



**PRESIDENCY**  
UNIVERSITY



**TECH-IMPRINT**

Presidency School of Computer Science and Engineering & Information Science

**TECH** IMPRINT

# *Intelligence* **Unplugged**

*Designing Tomorrow with Purpose*

**VOLUME 1 – Issue 2**

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# LETTER FROM THE EDITOR

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## Intelligence Unplugged – Designing Tomorrow with Purpose

With great enthusiasm and a renewed sense of purpose, we present Issue **1.2 of TECH IMPRINT**, the student magazine of the **Presidency School of Computer Science and Engineering & Information Science**. Building on the strong foundation laid by our inaugural edition, this issue takes a thoughtful step forward—inviting readers to reflect, imagine, and create beyond conventional boundaries.

The themes of this edition, **“Intelligence Unplugged: Beyond the Algorithm – Human Insight Powering the Next Wave of AI and Automation”** and **“Dream. Design. Do. – Inspiring Young Minds to Build a Better Tomorrow,”** emphasize a powerful idea: while technology continues to advance at an unprecedented pace, it is human insight, creativity, ethics, and intent that give it true direction and meaning.

In an era dominated by algorithms and automation, this issue highlights the irreplaceable role of human intelligence—our ability to question, empathise, innovate, and envision impact beyond code. The contributions in this edition explore how technology, when guided by human values, can become a force for responsible innovation and societal progress.

Through technical explorations, thought-provoking reflections, creative narratives, and student-driven perspectives, TECH IMPRINT Issue 1.2 captures the spirit of young minds who dare to dream, design with purpose, and transform ideas into action. Each article reflects not only technical competence but also a deeper awareness of the responsibility that comes with building the future.

As TECH IMPRINT continues its journey, this edition reinforces our commitment to nurturing a culture where learning transcends classrooms, ideas spark conversations, and students are empowered to shape tomorrow’s world with confidence and conscience.

We extend our sincere appreciation to the students, faculty mentors, reviewers, and contributors whose dedication and creativity have made this issue possible. May this edition inspire you to think beyond the algorithm, trust your vision, and take the leap from imagination to impact.

The Editorial Board  
TECH IMPRINT



## S. Sivaperumal

*Pro Vice Chancellor*

*Director – International Relations*

*Professor – Electronics and Communication Engineering*

### **Dear Students, Faculty, and Well-Wishers,**

It gives me immense pride and joy to extend my warm greetings on the launch of our student magazine, Tech Imprint. This edition, themed **“Intelligence Unplugged: Beyond the Algorithm – Human Insight Powering the Next Wave of AI and Automation,”** reflects the creativity, innovation, and intellectual spirit that define our School of Computer Science and Engineering, as well as the larger Presidency University community.

In a world increasingly shaped by artificial intelligence and automation, it is essential to remember that technology derives its true power from human thought, empathy, and imagination. While algorithms drive efficiency, it is human insight that gives technology its purpose and meaning. At Presidency University, we are committed to nurturing not only skilled professionals but also thoughtful innovators individuals who use intelligence to inspire and innovation to empower.

This magazine stands as a testament to the dedication of our students, the mentorship of our faculty, and the vision of our leadership. Every contribution within these pages embodies curiosity, creativity, and a commitment to excellence.

As we celebrate this edition, I encourage all students to continue dreaming, designing, and doing to look beyond machines and remember that the greatest intelligence resides within the human spirit.

My heartfelt congratulations to the editorial team, contributors, and mentors for bringing this inspiring edition to life.





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## **Dr. N. Duraipandian**

*Dean – School of Computer Science and Engineering &  
School of Information Science*

Dear Shapers of Young Minds,

Warm wishes to you all.

It gives me immense pleasure to witness this edition of Tech Imprint come to life. A student magazine is much more than a collection of words and visuals; it is a vibrant expression of imagination, innovation, and the stories that define our academic spirit.

This year's theme, "Intelligence Unplugged: Beyond the Algorithm – Human Insight Powering the Next Wave of AI and Automation," beautifully captures the essence of our times. While technology continues to evolve at an extraordinary pace, it is human intuition, creativity, and empathy that give direction and depth to these advancements. At Presidency University, we believe that true intelligence extends beyond data and code; it lies in the human ability to think critically, feel compassionately, and innovate purposefully.

Each page of Tech Imprint stands as a testament to this belief. The articles, designs, and reflections within these pages showcase how our students blend knowledge with creativity and vision with responsibility. This harmony between technical brilliance and human insight is what truly powers progress in today's AI-driven world.

I extend my heartfelt appreciation to the editorial team, faculty mentors, and student contributors who have poured their passion and dedication into this edition. May this magazine continue to inspire you to think beyond algorithms, explore without limits, and create with both mind and heart.



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## Dr. Shakkeera L

*Professor & Associate Dean*

*School of Computer Science and Engineering*

*Associate Dean – Academics*

Dear Shapers of Young Minds,

Warm greetings to you all!

It fills me with immense joy and pride to share a remarkable milestone with each one of you—the launch of the latest edition of our student magazine, Tech Imprint. This publication is not merely a compilation of pages; it reflects our students' imagination, creativity, and dedication, brought to life through a platform we have built together.

The theme for this edition, **“Intelligence Unplugged: Beyond the Algorithm – Human Insight Powering the Next Wave of AI and Automation,”** truly resonates with the spirit of our times. In today's digital world, where artificial intelligence and automation influence nearly every aspect of life, it is vital to remember that the most powerful intelligence remains human. Every innovation begins not with a machine, but with a mind—one that questions, imagines, and creates.

Each day, I witness moments that bring this theme to life: a student thinking beyond the textbook to solve a real-world problem, a faculty member staying back to mentor a team through a complex project, or a learner who transforms a simple idea into a creative breakthrough. These moments remind us that education is not merely about learning what exists, but about envisioning what could be. This is the true essence of human insight powering the next wave of AI and automation.

This magazine celebrates that spirit—where knowledge meets creativity, and curiosity transforms into innovation. Every article, poem, and design featured here embodies the courage to think differently and the determination to turn ideas into meaningful impact.

I extend my heartfelt appreciation to the editorial team, student contributors, and faculty mentors for their unwavering effort and enthusiasm in bringing this edition to life. Your collaboration reflects the very heart of our institution, a place where teaching, learning, and imagination unite to shape the future.

May Tech Imprint continue to inspire generations of learners to look beyond algorithms and embrace the human insight that drives true innovation.



## Dr. R. Mahalakshmi

*Professor & Associate Dean  
School of Information Science  
Presidency University*

Dear Shapers of Young Minds,

Warm greetings to you all!

It gives me great joy to celebrate the launch of our student magazine, Tech Imprint, a true reflection of the creativity, talent, and enthusiasm of our students at the School of Computer Science and Engineering.

The theme, **“Dream. Design. Do. – Inspiring Young Minds to Build a Better Tomorrow,”** perfectly embodies the spirit of innovation and purpose that drives our learners. Each page of this magazine showcases how dreams, when guided by determination and creativity, transform into ideas that shape the future.

As we step into an era of limitless technological possibilities, it is essential to remember that true innovation begins with curiosity and courage. Every small experiment, every new idea, and every challenge overcome brings us closer to becoming the changemakers of tomorrow. Let this magazine serve as a reminder that learning never ends; it simply evolves with imagination.

I am immensely proud of our students who continue to dream boldly, design thoughtfully, and act with passion. This magazine stands as a testament to their hard work and to the mentorship provided by our dedicated faculty.

My heartfelt appreciation goes to the editorial team and all contributors for making Tech Imprint a reality. May it continue to inspire everyone to learn, create, and innovate.

# PRESIDENCY SCHOOL OF COMPUTER SCIENCE AND ENGINEERING



## VISION

To be a value based, practice-driven School of Computer Science and Engineering, committed to developing globally-competent Engineers, dedicated to transforming Society.



**TECH IMPRINT**



## MISSION

- Cultivate a practice-driven environment with a contemporary Learning-pedagogy, integrating theory and practice.
- Attract and nurture world-class faculty to excel in Teaching and Research, in the field of Core Computer Science and Engineering.
- Establish state-of-the-art facilities for effective Teaching and Learning-experiences.
- Promote Interdisciplinary Studies to nurture talent and impart relevant skill-sets for global impact.
- Instill Entrepreneurial and Leadership Skills to address Social, Environmental, and Community-needs.

*"The best way to predict the future is to invent it."*

- Alan Kay



# PROGRAM OUTCOMES (POS) FOR B.TECH

**PO1: Engineering Knowledge:** Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization to develop to the solution of complex engineering problems.

**PO2: Problem Analysis:** Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development.

**PO3: Design/Development of Solutions:** Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required.

**PO4: Conduct Investigations of Complex Problems:** Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions.

**PO5: Engineering Tool Usage:** Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems.

**PO6: The Engineer and The World:** Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment.

**PO7: Ethics:** Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws.

**PO8: Individual and Collaborative Team work:** Function effectively as an individual, and as a member or leader in diverse/multidisciplinary teams.

**PO9: Communication:** Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences.

**PO10: Project Management and Finance:** Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.

**PO11: Life-Long Learning:** Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change.

# *PROGRAM OUTCOMES* **(POS) FOR M.TECH**

**PO1:**An ability to analyse manage and supervise engineering systems and processes with the aid of appropriate advanced tools.

**PO2:**An ability to design a system and process within constraints of health, safety, security, economics, manufacturability to meet desired needs.

**PO3:**An ability to carry out research in the respective discipline and publish the findings.

**PO4:**An ability to effectively communicate and transfer the knowledge/ skill to stakeholders.

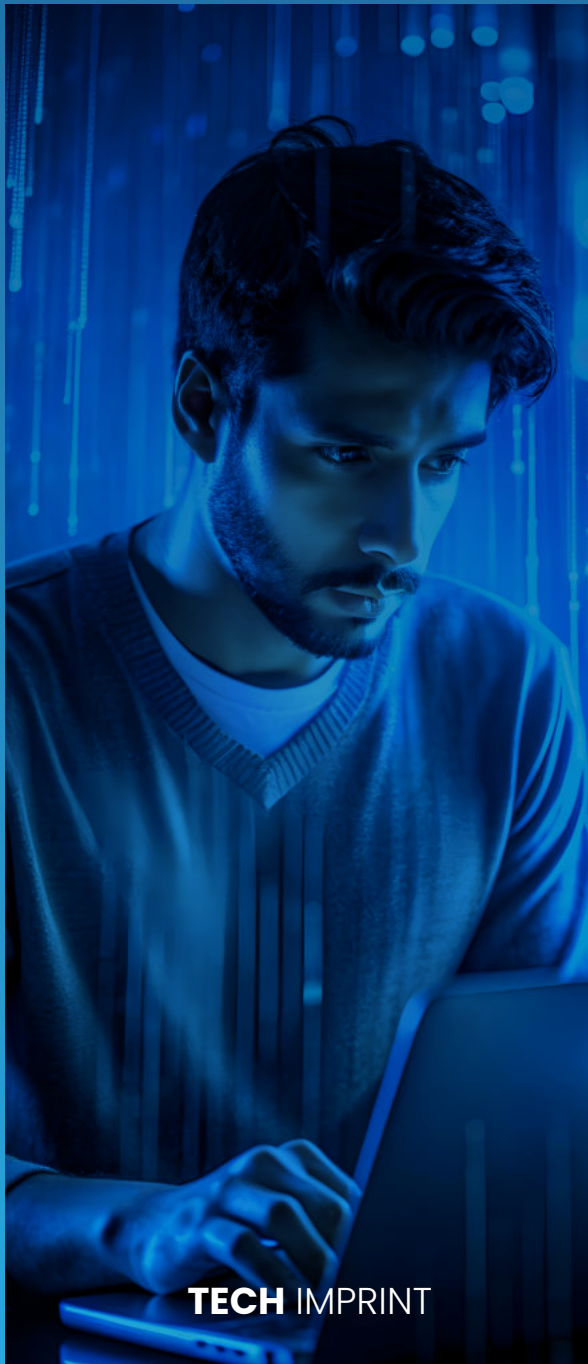
**PO5:**An ability to realize the impact of engineering solutions in a contemporary, global, economical, environmental, and societal context for sustainable development.

# PRESIDENCY SCHOOL OF INFORMATION SCIENCE



## VISION

To be a global centre of excellence in information science and research, fostering innovation and producing professionals with integrity and ethical responsibility.



## MISSION

-  To provide high-quality education in information science, equipping students with strong technical expertise and problem-solving skills.
-  To promote research and innovation in information science and technology, addressing real-world challenges through industry collaboration.
-  To nurture graduates with strong ethical values and a commitment for lifelong learning for sustained professional growth in the IT sector and allied fields.

*"Tech gives the quietest student a voice."*

– **Jerry Blumengarten**



# PROGRAM OUTCOMES (POS) FOR BCA

**PO 1: Application of Domain Knowledge:** Apply the domain knowledge such as mathematics, science and software engineering fundamentals into the Computer Application related professions.

**PO 2: Problem Solving & Analysis:** Identify, Formulate, Analyse and Solve Complex Scenarios related to Computer Applications.

**PO 3: Design/Development of Activities:** Conceive, Design and Develop various activities of Computer Applications.

**PO 4: Conduct Investigations of Events:** Carry out Investigation of an event and draw logical conclusions based on critical thinking and analytical reasoning.

**PO 5: Modern Tool Usage:** Effectively apply relevant ICT Tools and digital tools to carry out Computer Application Attributes.

**PO 6: Research:** Identify suitable Research Methods and report the findings.

**PO 7: Profession and Society:** Apply the knowledge of the values and beliefs of multicultural society and a global perspective in the profession.

**PO 8: Ethics:** Identify ethical issues and embrace ethical values in conduct of Profession.

**PO 9: Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**PO 10: Communication:** Express thoughts and ideas effectively in writing and oral communication.

**PO 11: Project Management and Finance:** Ability to work independently, identify appropriate resources required for a project, and manage a project through to completion.

**PO 12: Life-long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of societal and technological change.



# PROGRAM OUTCOMES (POS) FOR MCA

**PO 1: Foundation Knowledge:** Apply knowledge of mathematics, programming logic and coding fundamentals for solution architecture and problem solving.

**PO 2: Problem Analysis:** Identify, review, formulate and analyse problems for primarily focussing on customer requirements using critical thinking frameworks.

**PO 3: Development of Solutions:** Design, develop and investigate problems with as an innovative approach for solutions incorporating ESG/SDG goals.

**PO 4: Modern Tool Usage:** Select, adapt and apply modern computational tools such as development of algorithms with an understanding of the limitations including human biases.

**PO 5: Individual and Teamwork:** Function and communicate effectively as an individual or a team leader in diverse and multidisciplinary groups. Use methodologies such as agile.

**PO 6: Project Management and Finance:** Use the principles of project management such as scheduling, work breakdown structure and be conversant with the principles of Finance for profitable project management.

**PO 7: Ethics:** Commit to professional ethics in managing software projects with financial aspects. Learn to use new technologies for cyber security and insulate customers from malware.

**PO 8: Life-Long Learning:** Change management skills and the ability to learn, keep up with contemporary technologies and ways of working.

# CALL FOR THE CORE: BE THE BACKBONE



**The Magic Shop Club** of Presidency University organised a transformative and inspiring event titled **"Call for the Core: Be the Backbone"** on **15 October 2025**. Conceived as a core committee recruitment drive, the event extended far beyond selection, evolving into a meaningful journey of self-discovery, confidence building, and leadership exploration.

The activity encouraged students to express themselves openly, reflect on their personal stories, identify their strengths and areas for improvement, and rediscover their individuality. Through guided self-reflection exercises, participants explored their values, aspirations, and creative potential. This process enabled them to recognise their self-worth and step forward with confidence into leadership roles.

Beyond introspection, the event fostered peer interaction, teamwork, and networking. Students from various departments connected through discussions, shared experiences, and collaborative activities, cultivating a strong sense of community and mutual support—qualities essential for leading a vibrant cultural club.



A unique highlight of the event was the resume-building session, during which participants created personalised resumes that reflected their skills, achievements, and personal growth. This exercise not only enhanced their professional preparedness but also strengthened their ability to present themselves with clarity and confidence.

