



LLOYD INSTITUTE OF ENGINEERING & TECHNOLOGY

Departmental Technical Magazine

TECHVIST

Volume – 2, Issue: 01

2023 – 2024

Department of Computer
Science & Engineering



LIET

About



LIET, Lloyd Institute of Engineering & Technology has become a place where dreams are indeed transformed into reality. The institute is affiliated to Dr. A.P.J. Abdul Kalam Technical University (Formerly UPTU) and recognized by the A. I. C. T. E. (Min of HRD), New Delhi, and the U.P. Govt. LIET has been constantly engaged in moulding the lives of future engineers with the employment of innovative approaches that are job-oriented only.

Affiliated to



Lucknow

Approved by



New Delhi



VISION

“To emerge as an Institute of academic excellence by empowering young minds through problem-solving skills, knowledge & ethical values and transforming them into professionals of global competence”.



MISSION

M1: To equip the students with state-of-the-art technological advancement and skills.

M2: To create a conducive environment for teaching and learning through continuous engagement with industry for corporate understanding and Professionalism.

M3: To focus on holistic development of students through enhanced learning along with moral and ethical value system.



About Department

The Computer Science Engineering department strives to equip students with a strong foundation in technology, innovation, and problem-solving, preparing them for successful careers in the ever-evolving tech industry.

LIET is committed to addressing the industry's need for digitally skilled engineers by upgrading its curriculum through academic collaborations with major IT leaders. The department offers a full-time B.Tech in Computer Science and Engineering is approved by AKTU and AICTE.

In response to emerging digital technologies like Big Data, AI, Cloud, and IoT, Lloyd is preparing students for high-demand roles in areas like mobile app development and data science. As digital technologies are expected to significantly boost India's economy by 2025, Lloyd has infused its CSE curriculum with relevant tech skills, including Full Stack Programming, Big Data, Machine Learning, AI, and IoT.



Transforming students through skill-based learning with ethical values, producing competent Computer Science Professionals, to cater technological and industrial challenges of global need.



DM1: Provide support and facilities to create and disseminate knowledge in the area of Computer Science and Engineering.

DM2: Provide practical learning and exposure on advanced tools and technologies.

Dm3: To instill global level competence and skills with innovative thoughts maintaining ethical values and professionalism.





Program Educational Objectives (PEOs)

The Program Educational Objectives of the Computer Science & Engineering department are:

- PEO-1:** Graduates will work in the area of application software development, testing and cyber security domain.
- PEO-2:** Graduates will become successful professional with managerial quality in different IT industry.
- PEO- 3:** Graduates will exhibit professional understanding and ethics, will able to work as a team to continue effectively for the growth of industry and society.

PROGRAM SPECIFIC OUTCOMES (PSOs)

- PSO-1:** Problem solving by applying computational concepts and design solutions using suitable data structures and algorithmic techniques.
- PSO-2:** Apply the advanced Coding techniques and framework in product development process.
- PSO-3:** Exposure to advanced cyber security tools and practices to secure critical infrastructure.



President, Lloyd Group
Mr. Manohar Thairani



It gives me immense pride and satisfaction to witness the remarkable growth and achievements of the CSE & Allied Branches at LIET. In an age where technology drives progress and innovation shapes the future, Computer Science stands at the core of global transformation.

At LIET, we believe that education must evolve alongside technology. Our vision is to create a dynamic academic ecosystem that nurtures innovation, leadership, ethical values, and a spirit of entrepreneurship. The CSE & Allied Branches are playing a pivotal role in realizing this vision by producing future-ready professionals equipped with technical excellence and strong moral foundations.

This magazine is a reflection of the intellectual energy, creativity, research excellence, and innovative mindset of our students and faculty members. It highlights their accomplishments and reinforces our commitment to academic distinction and continuous improvement.

This magazine is a reflection of the intellectual energy, creativity, research excellence, and innovative mindset of our students and faculty members. It highlights their accomplishments and reinforces our commitment to academic distinction and continuous improvement.

I extend my heartfelt congratulations to the entire CSE & Allied Branches team for their dedication and commendable efforts in bringing out this publication. I encourage all students to think big, stay curious, and lead the technological revolution with confidence and integrity.

Together, let us build a future driven by knowledge, innovation, and excellence.

Senior Director, LIET

Prof. (Dr.) Rajeev Agrawal



In the era of exponential technological evolution, I extend a warm welcome to all students, faculty members, and readers of the CSE Magazine at LIET. Today, technology is not merely advancing — it is transforming the way we live, learn, and innovate. At LIET, we recognize the importance of staying ahead in this ever-evolving digital landscape.

