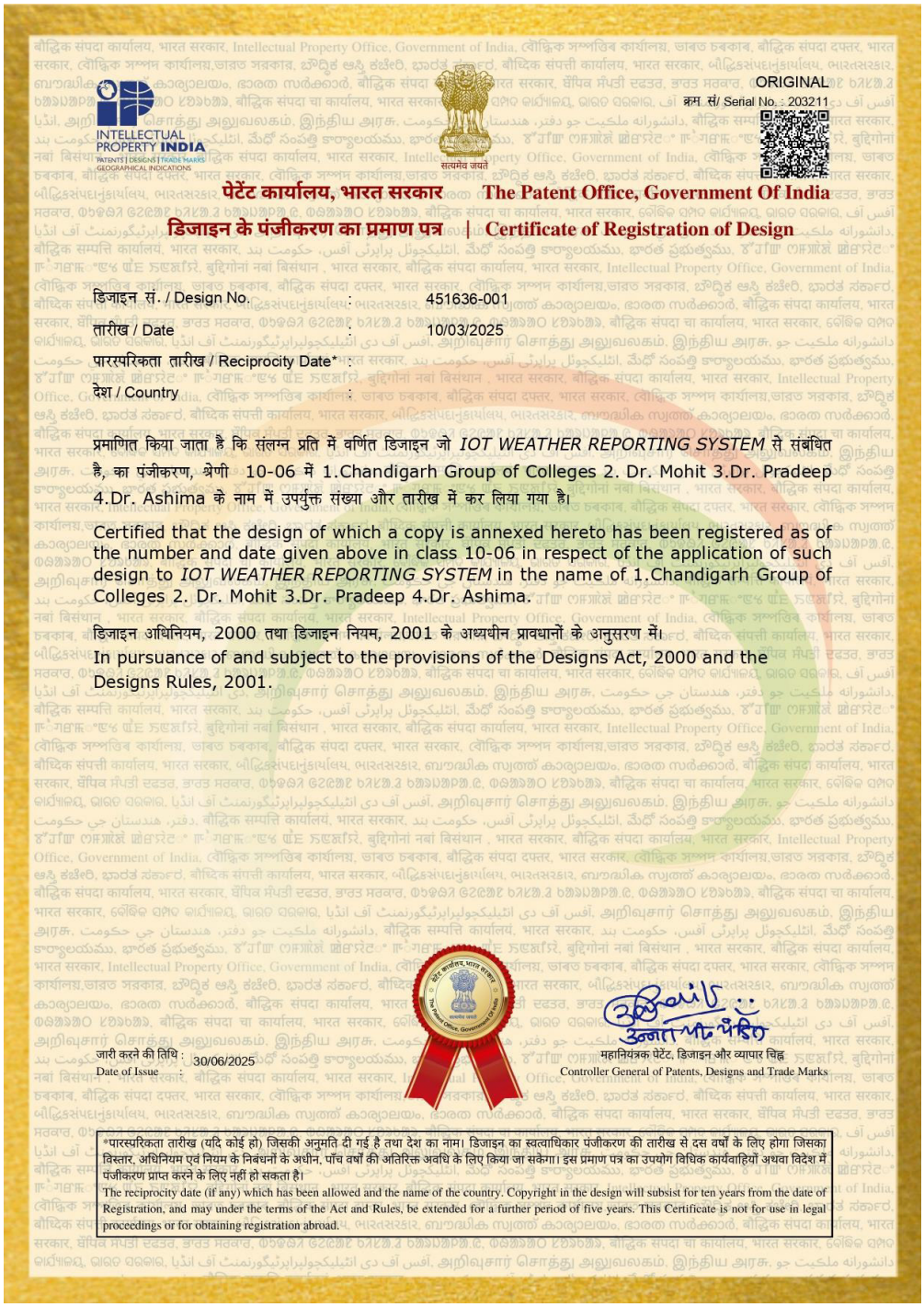
- A new innovative design titled **"IoT Weather Reporting System"** has been officially **registered with the Patent Office, Government of India** under the **Designs Act, 2000 and Designs Rules, 2001**. **Design No.:** 451636-001



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डिजाइन सं. / Design No. : 451636-001

तारीख / Date : 10/03/2025

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MOOC Certifications

ECE department continues to foster a culture of continuous learning and upskilling through active participation in **Massive Open Online Courses (MOOCs)**.