The session witnessed enthusiastic participation, with students actively sharing their stories, engaging with peers, and embracing the spirit of collaboration. The atmosphere remained energetic and encouraging, allowing participants to explore their individuality while preparing to contribute meaningfully to the club.

By the conclusion of the event, participants walked away with improved communication skills, heightened self-awareness, and a renewed sense of purpose. The initiative successfully identified passionate and capable individuals who will form the new backbone of the Magic Shop Club.

Overall, "Call for the Core: Be the Backbone" stood as a celebration of identity, talent, teamwork, and creativity, empowering students to step into leadership roles and carry forward the cultural legacy of the Magic Shop Club at Presidency University.



# AI MAX CONCLAVE



Students of Presidency University had the privilege of participating in the AI Max Conclave, held at Radisson Blu, Marathahalli, an event that offered enriching exposure and valuable insights into emerging trends and innovations in the field of Artificial Intelligence. The conclave served as a distinguished platform for exploring cutting-edge advancements that are shaping the future of technology and intelligent systems.

The participants gained meaningful perspectives through expert sessions and discussions, enhancing their understanding of the evolving AI landscape. The students express their sincere gratitude to the Dean, the Honourable Pro Vice-Chancellor, and the University Management for their constant encouragement and for providing them with the opportunity to represent the institution at such a prestigious forum.



# CAREER PLANNING AND GOAL SETTING FOR ENGINEERS

ALUMNI TALK INSPIRES FUTURE INNOVATORS



The Department of Computer Science and Engineering (PSCS), in collaboration with the Alumni Association of **Presidency University**, organised an insightful alumni talk titled “**Career Planning and Goal Setting for Engineers**” on **19 November 2025**. The session featured **Mr. Dheeraj Shankar, SAP Basis Consultant at Micro Labs Ltd.,** Bengaluru, and a distinguished alumnus of the university.

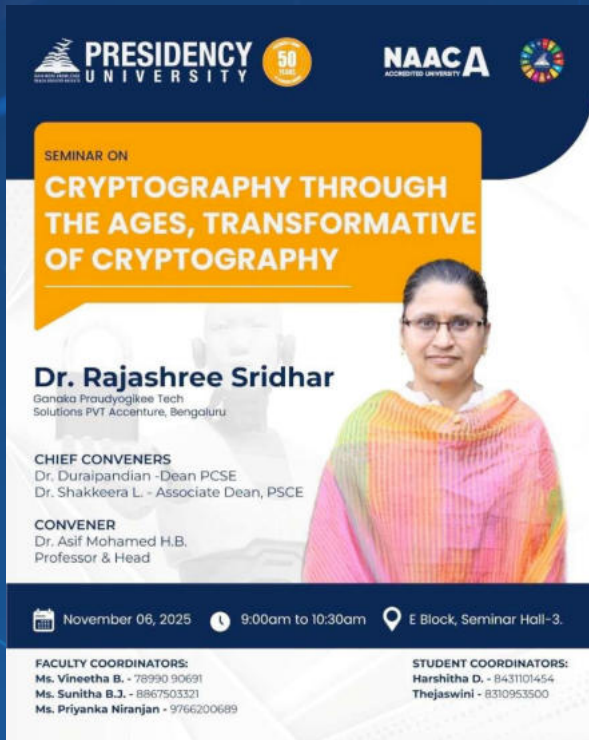
The talk aimed to equip engineering students with a clear understanding of structured career planning, self-assessment of strengths, and effective preparation for evolving industry expectations. Drawing from his professional journey, **Mr. Dheeraj** shared valuable insights into his transition from a fresher to a successful IT professional, emphasising the importance of dedication, adaptability, curiosity, and continuous learning in building a sustainable career.

The session also encouraged students to set realistic goals, remain proactive in skill development, and align academic learning with industry requirements. Through practical examples and personal experiences, the speaker inspired students to approach their careers with clarity, confidence, and long-term vision.

Overall, the event strengthened alumni–student engagement and reaffirmed the university’s commitment to nurturing industry-ready engineers. The talk served as a powerful reminder that with thoughtful planning, consistent effort, and self-belief, aspiring engineers can successfully transform their ambitions into meaningful professional achievements.







# CRYPTOGRAPHY THROUGH THE AGES

## A TRANSFORMATIVE JOURNEY

The Presidency School of Computer Science & Engineering organised an insightful guest lecture titled **“Cryptography Through the Ages: The Transformative Journey of Cryptography”** on **6 November 2025** at **RS04**. With the participation of **60 students** and faculty members, the event aimed to illuminate the evolution of cryptography—from its ancient origins to its indispensable role in modern cybersecurity.

The session was delivered by **Dr. Rajashree Sridhar, Director and Founder of Ganaka Praudyogikee Tech Solutions Pvt. Ltd.**, who captivated the audience with her depth of expertise and engaging presentation style. She traced the historical progression of cryptographic systems, beginning with early substitution ciphers and the iconic Enigma machine, and progressing to breakthrough innovations such as public-key cryptography, digital signatures, and blockchain-based security mechanisms.

Students gained valuable insights into how cryptography forms the backbone of secure communication in today's digital landscape. The lecture highlighted critical applications in cybersecurity, data integrity, privacy protection, and emerging post-quantum cryptography, emphasising the growing need for advanced encryption techniques as technology continues to evolve.

The talk also addressed the ethical and legal dimensions of cryptography, encouraging students to think critically about digital rights, privacy regulations, and the responsible use of encrypted technologies. Participants particularly appreciated the interdisciplinary nature of the subject, which integrates mathematics, computer science, and real-world technological applications.

Feedback from attendees reflected a high level of satisfaction, with many noting that the session was not only informative but also deeply inspiring. Several students expressed increased interest in pursuing research and careers in cybersecurity, data protection, and cryptographic engineering.

Overall, the event successfully achieved its objective of providing students with a strong conceptual foundation in cryptography while igniting curiosity and passion for one of the most vital pillars of the digital world.



# CONNECTED HORIZONS

IOT EMPOWERING INDUSTRY 4.0

A TRANSFORMATIVE TECH EXPERIENCE AT PRESIDENCY UNIVERSITY

Connected Horizons – IoT Empowering Industry 4.0



The Connected Horizons workshop, titled “IoT Empowering Industry 4.0”, was hosted by the club on 15 November 2025 in E Block Seminar Hall 3. The session began with Dr. Robin Rohit Vincent providing an insightful overview of Industry 4.0, helping participants appreciate how advanced technologies are reshaping modern manufacturing.

The morning session featured an expert talk by Aravindan Arunagirinathan, who demonstrated the transformative role of IoT in smart factories. Students engaged in hands-on activities, wiring sensors, exploring cloud dashboards, and building simple IoT prototypes for real-time monitoring and predictive maintenance.

In the afternoon, a panel discussion delved into emerging trends, cybersecurity challenges, and the critical role of AI in automation. The day concluded with a rapid-fire innovation challenge, where teams devised quick IoT-based solutions to real-world factory problems.




By the end of the workshop, participants had gained a holistic understanding of how IoT integrates machines, data, and automation, along with practical skills to develop, visualise, and analyse sensor-driven projects. The event seamlessly combined theory, hands-on learning, and creative problem-solving, equipping students to actively contribute to the evolving landscape of Industry 4.0.

# CYBERSECURITY & FORENSICS UNLOCKED

## BRIDGING ACADEMIA AND THE FINTECH INDUSTRY

The event **"Cybersecurity & Forensics Unlocked"**, held on **29 September 2025** at the **University Auditorium**, offered students an immersive experience into the rapidly evolving domains of **FinTech, Artificial Intelligence, Machine Learning, Blockchain, Big Data, and Cybersecurity**. Jointly designed by **Paytm, Zell**, and university faculty, the program delivered a unique blend of academic learning and industry-driven insights, equipping students to address real-world challenges in the digital economy.

The full-day session, led by **Mr. Amith Ashokan**, Director and Managing Partner at **Aysdev Global Consultancy LLP**, introduced participants to critical skills that are highly sought after by employers today. Through interactive discussions, live demonstrations, and problem-solving activities, students explored how leading organisations such as **Paytm** manage large-scale cybersecurity and operational challenges impacting millions of users.

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Presidency School of Computer Science and Engineering  
Presidency School of Information Science


NAACA  
PINT  
ZELL


Workshop


**Cybersecurity and Forensics**


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Chief Guest  
**Mr. Amith Ashokan**  
Director – Managing Partner  
@Aysdev Global Consultancy LLP



SCAN TO REGISTER  


 September 29, 2025

 9:00 AM

 Auditorium

CONVENER:  
Dr. Robin Rohit Vincent, Professor & HOD – PSCS

FACULTY COORDINATORS:  
Mr. Gyanesh Verma, Assistant Professor, PSCS  
Mr. Likhith S R, Assistant Professor, PSCS



A key highlight of the program was its emphasis on **industry-integrated learning**, seamlessly combining classroom instruction with **virtual internships, hackathons, and capstone projects**. Students gained hands-on exposure to tools and technologies widely used in real-world fintech environments. With focus areas spanning **AI/ML models, blockchain applications, cyber forensics, digital fraud detection, big data analytics, and secure financial systems**, the event underscored the interdisciplinary nature of modern fintech and cybersecurity roles.





Aligned with **Sustainable Development Goal (SDG) 4: Quality Education and SDG 8: Decent Work and Economic Growth**, the initiative aimed to enhance student employability through **guaranteed interview opportunities, direct mentorship from Paytm experts, and industry-evaluated project experiences**. Student feedback highlighted the program's effectiveness in bridging academic concepts with practical exposure, while offering clarity on emerging career paths and future-ready skill development.



The event concluded on a highly positive note, empowering students with industry-relevant knowledge, hands-on experience, and the confidence to pursue careers in **cybersecurity and fintech innovation**. Overall, **"Cybersecurity & Forensics Unlocked"** proved to be a transformative step toward making the curriculum more practical, industry-oriented, and aligned with the evolving demands of the digital world.



# DEFENDING THE DIGITAL FRONTIER – A CYBERSECURITY LEARNING VISIT

As part of Toyota Kirloskar Motors (TKM)'s Cyber Security Month initiative, the Presidency School of Computer Science and Engineering visited TKM, Bidadi, on **13th October 2025** for the session titled "Defending the Digital Frontier: Cybersecurity in an AI Era."

Led by **Dr. G. Shanmugarathinam**, along with **Dr. Pravith Raja** and **Dr. Selvaraj Poornima**, the visit offered students a comprehensive overview of key topics, including cybersecurity best practices, malware analysis, cloud security, and AI-driven defence mechanisms. Participants gained first-hand exposure to industry-grade security systems and strategies, linking theoretical knowledge with practical applications in the automotive sector.

The delegation expressed heartfelt gratitude to the TKM management for their guidance and support, which contributed to making this visit both insightful and impactful. The session reinforced the importance of cybersecurity in the AI era, inspiring students to explore emerging roles and technologies in digital defence.



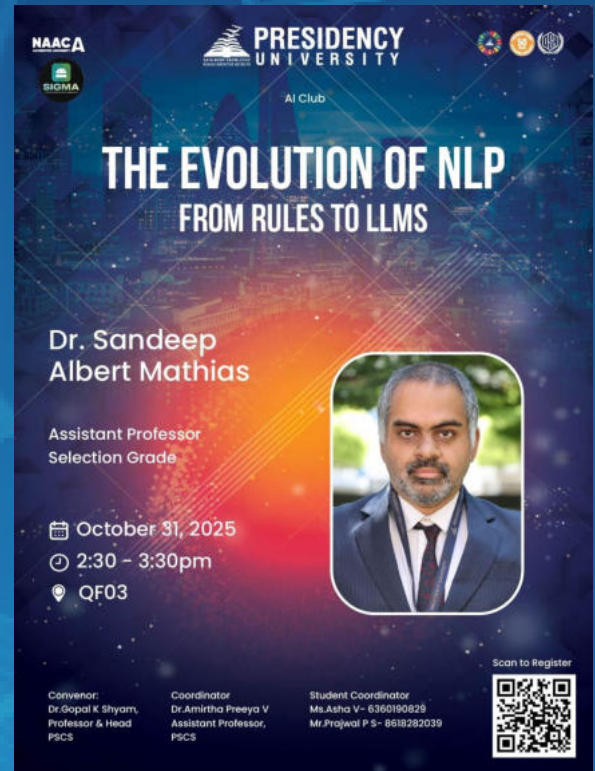
# THE EVOLUTION OF NLP

## FROM RULES TO LLMS

A SEMINAR ON THE FUTURE OF LANGUAGE TECHNOLOGIES

The **School of Computer Science and Engineering** organised an insightful seminar titled “**The Evolution of NLP – From Rules to LLMS**” on **31 October 2025 at QF03**. The event aimed to take students on a journey through the remarkable transformation of **Natural Language Processing (NLP)**—from early rule-based systems to today’s groundbreaking **Large Language Models (LLMs)** such as **GPT, BERT, and LLAMA**.

The session was delivered by **Dr. Sandeep Albert Mathias**, Assistant Professor (Selection Grade), a distinguished researcher known for his contributions to **deep learning, semantic analysis, and AI-driven language systems**. Dr. Mathias explained how NLP has evolved over the decades, beginning with symbolic approaches rooted in grammar rules and progressing through statistical models, neural networks, and advanced **transformer architectures**.



The seminar covered essential concepts, including **word embeddings, Recurrent Neural Networks (RNNs), Long Short-Term Memory (LSTM) networks, attention mechanisms, and generative AI workflows**. Participants were also introduced to real-world applications of NLP in **healthcare, education, conversational systems, text analytics, and intelligent automation**. A live demonstration of an **LLM-based tool** added a strong practical dimension, enabling students to better understand how modern AI models interpret and generate human language.



Interactive quizzes, discussions, and short demonstrations kept the session lively and engaging. Students gained valuable insights into **emerging research trends, ethical considerations surrounding LLMs, and career opportunities in AI and language technologies**.

Feedback from participants highlighted the seminar's clarity, relevance, and effectiveness in simplifying complex topics. Many students expressed interest in pursuing **NLP-based projects, research publications, and interdisciplinary collaborations** in the field of artificial intelligence.



The seminar aligned with **Sustainable Development Goal (SDG) 4: Quality Education and SDG 9: Industry, Innovation, and Infrastructure**, by equipping students with advanced knowledge and inspiring innovation in cutting-edge language technologies.

Overall, **“The Evolution of NLP – From Rules to LLMs”** proved to be a highly enriching event, sparking curiosity and strengthening students' readiness to explore the rapidly advancing field of artificial intelligence.



# FROM FRESHER TO PROFESSIONAL – ALUMNI TALK INSPIRES FUTURE IT LEADERS

A JOURNEY OF CONFIDENCE, COMPETENCE, AND CREDIBILITY

The **Department of Computer Science and Engineering (PSCS), Presidency University**, in association with the **Alumni Association**, successfully hosted an inspiring alumni talk titled **"From Fresher to Professional: Building Confidence, Competence, and Credibility"** on **15 November 2025** at **LIVL03**. The event aimed to empower students with real-world insights into the transition from campus life to the professional world.

The session was delivered by **Ms. Dhone Chetana Reddy**, Associate Software Developer at **Accenture** and a proud alumna of Presidency University. Through an engaging and heartfelt presentation, she shared her journey from a fresher to a confident and competent software developer, offering relatable experiences and practical lessons that resonated strongly with the audience.

Ms. Reddy emphasised key areas essential for career success, including **technical skill development, continuous learning, soft skills enhancement, professional credibility, and self-confidence**. Students gained valuable clarity on navigating early-career challenges, adapting to corporate expectations, managing time effectively, and maintaining a healthy work-life balance. Her insights into **teamwork, communication, and networking** provided practical guidance for long-term professional growth.