Our commitment goes beyond conventional education. We strive to nurture future-ready engineers equipped with cutting-edge technical expertise, innovative thinking, and the adaptability required to excel in a fast-paced global environment. The Department of Computer Science & Engineering plays a pivotal role in driving this vision by fostering creativity, research, and industry-oriented learning.

This magazine reflects the intellectual vibrancy, technical achievements, research initiatives, and creative pursuits of our CSE students and faculty. It stands as a testament to their dedication and the institution's progressive academic environment.

I encourage all students to embrace innovation, think beyond boundaries, and continuously upgrade their skills. The future belongs to those who are prepared to evolve with technology and lead with vision.

Embrace the evolution. Shape your future.



Dean (R & D) – LIET
Prof. (Dr.) S.P. Dwivedi

At Lloyd Institute of Engineering and Technology, the Department of Computer Science & Engineering is emerging as a dynamic center of technological excellence and research-driven innovation. As Dean (R&D), I am proud of the enthusiasm and dedication shown by our CSE students and faculty in rapidly evolving fields such as Artificial Intelligence, Machine Learning, Data Science, Cyber Security, Cloud Computing, and the Internet of Things. Our focus is not only on academic achievement but also on nurturing analytical thinking, creativity, and a strong problem-solving mindset that prepares students to lead in the digital era.

The Research & Development ecosystem within the CSE branch is designed to encourage curiosity, experimentation, and collaboration. Through funded research projects, industry-driven problem statements, hackathons, coding competitions, and interdisciplinary innovation initiatives, students are provided with hands-on exposure that bridges the gap between academic learning and industry expectations. We actively promote research publications, patent filing, startup incubation, and participation in national and international technical competitions to strengthen our students' global outlook.

Collaboration remains the cornerstone of our growth. We continuously seek partnerships with technology companies, research organizations, and academic institutions to provide our students with advanced laboratories, expert mentorship, internships, and real-time project opportunities. Our aim is to build a dynamic research culture where innovation thrives and ideas transform into impactful technological solutions.

I firmly believe that the future belongs to those who innovate. Through strong academic foundations, ethical values, and a spirit of continuous learning, the CSE branch at LIET is committed to shaping future-ready professionals who will contribute significantly to society, industry, and the nation. Together, let us continue to explore, innovate, and excel in the ever-evolving world of computing and technology.

Pitch-Cypher – Startup Idea Pitching & Innovation Challenge

2023

The **TECHTRONIX Club** of the Computer Science & Engineering Department successfully organized a **National Level Startup Idea Pitching & Innovation Challenge** – “Pitch-Cypher” on 14th & 15th June 2023.

The two-day innovation challenge aimed to promote entrepreneurial thinking, startup culture, and problem-solving skills among students. The event provided a national platform for aspiring innovators to present their startup ideas, demonstrate creativity, and receive expert feedback from industry professionals and academicians.

The competition fostered an ecosystem of innovation, leadership, and technological advancement among participants from various institutions.



Cyber Security Club – CSE Department Cyber Security Event

2023

The **Cyber Security Club** of the Computer Science & Engineering Department successfully organized a **National Level Cyber Security Event** on 15th & 16th August 2023.

The two-day event was designed to promote awareness, technical expertise, and innovation in the field of cybersecurity. With increasing cyber threats and digital vulnerabilities, the program aimed to equip participants with knowledge of ethical hacking, cyber defense mechanisms, and secure digital practices.

The event brought together students, faculty members, and cybersecurity enthusiasts to explore emerging trends and real-world security challenges.



Public Speaking and Extempore Contest

2023

The **Verbitron Club** of the Computer Science & Engineering Department successfully organized a **National Level Public Speaking & Extempore Contest** on 18th & 19th August 2023.

The two-day event aimed to enhance communication skills, boost confidence, and foster critical thinking among students. Recognizing that effective communication is as important as technical expertise, the contest provided a national-level platform for participants to express their ideas, articulate opinions, and demonstrate leadership qualities.

The event attracted enthusiastic participation from students across institutions, creating an intellectually vibrant and competitive atmosphere.



Smart India Internal Hackathon

2023

The **Smart India Hackathon (SIH) Club** – CSE successfully organized the “**Smart India Internal Hackathon 2023**” on 21st & 22nd September 2023 as part of the national-level initiative of **Smart India Hackathon**.

The Internal Hackathon was conducted to identify and shortlist innovative student teams to represent the institution at the national level. The event aimed to encourage problem-solving skills, innovation, teamwork, and technical excellence among students.