- **21 faculty members** of ECE department have successfully completed **SWAYAM certifications**, along with **20 Coursera certifications**, reflecting their commitment to academic excellence and staying abreast with the latest developments in their respective fields.
- On the student front, a remarkable total of **125 MOOC certifications** have been earned, including **20 certifications each from SWAYAM and Coursera platforms**.

Placements

- **Ms. Shobha Chauhan** and **Mr. Abhinav Kosahv**, students of the **Electronics and Communication Engineering (ECE) Department**, have been successfully placed in **Coding Ninjas**, a prestigious and innovation-driven technology company. Both students have secured an impressive placement package of **8 LPA (Lakhs Per Annum)**.

Students Section

STUDENT EDITORS

Arpan Sood

B.Tech AI&DS –A1

Darshpreet Kaur

B.Tech CSE-B2

Mohammad Sahil

B.Tech AI&DS –A2

Charu

B.Tech CSE-B2

LinkedIn vs Resume: What Matters More Today?

When it comes to landing internships, jobs, or even research opportunities in college, most students are caught between polishing their resume and perfecting their LinkedIn profile. The truth? They're both essential, but each serves a different purpose in today's digital-first world.

The Traditional Resume: Crisp and Customizable

A resume is your go-to for formal applications. It's often limited to one page, tailored for specific roles. Resumes prioritize brevity, focusing on skills, experience, and achievements in a structured format. Recruiters still ask for resumes during hiring processes, especially via job portals or campus placements.

Pros: Customizable for each job, ATS (Applicant Tracking System)-friendly, easy to scan.

Cons: No room for personal branding or showcasing personality.

LinkedIn: Your Living, Breathing Professional Brand

LinkedIn is not just a networking platform—it's your digital portfolio. It allows recruiters to find you even before you apply. Think of it as passive job-hunting. You can showcase recommendations, certificates, articles, and more.

Pros: Dynamic, searchable, great for networking and building personal brand.

Cons: Requires regular updating, not universally trusted in traditional hiring methods (yet).

So, What Matters More Today? In today's hiring landscape, especially for college students and early career professionals:

Both tools serve you in complementary ways. A resume gets your foot in the door; LinkedIn keeps the door open for future opportunities. Employers might check both—so make sure they tell the same story!

Quick Hacks for College Students:

- Sync your resume and LinkedIn—no contradictions!
- Add your resume as a featured section on LinkedIn.
- Use keywords from job descriptions on both platforms.
- Ask professors or past internship leads for LinkedIn recommendations.
- Engage! Like, comment, post—visibility builds credibility.

Final Word In a world that's constantly scrolling, your LinkedIn profile is your handshake before your resume hits the desk. For college students entering a competitive space, having both polished is the smartest move you'll make this semester.

Chhavi Sharma
BTech CSE
5th Semester

Mental Health Matters: Breaking the Stigma Together

In today's fast-paced academic environment, students face pressures that extend beyond exams and assignments. While we openly discuss physical health, mental health still lurks in the shadows—taboo, misunderstood, and too often ignored. It's time we change that narrative.

The stigma exists because of:

- Fear of being judged or labeled as "weak"
- Cultural beliefs that discourage emotional expression
- Lack of awareness and misinformation
- Social media's glamorization of perfection
- These factors create a wall of silence, where many suffer alone rather than seek help.

Imagine a student struggling with anxiety, yet afraid to speak up in fear of ridicule. Or someone battling depression while putting on a brave face in class. These aren't rare stories—they're everyday realities. When students start sharing their stories, vulnerability becomes courage, and stigma begins to crack.

Here's how we can make mental health a shared priority:

Awareness Drives: Host talks and workshops with experts and lived-experience speakers.

Safe Spaces: Create clubs or groups where students feel free to talk and support one another.

Normalize Conversations: Include mental health topics in classrooms, dorm discussions, and events.

Collaborate with Counselors: Make mental health resources visible and approachable.

Mental health isn't a personal battle—it's a community mission. The more we talk, the more we understand. The more we understand, the more we care. And when we care, we build a campus where no one feels alone in their pain.

Let this be the generation that doesn't just chase degrees—but also embraces empathy.