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**ALUMNI**  
ASSOCIATION  
OF PRESIDENCY UNIVERSITY

**ALUMNI TALK**  
**FROM FRESHER TO PROFESSIONAL:**  
**BUILDING CONFIDENCE, COMPETENCE,**  
**AND CREDIBILITY"**



**Ms. Dhone Chetana Reddy**  
Associate Software Developer  
Accenture, Bangalore



**NOVEMBER**  
**15**  
**2025**  
2:30 PM TO 04:00 PM  
OFFLINE  
LSL01

**Chief Convener**  
Dr. Duraipandian -Dean CSE  
Dr. Shakkeera L - Associate Dean

**Faculty Coordinators**  
Dr. Aarif Ahamed-Assistant Professor, PSCS  
Ms. Sunitha B.J - Assistant Professor, PSCS

**Convener**  
Dr. Asif Mohamed H.B  
Associate Professor & Head

**Student Coordinators**  
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Saturday, 15/11/2025 02:47 PM GMT +05





The interactive **Q&A session** added significant value, with students actively seeking advice on **career readiness, interview preparation, and skill enhancement**. Faculty members appreciated the initiative for strengthening alumni–student engagement and for presenting students with relatable industry role models.

Feedback revealed that **98% of participants** found the session highly informative, practical, and motivational, appreciating its real-world relevance and encouraging tone. The talk not only boosted students' confidence but also offered a clearer understanding of employer expectations from fresh graduates.

Overall, **"From Fresher to Professional"** proved to be a meaningful and impactful session, equipping students with actionable insights and inspiring them to take proactive steps toward professional excellence. The event reaffirmed the university's commitment to bridging academia with industry expectations and fostering holistic student development.



# IDEATHON – IGNITING INNOVATION AND CREATIVE THINKING



The Creator's Club hosted a dynamic "IDEATHON" on 29th October 2025, challenging students to think on their feet. Teams had just 30 minutes to brainstorm and present innovative solutions to real-world problem statements, testing their creativity, collaboration, and problem-solving skills under pressure.

The event concluded with the announcement of the winning teams, celebrated for their ingenuity and innovative approaches. Participants appreciated the high-energy, fast-paced format, noting how it effectively sharpened their teamwork, critical thinking, and presentation abilities.



# MINDWARE

## UPGRADING THE HUMAN OS

A TRANSFORMATIVE WORKSHOP ON PERSONAL GROWTH & PROFESSIONAL READINESS

The **Presidency School of Computer Science (PSCS)** conducted an inspiring and highly interactive workshop titled **"Mindware – Upgrading the Human OS"** on **29 October 2025** at **UB04**. With the participation of **over 51 enthusiastic students**, the event focused on enhancing **emotional intelligence, self-awareness, confidence, and workplace readiness**, key attributes essential for success in both academic and professional environments.

**PRESIDENCY UNIVERSITY**  
**MINDWARE**  
-UPGRADING THE HUMAN OS

**CONVENER**  
DR.ROBIN ROHIT VINCENT  
PROF & HOD - PSCS

**FACULTY COORDINATORS:**  
MR. LIKHITH S R, ASSISTANT PROFESSOR, PSCS  
MR. THATIMAKULA SAIKUMAR, ASSISTANT PROFESSOR, PSCS  
MS. RAJITHA REDDY, ASSISTANT PROFESSOR, PSCS

**STUDENT COORDINATORS:**  
PRIVANSHU CHOUDHARY (PRESIDENT)  
9910709418  
PRIYA B (SECRETARY)  
9611376635

**29, OCTOBER 2025**  
2.30-4.15 PM, QG02

**JOIN NOW**

**DR.R.SHOBHA**  
Professor and Chairperson  
DEPARTMENT OF SANSKRIT  
DIRECTOR, SCHOOL OF LANGUAGES  
AND LITERATURE,  
MAHARANI CLUSTER UNIVERSITY,  
BANGALORE  
UGC POST-DOCTORAL RESEARCH AWARDEE

The session was facilitated by **Dr. R. Shobha**, Professor and Chairperson, Department of Sanskrit, and Director, School of Languages and Literature, **Maharani Cluster University, Bengaluru**. A distinguished academician and **UGC Post-Doctoral Research Awardee**, Dr. Shobha brought a unique blend of traditional wisdom and contemporary personal development practices to the workshop.



The program emphasised the importance of cultivating a **positive mindset**, developing **effective communication skills**, understanding **professional etiquette**, and adapting to the dynamic expectations of modern industries. Engaging activities, thought-provoking games, and reflective discussions ensured active student participation throughout the session.

Dr. Shobha highlighted how upgrading one's **"human operating system"**—encompassing mindset, emotional balance, and interpersonal abilities—plays a crucial role in shaping professional identity. Students learned practical strategies to overcome self-doubt, enhance clarity of thought, and build resilience when facing personal and professional challenges.

The workshop concluded with an open **Q&A session**, during which participants sought guidance on career development, self-improvement, and communication skills. Feedback was overwhelmingly positive, with **over 90% of students** rating the session as excellent. Attendees appreciated the interactive format, real-life examples, and motivational insights that encouraged them to reflect on their strengths, areas for improvement, and future aspirations.

Overall, **"Mindware – Upgrading the Human OS"** proved to be a highly impactful initiative, motivating students to embrace continuous self-improvement and a growth mindset, while equipping them with essential life skills for personal excellence and professional success.



# INDUSTRY-INTEGRATED FINTECH SPECIALIZATION TRACK WITH PAYTM & ZELL

BRIDGING EDUCATION AND INDUSTRY FOR THE FUTURE OF DIGITAL FINANCE



Presidency University hosted an **impactful and forward-looking event** to introduce the **Industry-Integrated Fintech Specialization Track**, developed in collaboration with **Paytm, Zell**, and university faculty. The program is designed to equip students with cutting-edge skills essential for today's rapidly evolving digital economy, bridging the gap between academic learning and real-world problem-solving.

## SHAPING TOMORROW'S DIGITAL INNOVATORS

The specialization track offers students an in-depth understanding of the technologies driving financial systems used by millions of Paytm users daily. Participants worked on **real Paytm problem statements**, gaining hands-on experience in analysing challenges and exploring practical, industry-relevant solutions.

The curriculum integrates emerging technologies such as **Fintech, Artificial Intelligence (AI), Machine Learning (ML), Blockchain, Big Data, and Cybersecurity**. Learning is enhanced through a combination of **classroom instruction, virtual internships, hackathons, and industry-aligned capstone projects**, ensuring a practical and future-focused approach.

The **industry-Integrated Fintech Specialization Track** represents a transformative milestone for students aiming to enter technology-driven financial sectors. By combining theory with hands-on exposure, the initiative empowers participants with **technical expertise, analytical skills, and career readiness**. Students left the program with enhanced confidence, industry insights, and a forward-looking perspective on digital finance innovation.



# WORKSHOP ON LIFE SKILLS AND ENABLING STUDENT EMPLOYABILITY



*The Office of the Dean, Academics, and the Presidency School of CSE & Information Science, in collaboration with PALS, the Mahindra Pride Classroom initiative, and the Naandi Foundation, organised a six-day intensive workshop from November 3–8, 2025, aimed at enhancing students' life skills, communication abilities, and employability. The program combined academic guidance with industry-aligned training, offering a highly engaging and practical learning experience.*

*The sessions were facilitated by Ms. Pavithra, Life Skill Coach from the Naandi Foundation, who led students through interactive, activity-based learning. Fifty high-performing students were short-listed for this pilot batch, providing an exclusive opportunity to strengthen personal and professional competencies.*

*Over 40 hours of structured training, students explored three critical areas:*

- *Life Skills: Self-awareness, goal setting, grooming, communication, and time management.*
- *Career Preparation: Resume writing, interview techniques, mock interviews, and group discussions.*
- *Workplace Readiness: Problem-solving, critical thinking, ethics, and conflict management.*

*Participants reported notable improvements in communication confidence, interview preparedness, and clarity in career planning. The hands-on activities, real-time feedback, and practical examples helped students understand workplace expectations while developing essential behavioural and professional skills. Many expressed that the workshop encouraged meaningful self-reflection and offered clear guidance for future career goals.*

*The valedictory session concluded with the distribution of certificates and course materials, and two students were honoured with Best Student trophies for outstanding performance throughout the program.*

*The success of this Mahindra Pride Classroom workshop highlights Presidency University's commitment to delivering holistic, industry-relevant learning experiences. The positive response from the pilot batch lays a strong foundation for expanding similar transformative programs to support more students in the future.*









# ROBOTICS WORKSHOP

## Robotics Workshop – Bridging Theory with Hands-On Automation

The **Omega Coding Club**, in collaboration with **Drona Automations**, successfully organised a **Robotics Workshop on October 15, 2025**, providing students with an immersive introduction to the world of robotics. Industry experts guided participants through the **fundamentals of robotics**, offering hands-on experience with **sensors, microcontrollers, and embedded systems that power intelligent machines**.

The workshop fostered **interactive learning**, with live demonstrations allowing students to witness robotic mechanisms in action. Participants engaged in **lively discussions on automation trends, AI-driven robotics, and industrial applications**, gaining insight into the future of intelligent systems.

The practical approach and real-time demonstrations inspired many students to **explore robotics-based projects, hackathons, and research initiatives, fueling curiosity and creativity**. Faculty members appreciated the workshop for **strengthening industry-academia collaboration** and equipping learners with the essential skills needed for the rapidly evolving landscape of automation.

Overall, the **Robotics Workshop** provided a transformative learning experience, combining technical knowledge, hands-on practice, and innovation, preparing students to contribute confidently to the future of robotics and automation.

# WORKSHOP ON ADDITIVE MANUFACTURING & ELECTRIC VEHICLE BATTERIES



The Presidency School of Computer Science & Engineering, in collaboration with Wipro 3D, conducted a two-day industrial workshop on October 30–31, 2025, offering students an immersive experience in 3D printing and electric vehicle (EV) battery technologies.

Participants toured the Wipro 3D facility, observing state-of-the-art metal additive manufacturing processes and gaining hands-on exposure to advanced industrial machinery. The workshop also covered EV battery engineering, including material selection, design optimisation, and integration of additive manufacturing for enhanced performance and sustainability.

Students appreciated the practical insights, noting how the workshop bridged theoretical knowledge with real-world applications. The experience not only deepened their understanding of emerging manufacturing technologies but also inspired curiosity, innovation, and industry-ready skills for future careers in engineering and sustainable mobility.





# THE SWIFT BIRD IN ACTION

## END-TO-END IOS DEVELOPMENT AND NAVIGATION



The **Presidency School of Computer Science and Engineering** hosted an engaging workshop titled “The Swift Bird in Action: End-to-End iOS Development and Navigation” on **November 7, 2025**. The session provided students with **hands-on experience in iOS app development**, covering the full cycle from **design and coding to navigation and deployment**.

The workshop was highly interactive, encouraging participants to experiment creatively while strengthening their technical understanding. Attendees actively engaged in building applications, gaining practical insights into Apple’s iOS ecosystem, Swift programming, and intuitive user-interface design.



The day concluded with a vibrant closing ceremony presided over by **Dr. L. Shakkeera, Associate Dean – Academics, PSCS**. Students expressed their appreciation for the trainer’s **lucid explanations, enthusiastic delivery, and practical approach**, which made complex concepts easily understandable.

The event embodied the spirit of “Dream. Design. Do.”, inspiring students to **innovate, create, and shape the future of mobile technology**. It successfully bridged theoretical knowledge with hands-on application, equipping young developers with the confidence and skills to explore the ever-evolving world of iOS development.



# DEFY THE ODDS: WOMEN'S WAY FORWARD!!!

EMPOWER • EVOLVE • EXCEL – A TRANSFORMATIVE SEMINAR ON WOMEN EMPOWERMENT



The Presidency School of Computer Science & Engineering (PSCS) organised a powerful and thought-provoking seminar titled “Defy the Odds: Women’s Way Forward!!! – Empower • Evolve • Excel” on **5 November 2025** at **E-Block Seminar Hall-4**. The event brought together faculty members of the School of Computer Science and Engineering, with over **50 participants**, fostering meaningful dialogue on women empowerment, leadership, and gender inclusivity.

The seminar was delivered by **Dr. Shakkeera L, Professor and Associate Dean – Academics, PSCS**, a distinguished academician with more than **21 years of experience** in teaching, research, mentorship, and leadership. With over **90 research publications**, 10 patents, and notable contributions in **Mobile Cloud Computing, Machine Learning, IoT, Blockchain, and Cybersecurity**, Dr. Shakkeera is widely recognised for her role in advancing academic excellence and technological innovation. Her inspiring presence and dynamic delivery made the session both engaging and impactful.



The program commenced with an opening address by **Ms. Smitha S. P.**, followed by welcoming remarks from

**Dr. Blessed Prince P., Professor and Head of the Department, PSCS.** Dr. Shakkeera then delivered an insightful talk focusing on breaking gender **stereotypes, cultivating leadership qualities, emotional intelligence, professional excellence,** and the **importance of self-awareness and lifelong learning.** Drawing from real-life experiences and success stories, she shared practical strategies for overcoming challenges and encouraged women to embrace **resilience, confidence, and ambition** in their personal and professional pursuits.

Participants gained valuable insights into **work-life integration, mental well-being, decision-making, career progression,** and fostering inclusivity within **academic and professional environments.** The seminar strongly emphasised empowerment through **awareness, education, and self-belief,** motivating attendees to take ownership of their growth and aspirations.

The session concluded with a vote of thanks by **Dr. Serin V. Simpson,** who acknowledged the speaker's exceptional contribution and the enthusiastic participation of the attendees. Feedback from participants reflected overwhelming appreciation for the seminar's **relevance, motivational depth, and interactive delivery.**

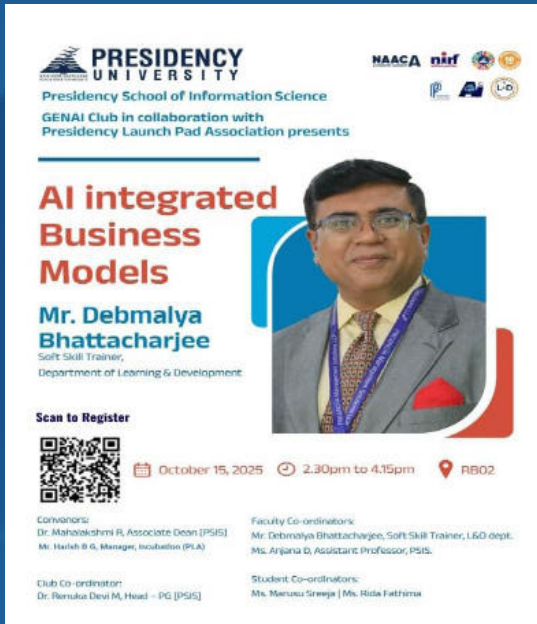
Overall, **"Defy the Odds: Women's Way Forward!!!"** served as a transformative platform that inspired women to **rise, lead, and excel,** marking a significant step toward strengthening empowerment, equality, and leadership within the PSCS community.





# WORKSHOP ON AI INTEGRATED MODELS

EMPOWERING STUDENTS THROUGH INDUSTRY-RELEVANT AI APPLICATIONS



**PRESIDENCY UNIVERSITY**  
Presidency School of Information Science  
GENAI Club in collaboration with  
Presidency Launch Pad Association presents

## AI integrated Business Models

**Mr. Debmalya Bhattacharjee**  
Soft Skill Trainer,  
Department of Learning & Development

Scan to Register

October 15, 2025 2.30pm to 4.15pm RB02

**Convenors:**  
Dr. Mahalakshmi R, Associate Dean (PSIS)  
Mr. Harish R G, Manager, Incubation (PLA)

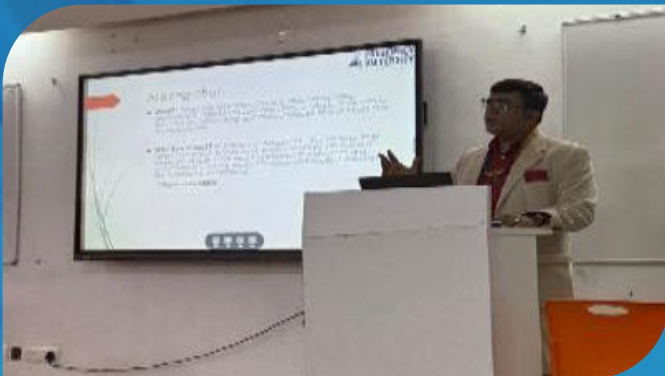
**Faculty Co-ordinators:**  
Mr. Debmalya Bhattacharjee, Soft Skill Trainer, L&D dept.  
Ms. Arjana G, Assistant Professor, PSIS.