Over two days, participants worked intensively on real-world problem statements provided under the SIH framework, developing innovative software and hardware-based solutions.

**LLOYD INSTITUTE OF ENGINEERING & TECHNOLOGY**
Empowering Through Skills




Department :
Computer Science & Engineering
Presents

SMART INDIA HACKATHON INTERNAL

THEMES

- Smart Automation
- Fitness & Sports
- MedTech/BioTech/ HealthTech
- Agriculture, FoodTech & Rural Development
- Robotics and Drones
- Clean & Green Technology
- Blockchain & Cybersecurity and
- Many More...

GUIDELINES

- Each team would mandatorily comprise of 6 members including the team leader
- Each team must have at least one female member.
- All team members should be from the same college/ school, no inter-college/school teams will be allowed.
- However, for college/ institute; members from different branches of the will be encour



Coding Competition: CODEQUEST

2023

The **Coding Club** of the Computer Science & Engineering Department successfully organized “CODEQUEST – Coding Competition” on January 11th, 2024.

The competition was conducted to enhance students' programming skills, logical thinking, and problem-solving abilities. CODEQUEST aimed to provide a competitive platform where students could test their coding efficiency under time constraints and real-world problem scenarios.

The event witnessed enthusiastic participation from students across multiple semesters, creating an energetic and intellectually stimulating environment.



CODE-QUEST

“Online Coding Competition”

- Take part in Code-Quest and conquer new coding challenges, exercise problem-solving skills, and acquire new programming techniques.
- There will be one round of 2 hrs. in the contest.



CASH PRIZE ₹ 5000

on the

occasion of birth anniversary

of
Swami Vivekanand

Venue : Learning Hub, LIET, Greater Noida, U.P.

Contact :- Navneet Singh : 9648925722, Sahil Nawaz : 9990874079



Date: 11th January 2024



Time: 2:00pm to 4:00pm



NEWS

Date: 12.01.2024

नोएडा/ग्रेटर नोएडा नई दिल्ली

दैनिक भास्कर

शुक्रवार, 12 जनवरी 2024 नोएडा 03

स्वामी विवेकानंद जयंती पर अभाविप ने कोड क्वेस्ट प्रतियोगिता की आयोजित

जस्टिस ब्यूरो/ग्रेटर नोएडा। स्वामी विवेकानंद जयंती के पूर्व संध्या पर अखिल भारतीय विद्यार्थी परिषद ग्रेटर नोएडा के द्वारा ऑनलाइन कोडिंग प्रतियोगिता कोड क्वेस्ट का आयोजन किया गया तीन घंटे का ऑनलाइन कोडिंग कंपटीशन आयोजित किया गया जिसमें लगभग 300 छात्रों ने हिस्सा लिया इस कोडिंग कंपटीशन में दैनिक जीवन से जुड़ी हुई समस्याओं को छात्रों के बीच साझा किया गया, जिसका उत्तर छात्रों के द्वारा कंप्यूटर प्रोग्रामिंग के भाषा में दिया गया। इस प्रतियोगिता में प्रथम तीन स्थान प्राप्त करने वाले छात्रों को पुरस्कृत किया गया। प्रथम स्थान तनुज भंडारी व द्वितीय स्थान शुभम ने प्राप्त किया। इस प्रतियोगिता में मुख्य अतिथि के रूप में मेरठ प्रांत उपाध्यक्ष डॉ धनश्याम खत्स मौजूद रहे धनश्याम खत्स ने छात्रों को संबोधित करते हुए बताया कि हम सभी को स्वामी विवेकानंद की जीवनी जरूर पढ़नी चाहिए। स्वामी विवेकानंद का जीवन आज भी हम सभी लोगों के लिए प्रार्थना है। इस कार्यक्रम में प्रांत सह मंत्री गौरव मोह, विभाग संगठन मंत्री पारस चौधरी, विभाग संयोजक प्रथम जैन, वैभव, आर्यन आदि दर्जनों कार्यकर्ता सहित सैकड़ों छात्र मौजूद रहे।



लैक्सो एकेडमी के प्रांत सह अध्यक्ष डॉ. राजेश कुमार ने विजेताओं को



स्वामी विवेकानंद जयंती के पूर्व संध्या पर अभाविप ने आयोजित की कोड क्वेस्ट प्रतियोगिता