Charu
B.Tech CSE
5th Semester

The Digital Detox: Reclaiming Our Minds in the Age of Screens

In a world where every vibration feels like a call for attention, and every notification sounds like an emergency, we find ourselves tethered to our screens — scrolling, swiping, and liking, often without reason. While the digital revolution has brought immense convenience and connection, it has also introduced a silent crisis: digital burnout.

From attending classes on laptops to winding down with reels and web series, our eyes rarely take a break from the glow of screens. But what is the cost of this constant connectivity? Studies have shown that excessive screen time can contribute to anxiety, reduced attention span, and even poor sleep quality. Yet, the most alarming effect is perhaps the gradual erosion of our ability to be present — to sit with our thoughts, to observe the world, and to engage deeply with people and ideas.

This is where the idea of a digital detox comes in. A digital detox doesn't necessarily mean throwing away our phones or abandoning the internet, but rather taking intentional breaks to reset our mental and emotional well-being. It could be as simple as spending the first hour of the day without a phone, going for a walk without music, or dedicating weekends to offline activities.

Colleges can play a huge role by encouraging tech-free zones, organizing nature outings, and even hosting "no phone" events. These moments not only offer relief from constant notifications but also help us rediscover the joy of genuine conversations and uninterrupted focus.

In reclaiming time away from screens, we do not reject technology — we redefine our relationship with it. The goal isn't disconnection but mindful reconnection: with ourselves, with nature, and with the people around us.

So the next time you feel overwhelmed, try unplugging — even for a little while. Your mind might just thank you.

Deepash Singh
2336814

The Impact of AI on the Job Market

Introduction

Artificial Intelligence (AI) is transforming industries at an unprecedented pace. From healthcare and finance to manufacturing and logistics, AI systems are increasingly taking on tasks once performed by humans. While this technological revolution brings opportunities for efficiency and innovation, it also raises critical concerns about its impact on the job market.

Job Displacement: Automation and Redundancy

One of the most immediate effects of AI is job displacement. Repetitive and predictable tasks, especially in sectors like manufacturing, customer service, and transportation, are being automated. For instance:

- **Self-checkout machines** are replacing cashiers.
- **AI-powered chatbots** are handling customer inquiries.
- **Autonomous vehicles** threaten jobs in trucking and delivery.

According to a 2023 report by the World Economic Forum, approximately 85 million jobs may be displaced by AI and automation by 2025. While the impact varies by industry and geography, low-skilled and routine-based roles are most vulnerable.

Job Creation: New Roles and Industries

Despite fears of widespread unemployment, AI is also a catalyst for job creation. It is spawning entirely new roles and industries, such as:

- **AI trainers** who help machines learn through supervised learning.
- **Data scientists** and **machine learning engineers**.
- **Ethics and compliance experts** in AI development.
- **AI maintenance and support technicians**.

Additionally, AI enhances productivity, enabling businesses to grow and, in turn, hire more workers in other areas. The World Economic Forum projects that while 85 million jobs may be displaced, 97 million new roles may emerge, resulting in a net job gain.

Changing Skill Demands

AI is reshaping the skills landscape. The demand for technical skills—such as programming, data analysis, and systems thinking—is growing. However, "human" skills like creativity, emotional intelligence, critical thinking, and adaptability are also gaining importance.

Lifelong learning and reskilling have become essential. Governments, educational institutions, and companies are investing in upskilling programs to prepare workers for the jobs of tomorrow.

Inequality and Workforce Polarization

AI's impact is not evenly distributed. High-skilled workers benefit from increased productivity and wages, while low-skilled workers face redundancy and limited retraining opportunities. This creates a risk of **economic polarization**, where the labor market divides into high-paying and low-paying jobs with a shrinking middle.

To address this, policymakers must focus on inclusive growth—ensuring access to training, social safety nets, and support for transitioning workers.

Ethical and Social Considerations

Beyond economics, the integration of AI raises broader societal questions:

- **Bias and fairness**: AI systems can perpetuate existing inequalities if trained on biased data.
- **Surveillance and privacy**: Automation often relies on large-scale data collection.
- **Worker rights**: Gig work and algorithmic management can erode job security and labor protections.

It's crucial that the deployment of AI in the workplace is guided by ethical principles and oversight.