**Club Co-ordinator:**  
Dr. Parulata Devi M, Head - PG (PSIS)

**Student Co-ordinators:**  
Ms. Manasa Srinaga | Ms. Rida Fathima

The **School of Information Science** organised an insightful workshop titled **“AI Integrated Models”** on **15 October 2025** at RB02. Designed for both undergraduate and postgraduate students, the session aimed to bridge theoretical AI concepts with their practical applications in modern industries. Conducted offline, the workshop effectively engaged learners by demonstrating how **Artificial Intelligence is transforming business models, entrepreneurship, and decision-making processes.**

The session was led by **Mr. Debmalya Bhattacharjee**, Soft Skill Trainer – Learning & Development, Presidency University. Renowned for his dynamic delivery and industry-oriented approach, Mr. Bhattacharjee offered a **clear and accessible** perspective on AI’s growing role in **automation, analytics, and intelligent systems.** His presentation helped students understand how **AI-driven tools** are applied to create scalable, efficient, and customer-centric business solutions.



Participants explored a variety of **real-world** use cases, **AI tools**, and enterprise frameworks, gaining insight into how industries leverage **AI to enhance productivity and innovation.** The workshop encouraged students to think critically and creatively about integrating AI technologies into **startups, products,** and service-based businesses. An interactive closing discussion provided an opportunity for participants to **share AI-based innovation ideas,** fostering entrepreneurial thinking and collaborative exploration.

Feedback from attendees highlighted the workshop’s **clarity, relevance, and engaging delivery.** Students appreciated the practical approach, noting that complex topics were made accessible through real-life examples and industry applications. The event was also praised for its **smooth organisation, conducive learning environment, and active involvement of faculty and student coordinators.**

Overall, the **“Workshop on AI Integrated Models”** proved to be an enriching and motivating experience, equipping students with **essential knowledge, practical insights, and confidence to explore AI-driven opportunities** in the evolving digital landscape.



# ALUMNI TECH TALK: BRIDGING ACADEMIA AND INDUSTRY



The poster features the Presidency University logo and the Alumni Association logo. It includes a portrait of the speaker, Mr. NeelRaj S G, and details about the event date, time, and location. The text on the poster reads: 'PRESIDENCY UNIVERSITY', 'ALUMNI ASSOCIATION', 'Tech-Talk', 'Bridging Academia and Industry: Insights into SDLC, Agile Tools, Cloud Technologies, and Emerging Software Roles', 'November 05, 2025', '1:30 PM to 3:15 PM', 'F-Block, Seminar Hall-1', 'NeelRaj S G', 'Software Engineer', 'LG Soft India', 'EVENT COORDINATORS: Ms. Impa B H - Asst. Prof, Dr. Afroz pasha - Asst. Prof - Senior Scale, Dr. Praveena N - Asst. Prof - Senior Scale', 'CONVENOR: Dr. Pallavi R, Professor & Head, PSCS', and 'www.presidencyuniversity.in'.

The School of Computer Science and Engineering, Presidency University, organized an inspiring Alumni Tech Talk titled “Bridging Academia and Industry: Insights into SDLC, Agile Tools, Cloud Technologies, and Emerging Software Roles” on 5th November 2025 at F-Block Seminar Hall-1. The session brought together students and faculty, offering valuable industry perspectives through the insights shared by distinguished alumnus **Mr. NeelRaj S. R., Software Engineer at LG Soft India.**

The event commenced with a warm welcome from the faculty, highlighting the importance of alumni engagement in strengthening real-world learning and industry exposure. Mr. NeelRaj began the session by demystifying the **Software Development Life Cycle (SDLC)**, drawing comparisons between traditional development models and today’s iterative, agile-driven environments. Students gained a clear understanding of how modern software development emphasizes flexibility, collaboration, and continuous improvement.

A major highlight of the session was an in-depth discussion on **Agile methodologies** and widely used project management tools such as **Jira, Trello, and Asana**. By illustrating how these tools enhance project tracking, collaboration, and team efficiency, the speaker effectively bridged the gap between classroom concepts and real-world industry practices.

The talk further explored rapid advancements in cloud technologies, including AWS, Azure DevOps, and Google Cloud. Key industry trends such as microservices, serverless computing, and containerization were explained with practical, real-world relevance. Students also received insights into emerging software roles shaping the technology landscape, including DevOps Engineer, Cloud Architect, Data Engineer, AI/ML Specialist, and Product Manager, along with the essential skills required to pursue these career paths.

Mr. NeelRaj also shared his personal journey from Presidency University to the corporate world, inspiring students to embrace continuous learning through hands-on projects, certifications, and internships. His practical guidance offered valuable direction for career readiness and long-term professional growth.



The session concluded with an interactive Q&A segment, during which students clarified their doubts related to cloud certifications, DevOps tools, skill development, and industry expectations. Faculty members actively participated as well, gaining insights to complement and enhance academic curriculum design.

With the participation of 63 students and 5 faculty members, the Alumni Tech Talk successfully connected academic learning with current industry demands. Students described the session as highly informative, relevant, and motivating, encouraging them to explore tools such as Git, Azure DevOps, and cloud platforms for future academic and project work.

Overall, the Alumni Tech Talk served as a dynamic bridge between theory and practice, empowering students to prepare confidently for evolving technological roles and the cloud-driven future of the IT industry.



# ALUMNI TECH TALK: INDUSTRY EXPECTATIONS IN THE CLOUD AGE



The School of Computer Science and Engineering, Presidency University, hosted an enriching Alumni Tech Talk titled “**Industry Expectations in the Cloud Age: Modern Tech with Azure DevOps and Beyond**” on **29th October 2025 at F-Block Seminar Hall-1**. The session featured distinguished alumnus **Mr. Sidharth Menon**, Senior Software Developer at Infosys, who brought over four years of industry experience and shared valuable insights into modern cloud-driven development practices.

The session commenced with a warm welcome from the faculty, highlighting the importance of alumni engagement in strengthening the bridge between academia and industry. Mr. Sidharth introduced students to the rapid evolution of **cloud computing**, explaining how platforms such as Microsoft Azure, AWS, and Google Cloud have transformed the software ecosystem through scalable infrastructure, automation, and efficient deployment.

A key segment of the talk focused on **Azure DevOps**, where the speaker elaborated on **Continuous Integration (CI)**, **Continuous Deployment (CD)**, version control, and automated workflows that streamline real-world software development. Students gained practical insights into DevOps pipelines and industry-standard tools that enable effective collaboration and faster delivery cycles. He also discussed modern development frameworks such as **ReactJS**, **AngularJS**, **NodeJS**, and **Java Spring Boot**, demonstrating how they integrate with cloud technologies to build scalable and robust applications.

Mr. Sidharth’s personal journey—from Presidency University to leading innovative projects such as **Tech-in-Sight**, **xVerse**, and **cliMB** at Infosys—served as a source of inspiration for aspiring engineers. He emphasized the importance of continuous learning, hands-on project experience, effective communication skills, and professional certifications such as **AZ-900**, **AZ-204**, and **AZ-400**. Students were encouraged to explore open-source contributions, internships, and structured cloud training programs to enhance their employability.

The interactive Q&A session enabled participants to clarify queries related to cloud careers, DevOps practices, and evolving industry expectations. Faculty members also gained valuable perspectives that could support curriculum enhancement aligned with current technological trends.





With the participation of **63 students and 5 faculty members**, the session proved to be highly engaging and impactful. Students expressed that the talk provided practical clarity on cloud and DevOps workflows while motivating them to pursue advanced skills in **Azure DevOps, GitHub, and automation technologies**.

Overall, the Alumni Tech Talk successfully bridged theoretical learning with real-world practices, empowering students to prepare confidently for the cloud-driven future of software engineering.



# INVESTING 101: A STUDENT'S GUIDE TO THE MARKET



The School of Computer Science and Engineering, in collaboration with **IIT Bombay E-Cell and the Informatics Club**, organized an insightful session titled **"Investing 101: A Student's Guide to the Market"** on **30 September 2025** at Presidency University. The session was conducted by **Mr. Milan Bavishi, Director of Content at Upstox**, who captivated students with practical, engaging, and easy-to-understand explanations of stock market fundamentals.

**Mr. Bavishi** introduced participants to essential concepts such as **market trends, uptrends and downtrends, and bullish and bearish divergences**. Through real-world examples, he illustrated how investors interpret market signals to make informed decisions. Students displayed great enthusiasm, actively engaging throughout the session and demonstrating a keen interest in financial literacy.

A major highlight of the event was the lively and interactive **Q&A session**, during which students clarified their doubts and discussed investment strategies directly with the expert. This interaction helped demystify complex market behaviours, making investing more approachable and relevant to young learners.

The event strongly reflected the goals of **Sustainable Development Goal (SDG) 4: Quality Education** and **SDG 8: Decent Work and Economic Growth**, as it empowered students with essential financial knowledge to support their future careers, entrepreneurial pursuits, and personal financial planning.

Organized under the leadership of **Dr. Pallavi R. (Convenor)**, along with faculty coordinators **Dr. S. Poornima** and **Ms. Shet Reshma Prakash**, and student coordinator **Sabari G. V.**, the session successfully achieved its objectives. Students left the event with increased confidence, a deeper understanding of stock market mechanisms, and renewed motivation to further explore the world of investing.

Overall, **"Investing 101"** proved to be an enriching and impactful experience, equipping students with the foundational tools required to navigate the financial world with knowledge and curiosity.





# IDEATHON

## IGNITING INNOVATION AND CREATIVE PROBLEM-SOLVING

A HIGH-ENERGY WORKSHOP BY THE CREOVATORS CLUB



The Creovators Club of the School of Computer Science and Engineering successfully organized an exciting and fast-paced innovation workshop titled “IDEATHON” on **29 October 2025** at **UG04**. Designed to spark creativity, teamwork, and analytical thinking, the event brought together **29 enthusiastic students** eager to transform ideas into impactful solutions.

This dynamic workshop challenged teams to think quickly and collaboratively. Each group, comprising five students, was assigned a real-world problem statement and given 30 minutes to brainstorm, develop, and refine a feasible solution. Following this intensive ideation phase, teams presented their concepts through a **five-minute PowerPoint pitch**, showcasing innovation, practicality, and a structured problem-solving approach.

Participants were evaluated using a well-defined rubric based on **innovation, feasibility, presentation clarity, teamwork**, and overall impact. The competitive energy resulted in several outstanding presentations. The spotlight winners were:

- **1st Place – Team Vocal Bloom**
- **2nd Place – Team First Place**
- **3rd Place – Team Code Catalyst**

The winning teams were awarded cash prizes in recognition of their exceptional performance.

The IDEATHON enabled students to develop essential skills such as **structured brainstorming, rapid decision-making, effective communication**, and **solution-oriented thinking**. It also provided a platform for cross-disciplinary interaction, encouraging participants to exchange ideas and learn collaboratively. Many students noted that the time-bound format pushed them to think beyond conventional boundaries and deliver concise, impactful solutions.



Feedback for the event was overwhelmingly positive, with over 90% of participants appreciating the organization, clarity of instructions, and challenge-driven environment. Students expressed that the workshop boosted their confidence, strengthened teamwork, and enhanced their creativity and presentation skills.

Overall, **"IDEATHON"** proved to be an inspiring and impactful workshop that nurtured innovation, collaboration, and leadership, empowering students to become agile thinkers and future-ready problem solvers.





# ROBOTICS WORKSHOP

BRIDGING ENGINEERING CONCEPTS WITH REAL-WORLD AUTOMATION



PRESIDENCY UNIVERSITY

Presidency School of Computer Science and Engineering  
Omega Coding Club in association with  
Techfest, IIT Bombay and Drona Automations



NAACA

**Techfest**  
IIT Bombay



**Mr. Suraj Wodeyar,**  
Founder and CEO of Drona Automations



**Mr. Manthan Rasal**  
Control Systems Engineer at Drona Automations

The Omega Coding Club of the Presidency School of Computer Science and Engineering organized an engaging and **hands-on Robotics Workshop** on **15 October 2025** at the **University Auditorium**.

Conducted in collaboration with **Techfest, IIT Bombay, and Drona Automations**, the workshop brought together undergraduate students from various programs for a technically enriching and highly interactive learning experience.

The event commenced with a warm welcome address by **Dr. Blessed Prince**, Professor and Head of the Department, followed by the faculty coordinators **Ms. A. Rohini** and **Dr. Serin V. Simpson**. The session was led by industry experts **Mr. Suraj Wodeyar**, Founder and CEO of **Drona Automations**, and **Mr. Manthan Rasal**, Control Systems Engineer. Their expert insights, live demonstrations, and interactive teaching approach kept the audience engaged throughout the three-hour workshop.

The workshop introduced students to the fundamentals of robotics, including sensors, actuators, microcontrollers, embedded systems, and hardware-software integration. Participants gained an understanding of how robotic systems function through control systems, real-time communication, and automation processes.

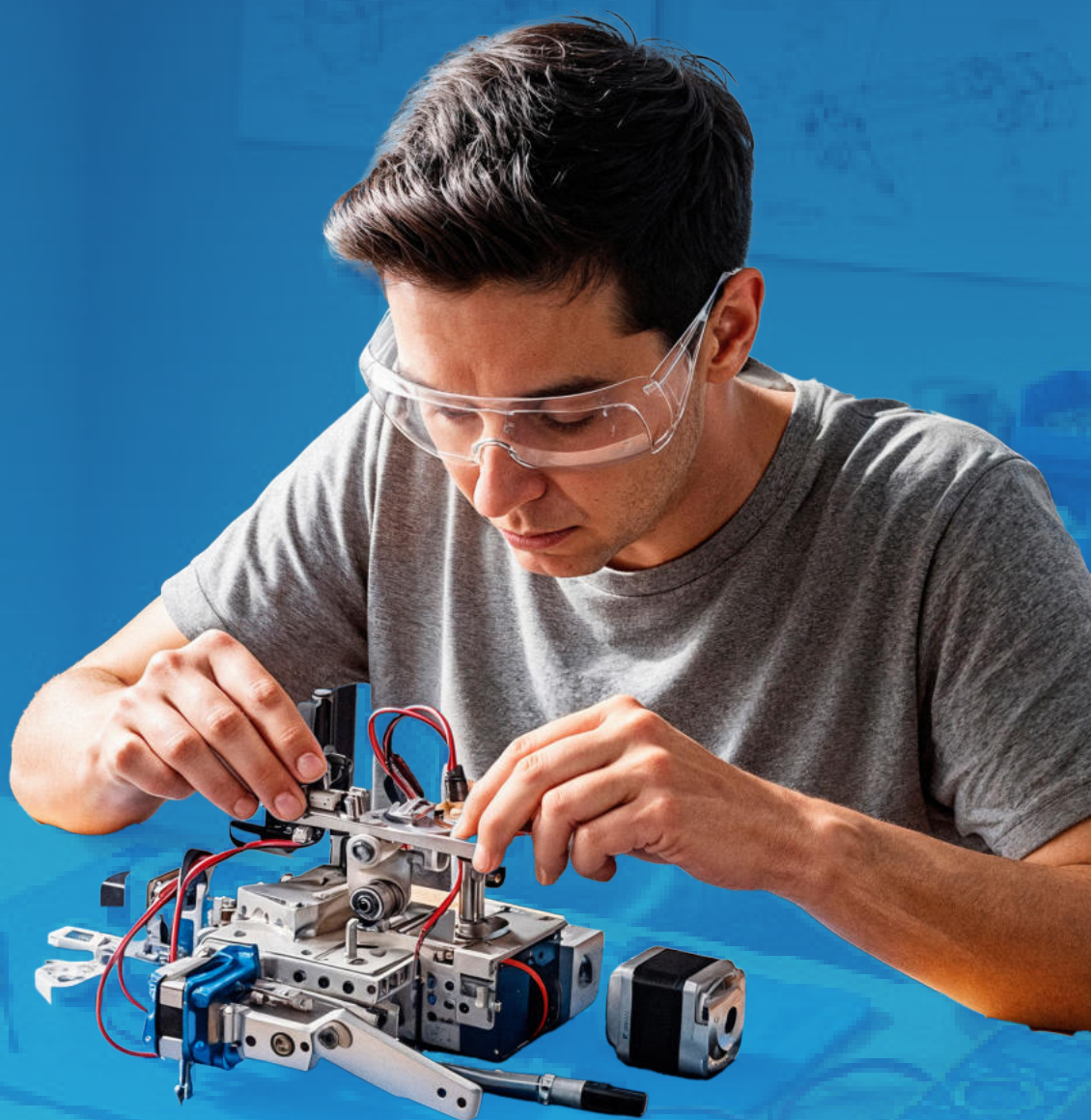
Live demonstrations provided a practical perspective, enabling students to connect theoretical concepts with real-world robotic applications.