संवाददाता

ग्रेटर नोएडा। स्वामी विवेकानंद जयंती के पूर्व संध्या पर अखिल भारतीय विद्यार्थी परिषद ग्रेटर नोएडा के द्वारा ऑनलाइन कोडिंग प्रतियोगिता कोड क्वेस्ट का आयोजन किया गया तीन घंटे का ऑनलाइन कोडिंग कंपटीशन आयोजित किया गया जिसमें लगभग 300 छात्रों ने हिस्सा लिया इस कोडिंग कंपटीशन में दैनिक जीवन से जुड़ी हुई समस्याओं को छात्रों के बीच साझा किया गया, जिसका उत्तर छात्रों के द्वारा कंप्यूटर प्रोग्रामिंग के भाषा में दिया गया। इस प्रतियोगिता में प्रथम तीन स्थान प्राप्त करने वाले छात्रों को पुरस्कृत किया गया। प्रथम स्थान तनुज भंडारी व



द्वितीय स्थान शुभम ने प्राप्त किया। इस प्रतियोगिता में मुख्य अतिथि के रूप में मेरठ प्रांत उपाध्यक्ष डॉ धनश्याम खत्स मौजूद रहे धनश्याम खत्स ने छात्रों को संबोधित करते हुए



बताया कि हम सभी को स्वामी विवेकानंद की जीवनी जरूर पढ़नी चाहिए। स्वामी विवेकानंद का जीवन आज भी हम सभी लोगों के लिए प्रार्थना है इस कार्यक्रम में

प्रांत सह मंत्री गौरव मोह, विभाग संगठन मंत्री पारस चौधरी, विभाग संयोजक प्रथम जैन, वैभव, आर्यन सहित दर्जनों कार्यकर्ता और सैकड़ों छात्र मौजूद रहे।

Artificial Intelligence & Machine Learning Challenge

2023

The **AI & ML Club** of the Computer Science & Engineering Department successfully organized the “**Artificial Intelligence & Machine Learning Challenge**” on June 14th–15th, 2024.

This two-day technical challenge aimed to provide students with hands-on exposure to real-world AI and ML problem-solving. The event encouraged participants to design, build, and evaluate machine learning models to address practical challenges using datasets and analytical tools.

The challenge fostered innovation, teamwork, and critical thinking among students while strengthening their understanding of Artificial Intelligence concepts.



Pitch-Cypher – Startup Idea Pitching & Innovation Challenge

2023

The **TECHTRONIX Club** of the Computer Science & Engineering Department successfully organized a **National Level Startup Idea Pitching & Innovation Challenge** – “Pitch-Cypher” on 14th & 15th March 2023.

The two-day innovation challenge aimed to promote entrepreneurial thinking, startup culture, and problem-solving skills among students. The event provided a national platform for aspiring innovators to present their startup ideas, demonstrate creativity, and receive expert feedback from industry professionals and academicians.

The competition fostered an ecosystem of innovation, leadership, and technological advancement among participants from various institutions.



Women in Engineering: Redefining Leadership

Engineering is steadily becoming more inclusive and diverse, with women playing an increasingly important role across industries. Today, women engineers are leading research projects, managing technology companies, contributing to infrastructure development, and participating in groundbreaking space missions. Their achievements demonstrate that leadership and innovation are defined by talent and dedication—not by gender.

Women scientists and engineers have made remarkable contributions to missions conducted by Indian Space Research Organisation (ISRO), including satellite launches and planetary exploration programs. Their success has inspired countless young students to pursue careers in science and technology, proving that opportunities in engineering are open to all.

Encouraging more women to enter STEM (Science, Technology, Engineering, and Mathematics) fields strengthens innovation. Diverse teams bring different perspectives, creative ideas, and unique problem-solving approaches. This diversity leads to better decision-making and more effective technological solutions.

A balanced and inclusive engineering community fosters equality, collaboration, and progress. By supporting and empowering women in engineering, society benefits from stronger leadership, richer innovation, and more sustainable development.

KHUSHI CHAUHAN

B.Tech V Semester

DEEPTI

Roll No. 2401720109010



Smart Cities: Engineering for Better Living

Smart Cities: Urbanization is increasing rapidly across the world. As populations grow, cities face challenges such as traffic congestion, pollution, energy demand, and waste management. To address these issues, urban areas are transforming into smart cities—cities that use advanced technology and data-driven systems to improve efficiency and quality of life.

Smart cities integrate modern technologies to create sustainable and well-managed urban environments. Key features include:

- Intelligent traffic management to reduce congestion and travel time
- Energy-efficient buildings that minimize power consumption
- Digital governance systems for transparent and faster public services
- Advanced waste management systems for cleaner surroundings

Engineering disciplines work together to design and maintain these integrated systems. Civil engineers develop sustainable infrastructure, electrical engineers manage smart grids and renewable energy integration, computer engineers design data monitoring and control software, and mechanical engineers contribute to efficient transportation and environmental systems.