Conclusion

AI is undeniably transforming the job market, bringing both disruption and opportunity. The challenge lies in managing the transition—supporting displaced workers, equipping people with future-ready skills, and ensuring equitable outcomes. With proactive policies and inclusive innovation, AI can be harnessed to build a more resilient and dynamic workforce.

Mir Umaiss Shakeel

MBA

Generative AI and Its Applications

Generative AI is a groundbreaking subset of artificial intelligence that focuses on creating new content, including text, images, audio, code, and even video. By learning patterns from large datasets, generative models like GPT-4, DALL·E, and Sora can produce human-like outputs that are both coherent and contextually relevant.

One of the most prominent applications is in content creation. Tools powered by generative AI assist writers, designers, and marketers in generating articles, marketing copy, and even social media posts. In design, AI can produce artwork, logos, and user interface prototypes. The creative industry is experiencing a renaissance driven by machines that can ideate and iterate rapidly. In education, generative AI tools are being used to create customized lesson plans, quizzes, and simulations. In software development, tools like GitHub Copilot suggest lines of code, reducing the cognitive load on programmers. In healthcare, generative AI is being explored for generating synthetic medical data to aid research without compromising patient privacy.

However, the same power poses risks. The rise of deepfakes—realistic but fake media—can be used for misinformation or fraud. There are also concerns about copyright violations and ethical use. Mitigating these risks requires strong governance frameworks and transparency in how these models are trained and deployed.

Generative AI is not just a tool—it is a collaborative partner that amplifies human creativity. As adoption grows, it will be crucial to ensure that its use is responsible, inclusive, and aligned with societal values.

Mehak Sachdeva
B.Tech ECE
7th Semester

Edge AI for Smart Devices

Edge AI refers to the deployment of artificial intelligence models directly on edge devices such as smartphones, cameras, wearables, and IoT sensors. Unlike cloud-based AI, edge AI enables data processing at the source of data generation, ensuring faster response times and enhanced privacy. One of the key drivers of edge AI is latency reduction. Applications like autonomous vehicles, industrial robots, and smart home devices require real-time decision-making, which is made possible by on-device AI processing. For example, voice assistants like Siri and Google Assistant can now process commands without sending data to cloud servers. Privacy is another major benefit. With edge AI, sensitive data remains on the device, reducing the risk of data breaches. This is particularly important in healthcare and finance where user data is highly confidential. Energy efficiency and network independence are also improved with edge AI. Devices can function even with intermittent connectivity, making them ideal for remote locations or mission-critical applications. However, implementing AI on the edge comes with challenges. Hardware limitations, model compression, and power constraints are significant hurdles. To address these, researchers are developing lightweight neural networks and specialized chips like Google's Edge TPU and Apple’s Neural Engine. Edge AI is revolutionizing the way intelligent systems are built and deployed. As the technology matures, it is expected to play a pivotal role in smart cities, Industry 4.0, and personalized consumer experiences.

Riya
B.Tech
3rd Sem

Cybersecurity in the Age of AI

Artificial Intelligence (AI) is transforming the field of cybersecurity, acting both as a powerful ally and a formidable threat. As digital ecosystems grow more complex, AI is playing a crucial role in identifying, mitigating, and responding to threats in real-time. However, the same technology is being leveraged by malicious actors to launch sophisticated and hard-to-detect attacks.On the threat side, AI is enabling the creation of highly convincing deepfakes, which can be used for misinformation, identity theft, or social engineering attacks. Similarly, adversarial AI can generate inputs specifically designed to deceive machine learning systems—causing facial recognition or spam filters to fail. Hackers also use AI to automate attacks, identify vulnerabilities faster, and mimic user behavior to avoid detection. Conversely, cybersecurity professionals are using AI to enhance defense mechanisms. Machine learning models can analyze vast amounts of data to detect anomalies and predict potential breaches. Adaptive firewalls, powered by AI, adjust in real-time to block suspicious activities. Threat detection systems now employ behavioral analysis and pattern recognition to flag threats long before they escalate.

One of the most promising applications of AI is in Security Information and Event Management (SIEM) systems, where AI accelerates the identification of threats across enterprise networks. Furthermore, AI helps in incident response by automating containment actions and providing actionable insights for human analysts. Despite its promise, over-reliance on AI poses risks, such as algorithmic bias and overfitting. Moreover, AI-based systems are not immune to manipulation, highlighting the need for transparent, ethical, and human-in-the-loop systems. In conclusion, AI is reshaping the cybersecurity landscape. The future depends on how effectively we balance the capabilities of AI with robust governance, ethical standards, and proactive innovation to ensure it serves as a protector rather than a perpetrator.