Students actively participated in discussions on modern automation trends, AI-driven robotics, and industrial use cases, gaining valuable insights into the future scope of robotics across diverse industries. The session concluded with an interactive Q&A segment, during which students engaged directly with the experts to explore project ideas, career opportunities, and emerging technologies in intelligent automation.

The workshop received overwhelmingly positive feedback, with students appreciating the practical orientation and real-time demonstrations. Many participants expressed keen interest in pursuing robotics-based projects, hackathons, and research initiatives. Faculty members also acknowledged the event's success in strengthening industry-academia collaboration and enhancing students' readiness for automation-driven careers.



Overall, the **Robotics Workshop** proved to be a **transformative learning experience, strengthening students' technical competence and inspiring innovation** in the fields of robotics and automation. The event effectively aligned with **SDG 4 (Quality Education)**, **SDG 8 (Decent Work and Economic Growth)**, and **SDG 9 (Industry, Innovation, and Infrastructure)** by promoting **experiential learning, employability, and interdisciplinary innovation**.





## WHEN CAMERAS THINK: INSIDE THE DEEP LEARNING REVOLUTION IN VISUAL RECOGNITION



### RISHABH SINGH

Imagine walking through a city where the world is constantly being interpreted not just by humans, but by intelligent machines as well. Cameras no longer simply record; they see, understand, and even anticipate. From detecting sudden traffic jams to identifying subtle changes in medical scans, deep-learning-powered visual recognition is quietly transforming how machines perceive reality. At the heart of this revolution lies the deep neural network — algorithms inspired by the human brain that learn to identify patterns, textures, and objects from massive datasets. Unlike traditional methods, modern Convolutional Neural Networks (CNNs) and Vision Transformers (ViTs) learn directly from raw pixels, often achieving accuracy that rivals and sometimes surpasses human performance. But this intelligence is not confined to research labs or powerful cloud systems. Advances in model compression, pruning, and edge deployment are bringing capable vision systems to compact devices: drones navigating crowded streets, cameras ensuring public safety, and smartwatches analysing real-time health data. Deep learning in computer vision creates a bridge between abstract computation and the tangible world, enabling machines to make informed decisions almost as quickly as humans perceive them. How Do Machines “See”? Understanding the Magic

At a basic level, a camera captures light and converts it into a grid of pixel values. Deep learning goes further by automatically extracting hierarchical features: Early CNN layers detect edges and textures, Middle layers capture shapes and patterns, Higher layers identify objects or even complex scenes. Vision Transformers, however, interpret images as sequences of patches, capturing global relationships across the entire visual field often outperforming CNNs in tasks requiring contextual understanding. This is what allows Google Lens to identify plants, translate text, and describe artwork in real time, or enables Tesla's Autopilot to interpret road environments. With such capabilities, simple cameras evolve into intelligent perception systems interpreting the world like humans, only faster.

#### Edge Intelligence: **Bringing Vision to the Real World**

Traditionally, AI models were too large and computationally heavy for local devices. Data had to be sent to cloud servers, creating latency and dependency on internet connectivity. But edge computing running models directly on small, low-power devices is a game changer.

**For example:**

NVIDIA Jetson Nano lets engineers deploy real-time object detection models on a device the size of a credit card.

A drone equipped with such a system can detect obstacles mid-flight.  
Raspberry Pi-based smart cameras can monitor traffic flow autonomously.

This fusion of vision, computation, and connectivity is transforming machines into perceptive agents that act autonomously and responsibly, interpreting the world frame by frame.

**Applications That Inspire**

The real impact of visual intelligence is seen in real-world applications:

**Smart Cities:** Places like Singapore and Taipei use AI cameras to analyze traffic, detect accidents, and monitor crowd density during events.

**Healthcare:** Systems like Google DeepMind for retinal scans detect anomalies such as diabetic retinopathy or early-stage cancer with incredible precision.

**Robotics & Automation:** Vision-driven robots use models like YOLO and Mask R-CNN for quality inspection, ensuring defect-free manufacturing lines.

Across all these examples, IoT devices and robots act as extensions of vision AI but the core intelligence comes from deep learning models interpreting visual data.

**Challenges and the Human Touch**

Despite its progress, visual AI is not infallible. Machines can misinterpret ambiguous scenes, struggle in low-light conditions, or produce biased results if trained on unrepresentative data.

This is where human insight remains irreplaceable. AI is not about replacing humans; it is about augmenting human decision-making.

The horizon of computer vision is expanding rapidly:  
self-supervised learning, multimodal models that fuse vision with text, audio, and video, and systems capable of interpreting intent, context, and emotion in dynamic settings.

**An Invitation to Innovators**

For students and innovators, this is a call to dream, design, and do. Your ideas will shape how visual AI interacts with the world from safer streets and smarter hospitals to perceptive robots and sustainable environments.

Cameras that can think are no longer science fiction; they are already here. And the next breakthrough will come from minds bold enough to imagine a world where machines see as we dream.

**RISHABH SINGH**

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**School of Computer Science and Engineering.**



**WHEN AI FAILS:  
THE HIDDEN HUMAN INSIGHT THAT SAVES THE SYSTEM**



## **TEJASHWINI R**

A concise exploration of the critical moments where artificial intelligence collapses and human reasoning become the decisive force.

Artificial intelligence operates with extraordinary speed and precision, but its performance deteriorates the instant reality moves beyond the patterns it has learned. When AI encounters incomplete data, rare anomalies, ethical ambiguity, or adversarial manipulation, its predictions become unstable and its confidence unreliable. Evidence from high-stakes domains consistently highlights these vulnerabilities: autonomous vehicles misinterpret edge cases, facial recognition systems exhibit demographic biases, medical diagnostic models fail on unseen patient populations, and large language models generate fluent yet incorrect responses when confronted with uncertainty. These are not mere technical glitches they reflect the fundamental structural limitations of pattern-driven intelligence. In these moments, human judgment becomes the essential safeguard that prevents isolated algorithmic failures from escalating into systemic risks. Experts intervene not with faster computation, but with contextual reasoning, ethical evaluation, creativity, and intuitive sensemaking—capabilities that no neural network can replicate. Research on mixed-initiative systems shows that AI reaches peak reliability only when paired with human oversight capable of detecting inconsistencies, understanding intent, and applying real-world constraints that lie outside a model's statistical boundaries.

As AI systems are increasingly embedded in critical sectors such as healthcare, finance, transportation, and governance, the future of safety and trustworthiness depends not on fully autonomous intelligence, but on a stable human-AI partnership. AI can process information at scale, but only humans can interpret meaning. AI can optimize outcomes, but only humans can decide which outcomes are acceptable. Ultimately, the moments where AI fails are precisely the moments that illuminate the irreplaceable value of human insight.



## INTELLIGENCE UNPLUGGED:

BEYOND THE ALGORITHM – HUMAN INSIGHT  
POWERING THE NEXT WAVE OF AI AND AUTOMATION

*“The future of AI is not about replacing humans, but about collaboration.”*

In today’s digital era, Artificial Intelligence (AI) has become a transformative force shaping our everyday lives. From personalized recommendations on our phones to automated systems powering industries, AI is everywhere. Machines are learning, adapting, and performing tasks that once required human effort. But as we move deeper into this age of automation, an important question arises:

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*Can machines truly think like humans?*

The phrase **“Intelligence Unplugged”** reminds us that true intelligence cannot be measured by speed, accuracy, or data-processing power alone. Real intelligence lies in understanding emotions, making ethical choices, and creating with purpose qualities unique to human beings. Algorithms may detect patterns, but they cannot feel compassion or comprehend the richness of human experience. This is why human insight remains essential to AI’s growth and direction.

“Beyond the Algorithm” means seeing past the technical mechanics of artificial intelligence. It reminds us that behind every algorithm stands a human mind someone who designed it, trained it, and shaped how it behaves. AI may help us make decisions faster, but it is humans who determine what is right, fair, and meaningful. Without human wisdom, even the most advanced system risks losing its purpose.

As automation expands, the collaboration between humans and machines becomes more critical than ever. The goal is not to replace people with robots, but to build a partnership where technology amplifies human creativity. When machines take over repetitive or complex tasks, humans are free to focus on imagination, innovation, and empathy abilities no machine can truly replicate.

Consider this: an AI system can detect diseases from medical scans with remarkable accuracy, but it takes a doctor’s compassion to comfort a patient. A chatbot can provide instant answers, but it cannot understand the emotion behind someone’s words. These examples remind us that AI can assist, but the heart of every meaningful solution still belongs to human understanding.

The next wave of AI and automation must aim not only for smarter machines, but also for wiser humans. As engineers and learners, we must guide technology with responsibility, ethics, and compassion. The true purpose of innovation is not just to make life easier but to make it more meaningful.

In the end, AI may serve as the brain that powers the future, but humans will always remain the heart that gives it purpose. Intelligence is not only about thinking; it is about feeling, understanding, and using knowledge to make the world better. That is the real power of human insight beyond the algorithm.





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## UNPLUGGED INTELLIGENCE IN HEALTHCARE: *HUMAN INSIGHT POWERING THE NEXT MEDICAL REVOLUTION*

Artificial Intelligence (AI) has transformed healthcare over the past decade by detecting cancers, predicting patient risks, and supporting diagnosis with remarkable speed. Yet even as machines grow more powerful, one truth remains clear: the future of healthcare is not about replacing human intelligence but enhancing it. AI can process vast amounts of information, but it lacks the emotional, ethical, and contextual understanding that medicine requires. While AI systems can analyze millions of medical records or scans in seconds, they often struggle when applied to diverse populations. A model trained on Western datasets may underperform on Indian patients due to genetic, cultural, and environmental differences. Medicine is not only data-driven, it is a deep human practice shaped by empathy and lived experience. As Dr. Fei-Fei Li of Stanford notes, “AI can recognize a tumor, but it can’t yet understand what that diagnosis means to a person’s life.” Doctors see the person behind the symptoms, a dimension beyond the reach of algorithms.

This is why the next generation of technology focuses on augmented intelligence, where AI works alongside clinicians instead of replacing them. Modern systems such as IBM Watson Health and Google Med-PaLM explain their reasoning and allow doctors to refine recommendations. In this collaboration, the precision of AI meets the wisdom of medical expertise, ensuring that humans remain responsible for final decisions. In real hospitals today, AI highlights anomalies in radiology images while radiologists manage complex interpretations. Predictive models estimate readmission risks, while clinicians develop preventive care plans.

Robotic surgery enhances precision, but surgical judgment stays firmly human. Ethics plays an equally vital role. True healthcare intelligence extends beyond diagnosis to compassion and fairness. Hospitals are now guided by AI ethics committees that address issues such as bias, informed consent, and data privacy, ensuring that technology benefits patients responsibly. The future belongs to human-in-the-loop medicine, where systems continuously learn from people: doctors correcting AI-generated errors, nurses adding contextual details, and patients helping shape more empathetic health chatbots. This emerging era, often called Clinical Intelligence 2.0, blends algorithmic efficiency with human insight. India has a unique opportunity to lead this movement. With its diverse population and national initiatives like the Ayushman Bharat Digital Mission, India provides a rich foundation for building inclusive, culturally aware healthcare AI.

Such systems will learn not just from patterns, but from people across different regions, lifestyles, and medical histories. Ultimately, the heart of healthcare remains human. At the intersection of biology and computation, machines can calculate, but only people can care. The next medical revolution will be driven not by faster processors but by our ability to embed empathy, ethics, and human understanding into every layer of technology. True intelligence when unplugged from the machine is not artificial. It is profoundly human.

# UNDERSTANDING ZERO TRUST ARCHITECTURE: THE FUTURE OF NETWORK SECURITY

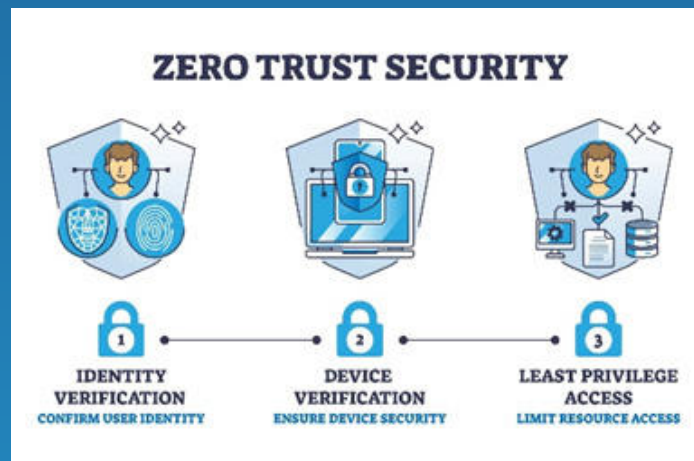


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In today's rapidly expanding digital world, cyberattacks are evolving faster than ever. From ransomware to identity theft, cyber threats have become an inevitable part of the modern technological landscape. Traditional security models are no longer sufficient to protect sensitive data, leading to the rise of Zero Trust Architecture (ZTA)—a modern cybersecurity framework built on the principle: “Never trust, always verify.” This article explores how Zero Trust is transforming the future of cybersecurity.

## Why Zero Trust? A Need Born from Modern Threats

Imagine locking your front door but leaving all the windows wide open—that is how traditional security systems operate in today's world of sophisticated cyberattacks. The old perimeter-based “castle and moat” model assumes that anyone inside the network is trustworthy. Unfortunately, attackers have learned to exploit this assumption. Zero Trust Architecture, however, eliminates this blind trust. It requires every user, device, and application—whether inside or outside the network—to continuously verify their identity before accessing resources.

## What Is Zero Trust Architecture?

Zero Trust Architecture is a security framework built on the idea that no user or device is trusted automatically. Every access request must be authenticated, authorized, and encrypted. For instance, imagine an employee who has already logged into their workstation. Under Zero Trust, they may still need to enter an OTP or additional authentication to access sensitive files—just like requiring a separate key to open a locked room inside a secure building.



## How Is Zero Trust Different from Traditional Security?

Traditional models rely heavily on firewalls and network boundaries. Once inside, users often have broad access. Zero Trust, in contrast, ensures that every access attempt is verified continuously—regardless of location. As a result, it provides:

- Enhanced protection against advanced threats such as ransomware, phishing, botnets, and insider attacks.
- Stronger data security through ongoing authentication.
- Better compatibility with cloud-based environments.
- Improved monitoring and visibility of user and device activity.

## Key Principles of Zero Trust Architecture

- Least Privilege Access: Users receive only the permissions necessary for their job tasks.
- Continuous Authentication: Identities are verified repeatedly, not just once.
- Micro-Segmentation: Networks are divided into smaller, secure segments to prevent lateral movement by attackers.
- Device Monitoring: All devices must maintain security compliance before accessing any resource.

## Why Zero Trust Outperforms Traditional Models

- Reduced data breaches: Ongoing verification helps limit exploitation by attackers.
- Better regulatory compliance: Easier to meet modern security standards.
- Supports remote work and cloud computing: Location becomes irrelevant when every user must authenticate.

## Why Zero Trust Outperforms Traditional Models

- Reduced data breaches: Ongoing verification helps limit exploitation by attackers.
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## Conclusion

Zero Trust Architecture is not just a security framework it is a mindset for the digital age. With continuous monitoring and strict verification, organizations can defend against evolving cyber threats and ensure strong protection of sensitive data.

In an era where cyberattacks are increasingly sophisticated, trust alone is no longer enough. Verification is essential.

Zero Trust is the future of cybersecurity, and the future is already here.