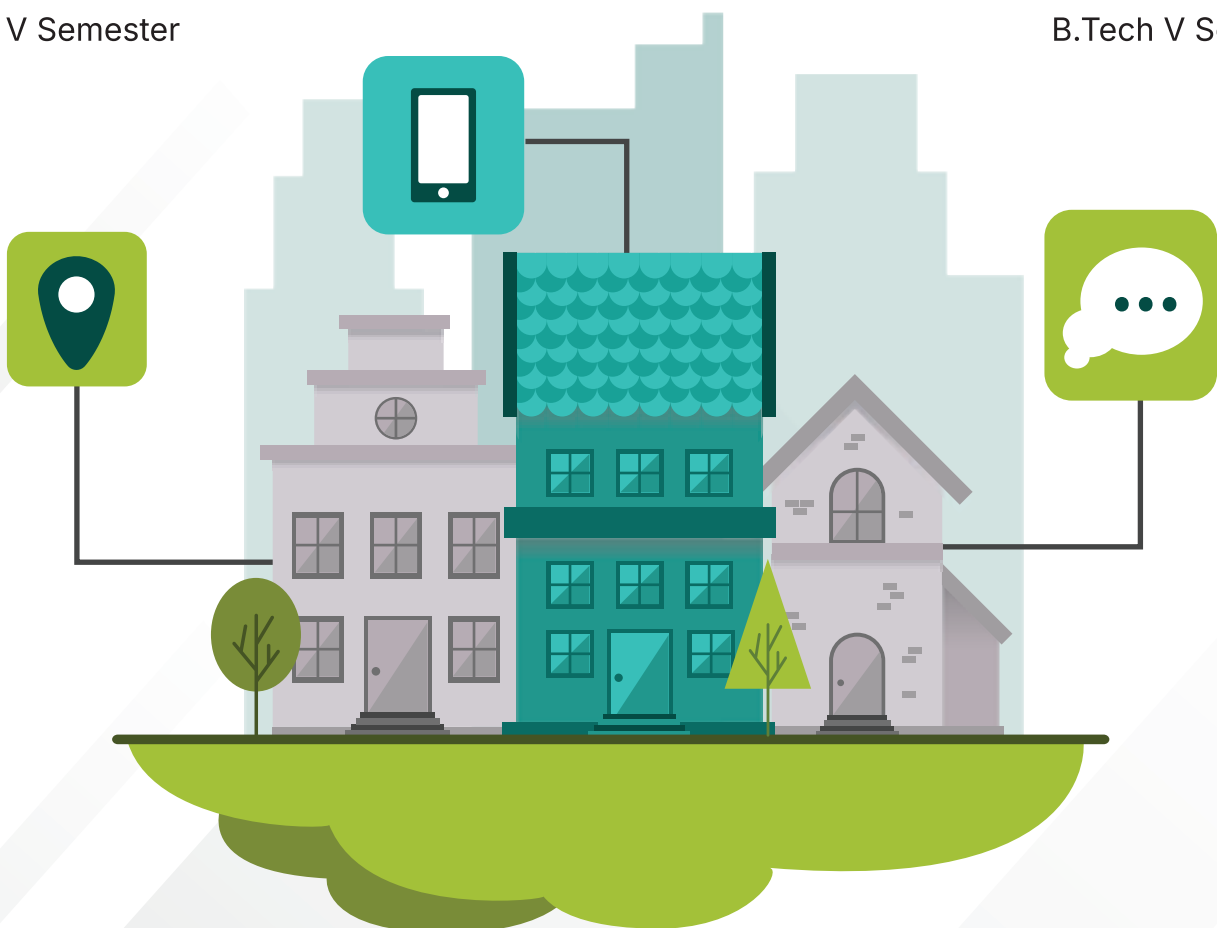
Smart cities represent the future of urban living—where technology, sustainability, and engineering innovation combine to create safer, cleaner, and more efficient communities.

AADIL KHAN

B.Tech V Semester

ABHISHEK KUMAR

B.Tech V Semester



Continuous Learning: The Lifelong Duty of an Engineer

Continuous Learning: Engineering does not end with graduation; in reality, it truly begins there. The world of technology evolves at an extraordinary pace, and engineers must continuously adapt to remain relevant and effective. New programming languages, advanced materials, renewable energy technologies, automation systems, robotics, and artificial intelligence applications are constantly emerging, transforming industries and redefining required skills.