Sahil Rohella
B.Tech ECE
7thsem

The Rise of Eco-Friendly Algorithms

Every time we train a large AI model, stream a video lecture, or even run a brute-force search for an assignment, we're consuming electricity. And with that electricity comes carbon. It's an invisible cost — one most of us never think about. But amid a growing climate crisis, even our algorithms are leaving behind a footprint, and it's much larger than we realize. Welcome to the emerging world of 'Green Algorithms', a movement that encourages developers and researchers to code with sustainability in mind. It's no longer enough just to write code that works or that runs fast. The new question is: how much energy does it consume, and can it be optimized further? The idea may sound niche or overly idealistic, but it's grounded in science. A 2019 study estimated that training a single large AI model (like BERT or GPT) can emit as much CO_2 as five average cars over their entire lifetime. That includes data center cooling, GPU usage, and countless iterations during training. Multiply that by thousands of models being trained globally every day, and we're talking about a digital carbon crisis in the making. But the solution doesn't rest only with big tech. As student developers, we're just as responsible. Whether it's choosing efficient sorting algorithms, avoiding unnecessary nested loops, or reducing the number of API calls in a web app, the decisions we make can either increase or decrease energy. Moreover, tools like the Green Algorithms calculator now let developers estimate the carbon impact of their computational work. Academic conferences are now accepting submissions on energy-efficient AI. Sustainable software engineering is emerging as a new discipline in CS programs globally. Green coding isn't about limiting innovation. It's about responsible creativity, building systems that are not just powerful, but also planet-conscious. It adds a layer of ethics to our logic, empathy to our execution. Because the next generation of tech leaders won't just ask, "Can we build this?" — They'll also ask, "Should we build it this way?" So maybe it's time we viewed every keystroke, every compile, and every commit as more than just code. Maybe it's a chance, a quiet, powerful chance—to do right by both technology and the planet.

Aaradhya Sharma
B.Tech CSE
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The Role of Machine Learning in Predictive Healthcare

In recent years, the integration of machine learning (ML) in healthcare has marked a revolutionary shift in how diseases are detected, diagnosed, and managed. Predictive healthcare, powered by ML algorithms, is reshaping medical practices by providing early warnings, forecasting patient outcomes, and enabling personalized treatment strategies. This transformation is not just enhancing efficiency but also saving lives by making healthcare more proactive than reactive. One of the most significant contributions of machine learning in predictive healthcare is in early diagnosis. By analysing large volumes of historical medical data, ML algorithms can detect subtle patterns and anomalies that may indicate the onset of diseases long before clinical symptoms appear. For example, in oncology, ML models are being used to identify early signs of cancer by examining medical images such as MRIs, CT scans, and mammograms with remarkable accuracy. Similarly, in cardiology, wearable devices combined with ML algorithms can monitor heart rhythms in real-time to predict and prevent potential cardiac events. Beyond diagnosis, ML plays a crucial role in predicting patient outcomes. Hospitals and researchers are leveraging predictive models to assess the risk of complications, readmissions, or even mortality in patients. These models consider numerous variables such as genetic profiles, past medical history, treatment responses, and lifestyle data to estimate outcomes more precisely than ever before. For instance, ML-based risk assessment tools can help clinicians determine which ICU patients are most likely to develop sepsis or organ failure, enabling timely interventions and resource optimization. Why Machine Learning for Predictive Healthcare? Machine Learning (ML) is used in predictive healthcare because it has the ability to process and learn from large and complex medical datasets—something that traditional statistical methods or human analysis alone cannot do efficiently. Healthcare involves thousands of variables such as patient histories, test results, symptoms, genetics, medications, and environmental factors. ML models can analyse these variables together, detect hidden patterns, and predict future medical outcomes with impressive accuracy. One of the primary reasons ML is valuable in predictive healthcare is its ability to identify risks early. For instance, it can flag patients who are likely to develop chronic diseases like diabetes, heart conditions, or cancer—often before symptoms appear. This allows for preventive action and early intervention, which can significantly improve patient outcomes and reduce treatment costs. Personalized treatment is another vital area where machine learning is making a profound impact. Traditional healthcare often follows a one-size-fits-all approach, but ML enables treatments to be tailored to individual patients. By analysing data from genomics, lab tests, electronic health records (EHRs), and even wearable devices, ML algorithms can suggest the most effective therapies based on a patient's unique biological and behavioural profile. In chronic diseases like diabetes or asthma, this approach leads to more accurate medication adjustments and lifestyle recommendations, significantly improving patient adherence and long-term outcomes. As these technologies continue to evolve, they hold the potential to make healthcare more efficient, cost-effective, and patient-centred. With proper regulation, ethical frameworks, and interdisciplinary collaboration, machine learning could be the cornerstone of a new era in medicine—where prevention takes precedence over cure, and data-driven insights lead to better health outcomes for all.