## THE SOUL IN THE MACHINE: RECLAIMING INTELLIGENCE BEYOND THE CODE



**MOUNA M**  
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We live in a world powered by algorithms. From the recommendations we receive online to automated decisions shaping industries, Artificial Intelligence (AI) has become a silent architect of modern efficiency. Yet as machines grow more capable, an important question emerges: Are we confusing sophisticated computation with true intelligence?

The reality is that the most profound aspects of intelligence—the ones that make us innately human—remain firmly unplugged from the digital grid. This is not a critique of AI, but rather a celebration of the unpredictable, intuitive, and deeply soulful spark that no machine can replicate.

### The Flaw in Perfect Logic

Modern AI, built on deep learning and enormous datasets, excels at recognizing patterns and optimizing outcomes. It is like a super-intelligent accountant exceptional at calculations, yet still reliant on a human CEO to decide what truly matters and why.

AI's brilliance is also its limitation:

#### **1. The Problem of Common Sense**

An AI may label an image of a cat correctly, but it does not understand that the cat is soft, might scratch, or should not be microwaved. Lacking lived experience, it cannot grasp the commonsense knowledge we take for granted.

#### **2. A Mirror of Human Imperfections**

AI reflects the data it learns from, including our biases. If historical hiring data discriminates, the algorithm learns to amplify that discrimination. The flaw is not in the machine, but in the mirror; it holds up to us.

#### **3. The "Why" vs. the "What"**

AI produces accurate diagnoses, predictions, and solutions. But when asked why, it often cannot offer transparency or reasoning that satisfies moral and scientific expectations. It outputs results, not understanding.



## The Untouchable Human Core

### **What is intelligence when it is truly unplugged?**

It is emotion, ethics, imagination, intuition, and lived experience. It is the uniquely human capacity to dream, empathize, and create meaning where none previously existed.

The Alchemy of Creativity

AI can generate art, poetry, and stories but its creations are statistical blends, patterned from existing data. Human creativity is fundamentally different:

It is the sudden spark of intuition.

The willingness to break rules.

The leap into the unknown without precedent.

It is the baffling, beautiful idea that defies logic and transforms the world.

The Compass of Conscience

The most irreplaceable human quality is moral judgment.

A soldier's instinctive decision, a parent's sacrifice, a judge's ruling these are guided by empathy, experience, and ethical weight. AI can be programmed to follow rules, but it cannot feel. It has no history of love, sorrow, fear, or joy from which moral wisdom emerges.

### **Where humans make decisions with conscience, AI makes decisions with computation.**

The Power to Transform

Humans possess neuroplasticity the ability to adapt instantly. One conversation, one moment, one insight can change the course of a life. AI must be retrained, redesigned, or rebuilt to adapt.

We are fluid; algorithms are rigid.

Beyond Competition: **A New Human Renaissance**

The goal is not to compete with machines, but to collaborate with them.

AI can handle the data, automate the routine, and optimize the complex freeing humans to become even more human.

The Future Belongs to the Unplugged

The Empath: **Nurses, teachers, counsellors where emotional insight is irreplaceable.**

The Visionary: **Leaders and artists who imagine worlds beyond pattern and prediction.**

The Ethical Guardian: Judges, policymakers, and thinkers who apply a moral lens to technological power.

AI is the tool. Humans are the meaning-makers.

In the end, the soul in the machine will never be the machine itself, but the human who decides how it is used.

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# INTELLIGENCE UNPLUGGED: BEYOND THE ALGORITHM

## *HUMAN INSIGHT POWERING THE NEXT WAVE OF AI AND AUTOMATION*



**Mohammed  
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In every conversation about Artificial Intelligence, we often focus on algorithms, data, and automation. Yet behind every intelligent system lies something no machine can replicate: the depth of human insight. "Intelligence Unplugged" reminds us that true innovation begins where human understanding meets technological precision. Today, AI can predict, analyze, and optimize countless tasks. It can compose music, write code, and even simulate emotion. But it does not feel rhythm, understand the meaning behind words, or truly grasp the emotions it imitates. The gap between information and understanding is exactly where human intelligence remains unmatched. Automation is powerful, but it is empathy, ethics, and imagination that give technology purpose. A self-driving car can detect obstacles, but only humans can interpret the moral choices required in a crisis. A chatbot can respond with comforting words, but only people can offer genuine compassion. No algorithm can yet comprehend the weight of human emotion or the complexity of moral judgment.

As engineering students, we learn to build systems that think efficiently. But the next generation of innovation requires systems that also understand responsibly. The future belongs not to those who compete with machines, but to those who collaborate with them, blending computational precision with emotional intelligence. The true "unplugged" intelligence is creativity: the spontaneous spark that follows no rules or datasets. It is the moment a simple idea becomes a breakthrough, when a line of code transforms into a bridge between people and possibility. AI can simulate intelligence, but only humans can infuse it with meaning. As we design the technologies of tomorrow, we must remember that we are not just training machines to think; we are teaching ourselves to think beyond them. The most powerful algorithm is still the human mind, fueled by curiosity, empathy, and imagination. In the race toward automation, may we never lose the essence that makes us creators: our humanity. Because the future of AI is not only about smarter machines; it is about wiser humans.

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## THE NUANCE ENGINE: WHY HUMAN INSIGHT IS THE CRITICAL INFRASTRUCTURE OF THE AI AGE



**Sai Tharun M**  
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For more than a decade, the dominant narrative around Artificial Intelligence has centred on replacement. We have seen headlines about algorithms mastering chess, bots writing poetry, and software diagnosing diseases better than seasoned doctors. This has fuelled a familiar fear that human intelligence is becoming obsolete, a legacy system awaiting retirement. But as AI moves out of the hype cycle and into real-world integration, a different truth is emerging. The next wave of automation is not defined by how independently machines can operate, but by how effectively they integrate with human judgment. The reality is simple: algorithms are extraordinary engines of prediction, but remarkably poor engines of truth. The future of intelligence is not in building smarter machines alone it is in grounding computational brilliance within the rich, messy, deeply contextual fabric of human experience.

### The Limits of Prediction

To understand why human insight remains indispensable, we must grasp what AI does. Modern AI particularly Large Language Models and machine learning algorithms is fundamentally statistical. It predicts the next word, the next pixel, the next trend, all based on patterns extracted from historical data.

It is, in essence, a beautifully engineered rear-view mirror.

Yet the world is not a simple extension of the past. It is filled with black-swan events, emotional nuance, social complexity, and ethical dilemmas—areas where even the most powerful models struggle. An algorithm can sift through millions of customer service logs to produce the “optimal” reply, but it cannot sense the frustration in a voice or understand that sometimes empathy matters more than efficiency.

### This is the Context Gap:

AI excels at generating content, but falters at interpreting context.

Human insight is what bridges that gap.

Human-in-the-Loop: A Permanent Feature, not a Temporary Fix

In high-stakes domains healthcare, law, aviation, finance the concept of “Human-in-the-Loop” (HITL) was once viewed as a stepping-stone until AI matured. Today, we understand it is a permanent requirement.

Take medicine. An AI may detect anomalies in an X-ray with astonishing accuracy, but it is the doctor who understands the patient's history, fears, lifestyle, and long-term goals. The AI provides probabilities; the human provides meaning.

We are shifting from an Operator Economy where humans do the labour to a Curator Economy where AI produces options and humans choose the one aligned with ethics, aesthetics, and social value. The ability to interpret, curate, and question AI-generated outcomes is becoming one of the most important skills of the decade.

#### Ethics: The Variable That Cannot Be Encoded

Algorithms are inherently amoral. They optimize for the metrics we design. If we ask an algorithm to maximize social media engagement, it may discover that outrage, polarization, and sensationalism optimize the score. It is not malicious, it is simply obedient.

Human insight serves as the ethical governor.

This is why responsible AI teams today include sociologists, ethicists, psychologists, designers, and artists not just engineers. Their role is to ensure alignment with values such as fairness, dignity, privacy, and human welfare. They inject humanity into the algorithmic core.

Ethics cannot be outsourced to code.

It must be stewarded by people.

#### Creativity: The Spark Only Humans Ignite

Generative AI can imitate artistic styles, but it cannot replicate artistic intent. It can write in the voice of Shakespeare, but it cannot experience heartbreak. It can craft melodies, but it cannot feel longing or joy.

The future of creativity belongs to centaur's human-AI hybrids.

The writer who uses AI for brainstorming but retains their unique voice.

The architect who uses AI for structural optimization, while their vision shapes the soul of the building.

The designer who collaborates with models for rapid ideation yet remains the source of originality.

In this symbiosis, AI becomes the instrument.

The human remains the artist.

#### Conclusion: A Symbiotic Intelligence Future

"Intelligence Unplugged" represents liberation—the recognition that the highest form of intelligence is not artificial but augmented. The power of the future lies not in choosing between human or machine intelligence, but in weaving them together.

Those who thrive in this era will not necessarily be the best coders, but the best thinkers:

- the ones who ask insightful questions,
- who understand emotion and ethics,
- who see patterns machines miss,
- and who can synthesize meaning from complexity.

The algorithm may be the engine, but humans remain the steering wheel—deciding direction, purpose, and consequence.

AI can accelerate us.

Only humans can guide us.

The future of intelligence is therefore not cold, mechanical, or detached.

It is deeply human powered not just by data, but by wisdom.

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## CHESSBOARD – THE UNWRITTEN MOVES



**Ananya Biju**  
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Visualize the moment when Deep Blue defeated chess champion Garry Kasparov, and years later, when AlphaZero stunned grandmasters with moves never seen before yet even these superhuman feats existed within the boundaries of algorithms and code. But what happens when rules vanish and intuition takes over like mountaineer Helen, lost in a whiteout, whose survival depended not on GPS but on instinct guiding her through chaos? This is where untamed intelligence, free from code, emerges: the artist's vision, the scientist's sudden flash of insight, the nurse's healing touch all impossible to fully encode. Algorithms crave patterns and certainty but remove them from structured puzzles and they falter. Human intelligence, wild and unpredictable, bridges gaps with empathy, improvisation, memory, and meaning. Where chatbots hesitate in ambiguity, or programs freeze amid emotional complexity, humans adapt sometimes awkwardly, always inventively. Within those imperfections lies strength: inventors failing their way into breakthroughs, children asking impossible questions, musicians bending rules to create shock, beauty, and wonder. The future is not a battle between humans and machines; it is a dance. Imagine surgeons with AI-augmented intuition or composers improvising alongside generative algorithms spaces where every leap into the unknown writes a new rule. As intelligence steps off the grid, the greatest discoveries may come from journeys where logic and creativity intertwine, and where algorithms brilliant though they are watch in awe as we invent moves no machine has yet imagined.

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## THE POWER OF PROTOTYPE – WHERE DREAMS TAKE SHAPE

### Mohammed Maaz 2024ICSE0902



Prototyping transforms abstract ideas into tangible reality, sparking excitement through hands-on creation and rapid iteration. Students build physical models from wireframes to craft-based simulations testing their ideas early to reveal flaws, refine solutions, and experience the satisfaction of watching imagination take form. This stage accelerates feedback loops, reduces risks by validating assumptions, and inspires fresh ideas, turning “what if” into “here it is” through collaborative effort. In educational environments, students develop creative confidence by empathizing with users, prototyping solutions such as storyboards or models, and improving them through peer feedback. These programs often emphasize low-fidelity prototyping using easily available materials, enabling quick experimentation that strengthens problem-solving abilities and emotional resilience. The joy of “making” stands in sharp contrast to passive learning, nurturing adaptability and innovation skills essential for future challenges. Ultimately, prototyping equips students with market-ready capabilities: the skill to visualize concepts, communicate ideas clearly, and prioritize user needs to create bold yet practical outcomes. By moving quickly through iterations failing fast and learning faster students discover the true magic of innovation as their dreams take shape and ignite meaningful change. These experiences cultivate lifelong creators who excel at turning imagination into impact.

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## FROM DREAMERS TO DOERS: THE ARCHITECTURE OF FUTURE CHANGEMAKERS



**Sai Tharun M**  
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Introduction: The Shift from "What is" to "What Could Be"

For generations, the primary goal of education was the transfer of knowledge. Students were vessels to be filled with facts, dates, and formulas. But in a rapidly evolving world facing complex challenges like climate change, social inequality, and digital transformation knowledge alone is no longer sufficient. We do not just need students who can remember the past; we need young minds capable of building the future.

This is where the philosophy of "Dream. Design. Do." becomes more than just a slogan—it becomes a pedagogical imperative. It represents a shift from passive learning to active creation. It is a framework that combines the empathy of the arts, the rigor of engineering, and the courage of entrepreneurship. By adopting this triad, we empower young minds to transition from being spectators of history to being the architects of a better tomorrow.

Phase I: Dream – The Power of Empathy and Vision

Every great innovation begins with a dream, but in the context of social impact, "dreaming" is a specific cognitive skill. It is not merely daydreaming about personal success; it is the ability to look at the world with empathy.

To "Dream" effectively, young people must be taught to observe their communities with fresh eyes. They must identify "pain points"—the cracked sidewalk that makes it hard for the elderly to walk, the food waste in their school cafeteria, or the loneliness felt by new students.

In design thinking, this stage is often called "Empathizing and Defining." It requires a student to ask:

What bothers me about the world around me?

Who is suffering, and why?

How could this be different?

When a student identifies a problem and dares to imagine a solution, they flip the switch from victimhood to agency. They stop saying, "Someone should fix this," and start asking, "How can I fix this?" This is the birth of the "I Can" mindset.

## Phase 2: Design – **The Bridge Between Hope and Reality**

A dream without a plan is just a wish. The "Design" phase is the rigorous bridge that connects abstract hope to tangible reality. This is where STEM (Science, Technology, Engineering, and Math) education and creative arts collide.

"Design" is about strategy and failure. It teaches students that the first idea is rarely the best one. In this phase, young innovators learn to:

**Brainstorm Divergently:** Generate 100 ideas, no matter how wild, to break free from conventional thinking.

**Prototype:** Build rough models. A prototype doesn't need to be a perfect robot; it can be a cardboard cutout, a sketched app interface, or a role-play scenario.

**Iterate:** This is the most critical lesson. When a design fails, it is not a reflection of the student's worth, but data for improvement.

By teaching students to "Design," we inoculate them against the fear of failure. We teach them that setbacks are merely part of the navigational process toward a solution. A student who designs a water filtration system that clogs on the first try hasn't failed; they have simply discovered one way that doesn't work, bringing them closer to the one that does.

## Phase 3: **Do The Courage of Execution**

The final and most difficult step is "Do." Many brilliant adults are stuck in the "Design" phase, endlessly planning but never executing. For young minds, the "Do" phase is about courage and impact.

"Doing" means taking the prototype out of the classroom and into the real world. It involves pitching the idea to a principal, organizing the community cleanup, coding the actual app, or launching the awareness campaign.

This phase teaches resilience. Real-world execution is messy. It involves logistics, budgets, and convincing others to care. When a young person successfully executes a project no matter how small they undergo a fundamental identity shift. They realize they possess the power to alter their reality.

## Case Study: **The "Do" in Action**

Consider the story of a group of middle school students who noticed their visually impaired classmates struggling to navigate the school hallways.

**Dream:** They imagined a school where every student could move with independence and dignity.

**Design:** They researched echolocation and haptic feedback. They sketched ideas for "smart walking sticks" and prototyped them using simple ultrasonic sensors and Arduino boards.

**Do:** They built the device, tested it with their peers, gathered feedback, and refined the code.

The result was not just a gadget; it was a transformation of the school culture and a realization for those students that they were engineers of social good.

## Conclusion: Cultivating a Generation of Solvers

"Dream. Design. Do." is not a linear path; it is a cycle of continuous improvement. By embedding this framework into our schools and homes, we do more than improve test scores. We cultivate a generation that is not paralyzed by the size of global problems but is energized by the possibility of solving them.

To inspire young minds to build a better tomorrow, we must first give them the license to dream, the tools to design, and the encouragement to do. When we do that, we don't just prepare them for the future we entrust the future to hands capable of moulding it.



## Next Steps for Educators and Parents

Encourage "Why" Questions: When a child complains about a problem, ask "Why does that happen?" and "How would you design it differently?"