To keep up with these rapid advancements, engineers must embrace continuous learning as a professional responsibility. This can be achieved through certifications, technical workshops, industry training programs, research work, online courses, and practical project experience. Reading technical journals, participating in seminars, and collaborating with professionals also help in expanding knowledge and staying updated with current trends.

In today's competitive environment, success in engineering depends not only on intelligence or academic performance but also on curiosity, adaptability, and a growth mindset. Engineers who are willing to explore new ideas, upgrade their skills, and accept change are the ones who lead innovation.

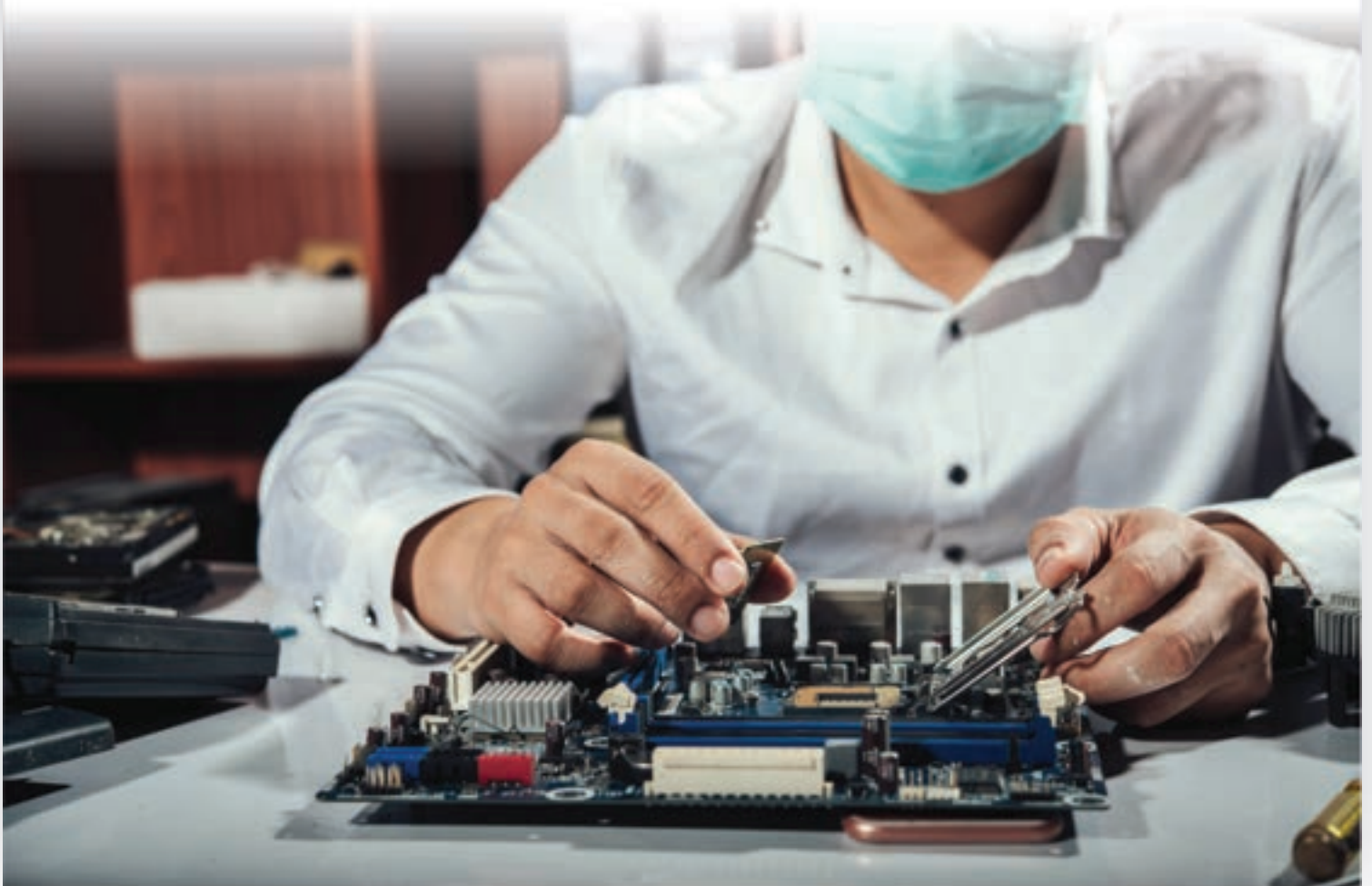
A true engineer understands that learning never stops. Knowledge evolves, challenges grow more complex, and solutions require updated thinking. The engineer who keeps learning keeps growing—not only professionally, but also personally.