Samayra
B. Tech CSE
2337035

Hackathons and Beyond: Real-World Learning for Engineering Students

As engineering students, we spend a lot of time in classrooms, labs, and lecture halls. But every now and then, something comes along that makes you step out of your comfort zone — and into something truly unforgettable. For me, that moment came when I participated in my very first hackathon, hosted by JP Morgan Chase & Co. in Hyderabad. It was a two-day event called Code for Good, where students from across the country came together to develop real tech solutions for non- profit organizations.

Hackathons: Where Ideas Meet Action

Hackathons are no longer just coding competitions. They're a space for innovation, a high-energy environment where students come together to solve meaningful problems under tight deadlines. Whether its building applications for startups, improving tools for NGOs, or working on industry-relevant challenges, hackathons are about building real- world impact — fast. During the Code for Good hackathon, I was teamed up with students from different colleges, mentored by JP Morgan professionals, and tasked with creating a digital solution for a social cause. Working overnight with strangers who quickly became teammates, we brainstormed, built, broke, and rebuilt — all while learning from each other and the industry experts around us.

Learning beyond the Classroom

What you learn in a hackathon isn't just technical — it's human. You learn to communicate clearly, solve problems creatively, and work under pressure. You gain exposure to how teams function in real tech environments. You pick up tools and skills that often aren't part of your syllabus, but are essential in the real world. These experiences bring a huge confidence boost. Presenting your ideas to industry professionals, managing time under pressure, and learning to pivot when something fails these are the skills that shape future engineers, leaders, and innovators.

Why Real-World Exposure Matters

Today's tech industry values more than just mark sheets. Students who've experienced real-world problem-solving — through internships, hackathons, or research projects — stand out. These experiences build adaptability, creativity, and leadership — the qualities that define a modern engineer. They also help students discover their strengths. Whether it's UI/UX, backend logic, team management, or pitching — there's always something new to explore.

A Message to Every Student

You don't need to be the top coder in your class to join a hackathon. You just need curiosity, creativity, and the courage to show up. Whether it's your first or tenth, each event teaches you something new — not just about tech, but about yourself. You discover new passions, uncover hidden strengths, and sometimes, even find your career direction.

Final Thoughts

Hackathons, internships, and industry events are becoming a vital part of modern tech education. They offer students a chance to build, connect, and grow. So the next time you hear about one, don't think twice. Join in. Take the risk. Solve the problem. You never know — it might just be the beginning of your own journey from learner to leader.

Riya
B. Tech CSE

"The Rise"

I’ve walked through nights that knew no dawn,
With heavy steps, I still moved on.
When voices told me I’m not enough,
I wore my wounds and called it tough.

I’ve bent for love that never stayed,
Lit fires for those who watched me fade.
But even when the world felt cold,
I learned to craft my heart from gold.

No crown was placed upon my head,
No cheers for all the tears I shed.
But still I rose, and still I stand,
With strength I carved by my own hand.

I do not need the world to see
The burning light that lives in me.
For I am fire, I am grace,
I am the storm I had to face.

I’ll stumble, fall, and rise once more,
Each time I’ll come back stronger than before.
Not made to break, not built to bend —
My fight, my soul, it will not end.

So if you ask what saved my life —
It wasn’t luck, or fate, or time.
It was the voice I found within,
That whispered loud, “You rise. You win.”

Tamanna
B.Tech CSE
3rd Sem

Building Careers.
Transforming Lives.

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