Celebrate "Draft 1": Praise the effort of starting and planning, not just the final polished result.

Start Small: A "Do" project can be as simple as reorganizing the recycling bin at home. The goal is to build the muscle of taking action.

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## ENGINEERING DREAMS INTO REALITY



**Mohammed  
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Every great invention begins with a dream — a spark of curiosity that dares to imagine a world better than the one we know today. Yet between a dream and its realization lies a bridge called engineering. To engineer is to transform imagination into impact, to give form to ideas that once lived only in the mind. It is where creativity meets logic, and where dreams first take shape in the real world. Engineering is not merely about machines, code, or circuits. It is about problem-solving about viewing challenges as opportunities to build, design, and innovate. Every wire, every line of code, every experiment in a lab carries the story of someone who believed their ideas could make a difference. In that belief, dreams turn into blueprints, and blueprints evolve into breakthroughs. Consider the technologies we now take for granted: smartphones, renewable-energy systems, life-saving medical devices, and artificial intelligence. Each began as a distant dream in the mind of someone who refused to stop at “What if?”. The Wright brothers dreamed of flight and engineered the impossible. Srinivasa Ramanujan dreamed in numbers and reshaped the world of mathematics. Today, countless young engineers continue that legacy dreaming bigger, designing smarter, and building bolder.

For us as students, engineering is more than academic discipline; it is a way of thinking. Every project we construct, every line of code we debug, and every circuit we test brings us closer to mastering the art of creation. We learn not only from success but also from failure because every failed prototype teaches resilience, every broken circuit strengthens patience, and every error leads to a new discovery. Yet the true power of engineering lies not only in innovation, but also in purpose. The most meaningful technologies are those that address real-world needs, clean water for rural communities, accessible healthcare for all, sustainable energy for the planet. When we engineer with empathy, we do more than build machines and we build hope.

In a world racing toward automation and artificial intelligence, the human touch in engineering is more vital than ever. It reminds us that technology should serve humanity, not the other way around. Our generation of engineers holds both the power and the responsibility to shape a future that is not only intelligent, but also compassionate.

So let us keep dreaming. Let us design solutions that matter. And, most importantly, let us act because dreams without action remain mere imagination. The future does not belong to those who simply dream of it; it belongs to those who engineer it.

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**Harshitha J**  
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Bold imagination forms the backbone of engineering innovation, driving breakthroughs that transform societies and economies. The ability of engineers to dream beyond conventional boundaries opens pathways to game-changing technologies from sustainable energy solutions to cutting-edge artificial intelligence systems. This courageous mindset fuels problem-solving by envisioning possibilities others might dismiss as impractical or impossible, enabling remarkable leaps in functionality and efficiency.

The process of bold imagination influences every stage of engineering from conceptual sketches to prototype testing by encouraging creative risk-taking and continuous refinement. Imagination fosters an interdisciplinary approach, blending technical expertise with visionary thinking to design robust infrastructure and transformative products. It nurtures resilience, as bold thinkers view failure not as defeat but as an essential step toward discovery, mastery, and pushing the limits of technological potential.

Daring to dream big ultimately shapes the future of societies. Engineering innovations born from imagination confront global challenges such as climate change, healthcare, and rapid urbanization. Bold imagination inspires engineers to question the status quo and develop solutions that are not only sustainable but also inclusive and impactful. By championing creativity and vision alongside technical skill, imagination ensures progress not only in what we build but also in how humanity evolves.

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## AGE OF DREAMS



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Looking at the deep, dark sky of complete silence,  
with the presence of a blue moon  
and bright, shining stars  
emptiness sinks into the soul.  
Enthusiasm lies untouched, like an unwept stone.  
The scary past runs through the mind,  
and an unknown future longs for a simple smile,  
Letting the dilemma be what it is meant to be.  
Having the courage to accept the past  
and the strength to expect a future of choice,  
one tries to stay true to the voice within.  
Holding faith in the universe,  
and driven by the intense desire for perseverance,  
one chases the dream of a successful life.  
Hopeful eyes still search for the future self  
just like a glorious sunrise breaking through a murky night.

~

**Rakshita Neeravari**

20251CIT0115

PHY18

School of Computer Science and Engineering (Information Technology)

## BEYOND THE BOOKS: STUDENTS WHO DREAM, DESIGN, AND DO



**Lakshmi**  
**20241CCS0183**

In today's evolving educational landscape, students are moving beyond traditional classrooms by transforming their dreams into tangible designs and meaningful action. This shift takes them from passive learners to proactive leaders. Programs like BUILD Boston engage high school students in developing real-world prototypes, pitching entrepreneurial ideas, and strengthening resilience through iterative cycles of ideation and collaboration. Likewise, design thinking workshops empower young minds to examine life's challenges and create imaginative prototypes from everyday materials, fostering ownership, creativity, and civic engagement.

At Charlestown High School, for example, students design personal logos and collaborate in teams to build products that address community needs, supported by guidance from business coaches. Their semester-long projects culminate in pitch competitions where they present their solutions. In Critical Utopian Design Thinking classes, Black and Brown students journal their reflections, conduct user testing, and share their work with expert panels. Through this process, they transcend the limitations of "regular school" and immerse themselves in collaborative problem-solving that honours their voices and ideas. The impact is profound 87% of participants report applying critical thinking skills, compared to just 37% in traditional classrooms.

These initiatives counter disengagement by offering diverse forms of expression, from podcasts to videos, supported by clear rubrics and constructive instructor feedback. Students experience meaningful growth: the percentage who feel their ideas are respected jumps from 46% in school settings to 97% in real-world project environments. Such evidence shows that authentic, hands-on learning unleashes leadership potential.

By dreaming boldly, designing iteratively, and doing purposefully, these learners are not only solving problems they are inspiring systemic change.

**Lakshmi**  
20241CCS0183  
3CCS03  
School of Computer Science and Engineering (Cyber Security)





## Murtaza Hussain

2023CSE0810

5CSE14

School of Computer Science and Engineering



### *FROM IMAGINATION TO INNOVATION*

Every great invention that shapes our world today was once a spark in someone's imagination. From the first wheel to artificial intelligence, every leap in human progress began with a simple question "What if?" That tiny spark of curiosity has powered centuries of innovation, turning abstract ideas into tangible realities that transform how we live, learn, and connect. Imagination is the seed of innovation. It lets us see beyond what exists and envision what could be. Innovation, in turn, is the art of bringing that vision to life, transforming dreams into designs and ideas into meaningful impact. This journey from imagination to innovation is not just about technology or science; it is about courage, creativity, and unwavering commitment. As engineering students, we stand at the intersection of logic and creativity. We learn formulas and frameworks, but true innovation begins when we dare to think differently when we blend analytical skill with imaginative thought. Every line of code we write, every circuit we design, and every problem we solve holds the potential to turn imagination into something real and transformative. History offers many powerful examples. Steve Jobs imagined personal computers as tools for creativity and built Apple. Dr. A.P.J. Abdul Kalam dreamed of advancing India through technology and helped launch satellites and missiles that reshaped our nation's future. Their achievements were not born from luck or resources, but from the persistence to turn imaginative ideas into reality.

Imagination gives us wings, but innovation teaches us to fly. The process isn't easy, it demands experimentation, failure, and patience. Many ideas fail before one succeeds, yet each failure carries lessons that sharpen our imagination and strengthen our resolve. Innovation is rarely a sudden stroke of genius; it is a continuous cycle of learning, improving, and believing. In a world where technology evolves faster than ever, imagination remains our greatest asset. Machines can process data, but they cannot dream. Algorithms can predict outcomes, but they cannot envision new possibilities. The power to imagine creating something that never existed before is uniquely human. And when guided by purpose, that imagination becomes unstoppable innovation. As future engineers and creators, we must channel our imagination toward building a better, smarter, and more compassionate world. Let us not confine our creativity to the boundaries of textbooks or assignments. Let us explore, experiment, and engineer ideas that solve problems and spark progress. Because innovation doesn't begin in a lab it begins in the mind, with a single spark of imagination.



## DREAM. DESIGN. DO INSPIRING YOUNG MINDS TO BUILD A HEALTHIER TOMORROW



**FAIZAN  
AHMED**  
**2022ICSE0021**

Every great innovation begins with a dream and in healthcare, those dreams can save lives. From remote patient monitoring to AI-assisted diagnosis, young innovators today are reimagining what it means to heal, care, and connect. The challenge is not only to build smarter technology, but to design with empathy and act with purpose, creating a future where healthcare is accessible, intelligent, and deeply human.

### Dream of Envisioning the Future of Healing

Imagine hospitals without walls, where wearable sensors track vital signs and alert doctors before illness strikes. Picture rural clinics connected to city hospitals through AI-driven telemedicine. Visualize genetic data predicting diseases years in advance.

These dreams aren't distant; they are blueprints for change being drafted right now in classrooms, labs, and hackathons by passionate young minds.

### Design Engineering with Empathy

Technology alone cannot heal; design thinking makes it meaningful. The most impactful medical innovations arise when engineers think like doctors and designers think like patients. Whether it's building low-cost prosthetics with 3D printing or developing voice-based health apps for the elderly, human-centered design ensures that healthcare technology is not only smart — it is compassionate.

### Do Turning Innovation into Impact

Dreams take flight through action. Startups led by students and young researchers are already transforming Indian healthcare creating AI models that detect diabetic retinopathy, drones that deliver blood during emergencies, and apps that bring mental-health support to mobile screens. The focus has shifted from invention to impact, using every tool of technology to make healing faster, fairer, and more inclusive.

### The Call to Innovate

Today's generation stands at the crossroads of medicine and machine learning, of biology and big data. With India's expanding digital-health infrastructure and visionary initiatives like the Ayushman Bharat Digital Mission, there has never been a better time to dream boldly, design responsibly, and act fearlessly. Because healthcare's next revolution will not come from hospitals alone it will rise from the ideas, compassion, and courage of young innovators who believe in building a healthier tomorrow.

**Faizan Ahmed**

2022ICSE0021

7CSE01 22

School of Computer Science and Engineering

# STUDENT ACHIEVEMENT: PAPER PRESENTATION AT ASIANCON 2025



## Srihari R

We are delighted to recognise the outstanding academic contribution of Srihari R (20221CSE0555) for his successful paper presentation at the 2025 – 5th Asian Conference on Innovation in Technology (ASIANCON), held on 22nd & 23rd August 2025. Srihari presented his research paper titled "AI-Powered Data Visualisation Platform: An Intelligent Web Application for Automated Dataset Analysis." We congratulate Srihari R on this significant accomplishment and commend him for representing the institution at this esteemed international forum. His achievement serves as an inspiration to fellow students to pursue research and innovation with passion and purpose.

# STUDENT ACHIEVEMENT: SUCCESSFUL COMPLETION OF AICTE & ICAC APPROVED INTERNSHIP



## Venu Yadav V

We are pleased to acknowledge Venu Yadav V (20231CSE0636) for the successful completion of a 1-month AICTE & ICAC Approved Internship Program at Codec Technologies Pvt. Ltd., where he served as a Python Developer Intern from 16th August 2025 to 16th September 2025. This achievement highlights Venu's enthusiasm for skill enhancement and his proactive approach toward career development in the field of software engineering. The institution congratulates Venu Yadav V on this commendable accomplishment and wishes him continued success in his future academic and professional endeavours.





## Godavari G L

1

### ACADEMIC EXCELLENCE: OUTSTANDING PERFORMANCE IN IV SEMESTER B. TECH CSE

We are proud to recognize the exceptional academic achievement of Godavari G L (2023ICSE0826), a student of IV Semester B. Tech in Computer Science & Engineering, for her remarkable performance in the semester examinations. She has secured an impressive SGPA of 9.69 and CGPA of 9.77. Such outstanding results reflect her hard work, consistency, and perseverance throughout the semester. The institution congratulates Godavari G L on this commendable achievement and encourages her to continue striving for excellence in her academic journey.

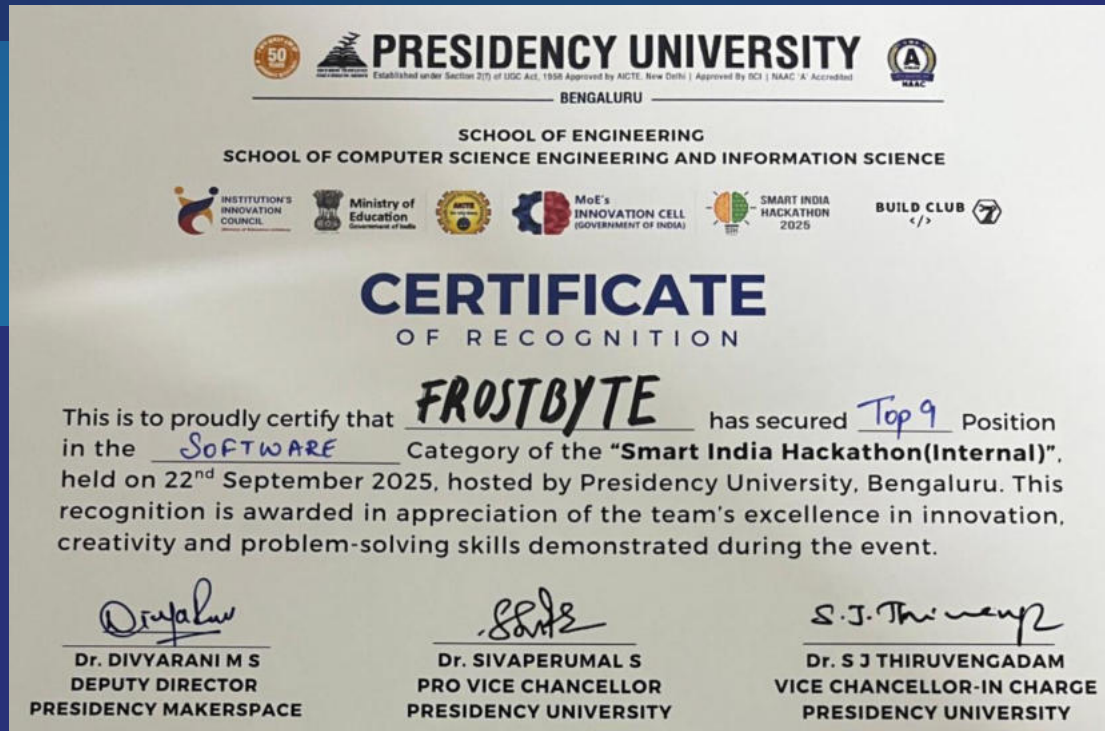
2

### STUDENT ACHIEVEMENT: TOP 2 POSITION IN SMART INDIA HACKATHON (INTERNAL) 2025

The School of Computer Science Engineering and Information Science is proud to celebrate the remarkable achievement of Godavari G L (2023ICSE0826), who secured the Top 2 Position in the Software Category of the Smart India Hackathon (Internal Round) held on 22nd September 2025 at Presidency University, Bengaluru.

This achievement reflects her dedication to continuous learning and her ability to apply engineering concepts to practical and impactful solutions. The institution congratulates Godavari G L on this commendable success and wishes her continued excellence in future competitions and academic pursuits.