AMAN KUMAR

B.Tech V Semester

ARYAN GOEL

B.Tech V Semester



The Importance of Innovation & Entrepreneurship in Engineering

The modern engineering landscape strongly encourages innovation and entrepreneurship. Today, many engineering students aspire not only to secure stable jobs but also to build startups and create impactful solutions. This shift reflects a growing mindset where engineers aim to solve real-world problems through technology-driven ventures.

India has emerged as one of the fastest-growing startup ecosystems in the world, supported by initiatives like Startup India. Young engineers are developing mobile applications, renewable energy solutions, robotics systems, AI-based tools, and digital service platforms. These innovations are transforming industries such as healthcare, education, transportation, and finance.

Innovation begins with identifying a real problem and designing a practical, efficient solution. Engineering education provides the technical knowledge and analytical skills required to build products. However, creativity, risk-taking ability, leadership, and perseverance are what turn ideas into successful ventures. Entrepreneurship requires not only technical expertise but also vision and determination.

Entrepreneurial thinking empowers engineers to become job creators rather than job seekers. By embracing innovation and taking initiative, engineers can contribute to economic growth, generate employment opportunities, and drive technological advancement. In today's competitive world, combining engineering skills with an entrepreneurial mindset opens unlimited possibilities for success.

DIVYA PRAKASH

Roll No. 2401720109019

NISHA GUPTA

Roll No. 2401720109019



How Machine Learning is Transforming Industries

Machine Learning (ML) has emerged as one of the most powerful technologies driving innovation across industries. By enabling computers to learn from data and improve their performance without explicit programming, ML is revolutionizing how businesses operate and make decisions.

In the healthcare sector, machine learning is helping doctors diagnose diseases earlier and more accurately by analyzing medical images and patient data. In finance, ML algorithms detect fraudulent transactions, assess credit risks, and automate trading strategies. The retail industry uses machine learning to personalize customer experiences, recommend products, and optimize supply chains.

Similarly, manufacturing industries leverage predictive maintenance powered by machine learning to identify equipment failures before they occur, reducing downtime and operational costs. In transportation, ML is enabling smart traffic management systems and the development of autonomous vehicles.

As data continues to grow exponentially, machine learning will play an even more critical role in shaping the future of industries, improving efficiency, reducing costs, and driving smarter decision-making.

AYUSH KUNWAR

B.Tech V Semester

NIKHIL SINGH

B.Tech V Semester



Role of Cyber Security in the Digital Era

In today's digital world, where information and communication technologies are deeply integrated into daily life, cyber security has become a crucial necessity. As organizations increasingly rely on digital platforms, the risk of cyber threats such as hacking, data breaches, ransomware, and identity theft has also grown significantly.

Cyber security focuses on protecting computer systems, networks, and data from unauthorized access and malicious attacks. It involves the use of advanced technologies, security policies, encryption techniques, and monitoring systems to safeguard sensitive information.

Industries such as banking, healthcare, education, and e-commerce heavily depend on strong cyber security frameworks to protect customer data and maintain trust. Governments and organizations are investing heavily in cyber defense strategies to counter emerging threats in the digital landscape.

For computer science professionals, cyber security offers exciting career opportunities in areas like ethical hacking, network security, digital forensics, and security analysis. As technology continues to evolve, the role of cyber security will remain vital in ensuring a safe and secure digital environment for individuals and organizations alike.

NITYA VERMA

B.Tech V Semester



Data Science: Driving Decisions in the Digital Era

In today's digital world, **data** has become a powerful resource that drives decision-making across industries. **Data Science** combines statistics, programming, and machine learning to analyze large volumes of data and extract meaningful insights.

Organizations use data-driven approaches to **predict trends, understand user behavior, and improve efficiency** in areas like healthcare, finance, and e-commerce. With the rise of AI and big data, data science is playing a key role in shaping smarter systems and innovations.

As technology continues to grow, data science remains essential for building an **intelligent, informed, and future-ready society**.

NARAYAN SUDHIR

Roll No: 2201530310006



Edge Computing: Bringing Intelligence Closer to Devices

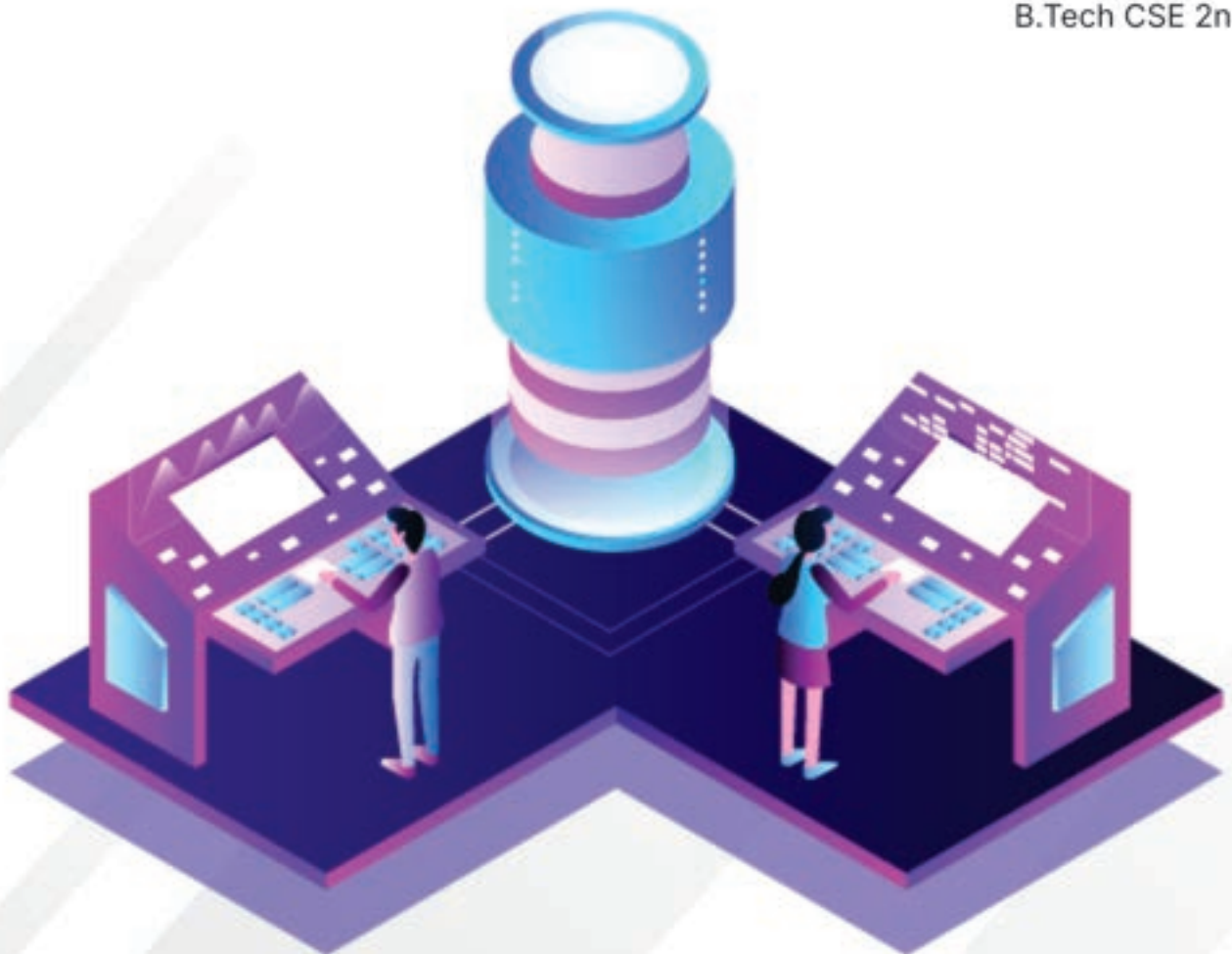
In the era of rapid digital transformation, the demand for real-time data processing and faster decision-making has led to the rise of Edge Computing. Unlike traditional cloud computing, where data is processed in centralized data centers, edge computing brings computation and data storage closer to the source of data generation—such as sensors, devices, and local systems.

Edge computing plays a crucial role in reducing latency, bandwidth usage, and response time, making it ideal for applications that require instant processing. Technologies like Internet of Things (IoT), autonomous vehicles, smart cities, and industrial automation heavily rely on edge computing to function efficiently and reliably.

By processing data locally, edge computing enhances data privacy and security, as sensitive information does not always need to be transmitted to the cloud. It also ensures better performance in environments with limited or unstable internet connectivity.

With the integration of Artificial Intelligence (AI) at the edge, devices are becoming smarter and more capable of making independent decisions. From smart home systems to healthcare monitoring devices, edge computing is transforming everyday technology into intelligent systems.

KANISHQ RAJ
B.Tech CSE 2nd Year



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