## STUDENT ACHIEVEMENT: FROSTBYTE TEAM SHINES IN SMART INDIA HACKATHON (INTERNAL) 2025

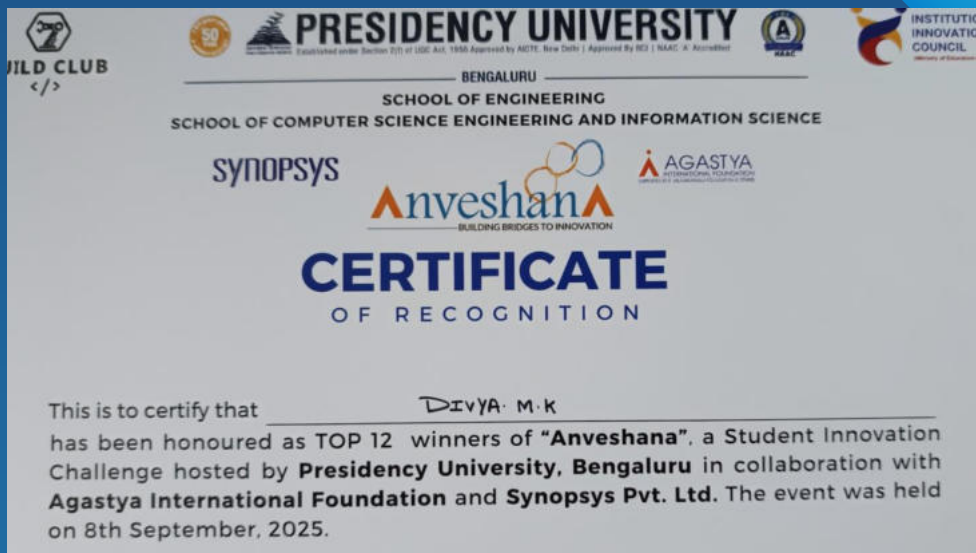


### FROSTBYTE

Presidency University proudly celebrates the remarkable achievement of Team **FROSTBYTE** from the School of Computer Science Engineering and Information Science (SOCS CSE). The team secured a coveted Top 9 Position in the Software Category of the Smart India Hackathon (Internal) 2025, held on 22nd September 2025 at our Bengaluru campus. Selected from a highly competitive pool of participants, Team FROSTBYTE demonstrated exceptional innovation, creativity, and problem-solving skills throughout the event. Congratulations to Team FROSTBYTE, and to student representative Alson Debbarma (2024ICSE0294) for bringing pride to Presidency University!

### PRESTIGIOUS APPRENTICESHIP OFFER FROM KPMG GLOBAL SERVICES

Presidency University is delighted to congratulate **Bhavana C U** (2022ICSE0657) from the School of Computer Science and Engineering for securing a highly coveted Apprenticeship Opportunity with KPMG Global Services Private Limited, one of the world's leading professional services organizations. Bhavana has been selected to join the Managed Services Team at the KPMG Bangalore Office, where she will take on the role of Apprentice. Her apprenticeship tenure will span from 1st December 2025 to 29th May 2026, marking a significant milestone in her professional journey. Recognition at Anveshana 2025 – Celebrating Student Innovation



## PRESTIGIOUS APPRENTICESHIP OFFER FROM KPMG GLOBAL SERVICES

Presidency University proudly celebrates the achievement of Divya M. K (2024ICSE0568), who has been recognized among the Top 12 Winners of Anveshana 2025, a prestigious Student Innovation Challenge designed to inspire creativity, scientific thinking, and problem-solving among young innovators. The event, hosted on 8th September 2025 at Presidency University, Bengaluru, was organized in collaboration with the Agastya International Foundation and Synopsys Pvt. Ltd., bringing together some of the brightest minds to showcase innovative ideas with real-world impact. Divya's exceptional performance demonstrated strong analytical skills, originality, and a passion for innovation—qualities that reflect the rich culture of research and creativity nurtured within the School of Computer Science Engineering and Information Science

## Final-Year CSE Student Secures Offers from KPMG and Capgemini

Presidency University is proud to highlight the outstanding achievement of Harshitha S. S (USN: 2022ICSE0676), a final-year B. Tech student from the Department of Computer Science and Engineering, who has successfully secured placement offers from two reputed multinational organizations.

Harshitha has been selected by:

**KPMG**

Role: Analyst – **Cybersecurity**

Package: **7 LPA**

**Capgemini**

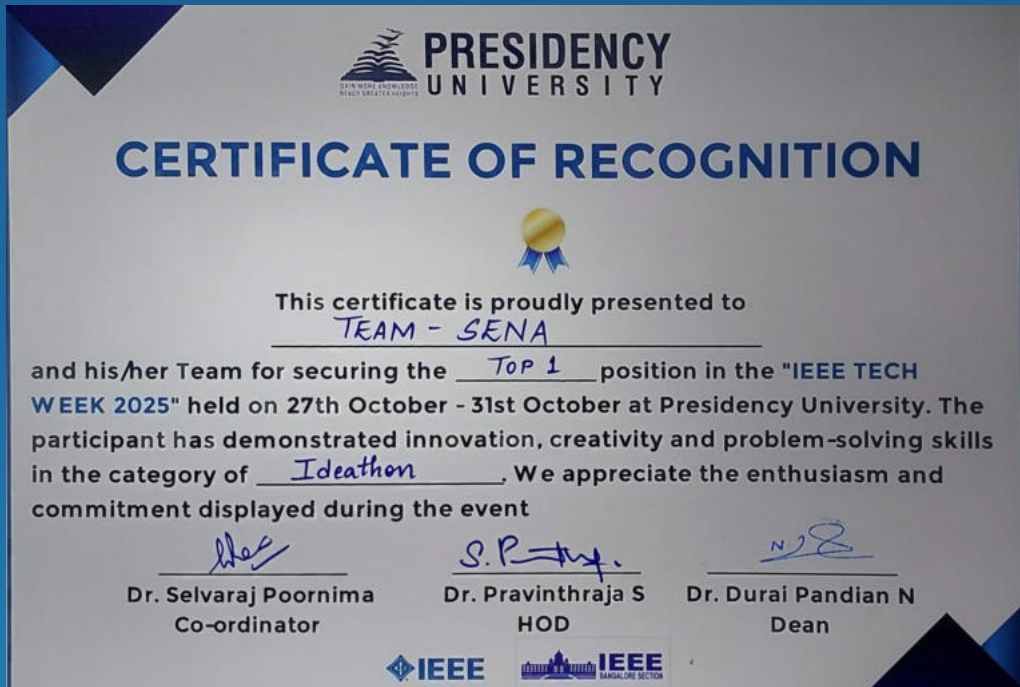
Role: **Software Engineer (Analyst), Capgemini Excelled 2025–26**

Package: **4.25 LPA**

These accomplishments reflect Harshitha's consistent academic performance, strong technical expertise, and commitment to building a successful career in the technology domain. Her dual placement offers stand as a testament to the University's commitment to quality education, industry readiness, and holistic student development.



## TEAM SENA CLAIMS TOP POSITION AT IEEE TECH WEEK 2025



## Muskaan Kumari & Team SENA

Presidency University proudly congratulates **Muskaan Kumari** (2023ICSE0117) and **Team SENA** for securing the Top 1 Position in the Ideathon Category at IEEE Tech Week 2025, held from 27th October to 31st October 2025. The competition welcomed talented innovators from across the University, providing a platform to showcase creativity, strategic thinking, and impactful problem-solving. Team SENA stood out with their exceptional idea, demonstrating strong analytical skills, innovation-driven thinking, and a commitment to developing meaningful solutions. Congratulations to Muskaan Kumari and Team SENA for this remarkable accomplishment!

## STUDENT SECURES PRESTIGIOUS APPRENTICESHIP OPPORTUNITY AT KPMG

Presidency University proudly congratulates **Salini A** (2022ICSE0640) from the School of Computer Science and Engineering for securing a valuable Apprenticeship Offer from KPMG Global Services Private Limited, one of the world's leading professional services organisations. Salini has been selected to join the Managed Services Team at the KPMG Bangalore Office, where she will serve as an Apprentice. Her apprenticeship period will commence on 1st December 2025 and continue until 29th May 2026. This achievement reflects Salini's dedication, professionalism, and strong technical foundation.

## STUDENT ENTREPRENEUR REGISTERS STARTUP UNDER UDYAM – A PROUD ACHIEVEMENT

UDYAM REGISTRATION CERTIFICATE																							
UDYAM REGISTRATION NUMBER	UDYAM-KR-03-0585489																						
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OFFICIAL ADDRESS OF ENTERPRISE	<table border="1"> <tbody> <tr> <td>Flat/Door/Block No.</td> <td>presidency launchpad</td> <td>Name of Premises/ Building</td> <td>e block 1st floor</td> </tr> <tr> <td>Village/Town</td> <td>rajankunte</td> <td>Block</td> <td>bangalore</td> </tr> <tr> <td>Road/Street/Lane</td> <td>Itgalpur</td> <td>City</td> <td>bangalore</td> </tr> <tr> <td>State</td> <td>KARNATAKA</td> <td>District</td> <td>BENGALURU (URBAN) , Pin 560064</td> </tr> <tr> <td>Mobile</td> <td>9141067804</td> <td>Email:</td> <td>vinayakgouda51@gmail.com</td> </tr> </tbody> </table>			Flat/Door/Block No.	presidency launchpad	Name of Premises/ Building	e block 1st floor	Village/Town	rajankunte	Block	bangalore	Road/Street/Lane	Itgalpur	City	bangalore	State	KARNATAKA	District	BENGALURU (URBAN) , Pin 560064	Mobile	9141067804	Email:	vinayakgouda51@gmail.com
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Mobile	9141067804	Email:	vinayakgouda51@gmail.com																				
DATE OF INCORPORATION / REGISTRATION OF ENTERPRISE	28/08/2025																						

**Vinayak  
Manjunath Gouda**

Presidency University is delighted to recognise the entrepreneurial accomplishment of **Vinayak Manjunath Gouda** (2023ICSE0702), who has officially registered his enterprise “EMSTRAP” under the Udyam Registration Portal of the Ministry of Micro, Small & Medium Enterprises (MSME), Government of India. The enterprise, classified as a Micro Enterprise for the year 2025–26, was formally registered on 29th August 2025 under the Udyam Registration Number UDYAM-KR-03-0585489. EMSTRAP operates in the Services Sector, reflecting Vinayak’s initiative to innovate, create, and contribute meaningfully to the ecosystem of digital services and solutions. This milestone demonstrates his vision, determination, and strong entrepreneurial spirit as an inspiring example for fellow students aspiring to transform their ideas into impactful ventures. Presidency University congratulates Vinayak Manjunath Gouda on this commendable achievement and wishes him great success in scaling EMSTRAP to greater heights.

### Students Achieve Patent Publication for Emergency Alert & Response System

Presidency University proudly celebrates the remarkable achievement of its student innovators Vinayak Manjunath Gouda, K. Keerthi Shree, Madduri Vaishnavi, and Rohith S. D whose invention has been officially published as a Patent Application by the Indian Patent Office. The patent application, titled “Emergency Alert and Response System and Method for Processing and Responding to Emergency”, was filed on 14th August 2025 and published on 29th August 2025 under Application Number 202541077796 A. The patent lists Presidency University as the applicant, with the student team serving as co-inventors under the mentorship of Dr. Divya Rani, highlighting the University’s strong commitment to research, innovation, and real-world problem solving. This publication marks a major milestone for the student inventors and serves as an inspiration to the research community within the University.

**SCHOOL OF ENGINEERING**  
**SCHOOL OF COMPUTER SCIENCE ENGINEERING AND INFORMATION SCIENCE**



# CERTIFICATE OF RECOGNITION

This is to proudly certify that VINAYAK M. GOUDA has secured Top 2 Position in the SOFTWARE Category of the **"Smart India Hackathon(Internal)"**, held on 22<sup>nd</sup> September 2025, hosted by Presidency University, Bengaluru. This recognition is awarded in appreciation of the team's excellence in innovation, creativity and problem-solving skills demonstrated during the event.

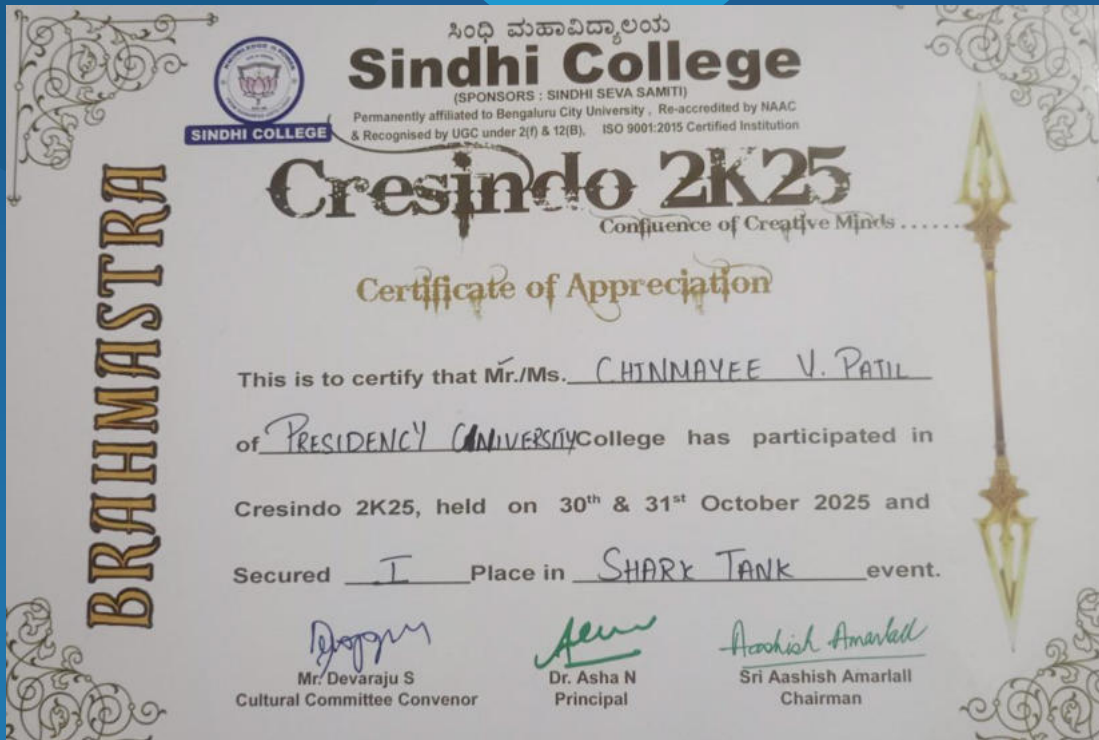
## Outstanding Performance at Smart India Hackathon (Internal) 2025

Presidency University proudly applauds Vinayak M. Gouda (2023ICSE0702) from the School of Computer Science Engineering and Information Science for securing the Top 2 Position in the Software Category of the Smart India Hackathon (Internal) 2025. The event, held on 22nd September 2025 at the Bengaluru campus, brought together some of the most talented and innovative student teams. Vinayak's exceptional performance showcased remarkable innovation, creativity, and problem-solving abilities, reflecting the University's strong culture of fostering technical excellence and hands-on learning.





## STUDENT ACHIEVEMENT: OUTSTANDING PERFORMANCE AT CRESINDO 2K25



Ms. Chinmayee V. Patil

We are proud to celebrate the remarkable achievement of **Ms. Chinmayee V. Patil** (2024IIST0135) of Presidency University, who showcased exceptional creativity and entrepreneurial spirit at Cresindo 2K25, a prestigious intercollegiate fest organized by Sindhi College (Sindhi Seva Samiti) on 30th & 31st October 2025. Competing against talented participants from various institutions, Chinmayee secured 1st Place in the highly competitive "Shark Tank" event. Her innovative thinking, confident presentation, and strong problem-solving approach impressed the panel of judges and set a benchmark for excellence.



PROJECT-BASED TECHNICAL ACHIEVEMENT:  
SANDHYA S (ROLL NO: 2024ICIT0091)



Sandhya S

We proudly recognize the project-based technical achievement of **Sandhya S** (2024ICIT0091), an II-year B. Tech CSE (IoT) student from section 3CIT02, who successfully completed a certified project titled "Wi-Fi Signal Strength Monitoring Using NodeMCU and ThingSpeak." This accomplishment, certified by Edufyi Tech Solutions, highlights her strong practical skills, commitment to learning, and ability to apply IoT concepts to real-world problem-solving. Through this project, she gained hands-on experience in microcontroller programming, wireless communication, cloud-based data processing, and real-time monitoring key competencies in the IoT domain. Her successful project completion reflects her growing expertise, innovative mindset, and dedication to applied engineering. This notable achievement stands as an inspiring example of innovation-driven learning and encourages her peers to pursue similar technical opportunities. We congratulate Sandhya S on this valuable accomplishment and wish her continued success in her upcoming academic and project endeavours.

## INTERNSHIP-BASED TECHNICAL ACHIEVEMENT



**Nikitha S**

We proudly recognize the professional accomplishment of **Nikitha S** (20221CBC0019) from the School of Computer Science and Engineering, currently studying in CSE – Section 7CBC-01, who successfully completed a Full Stack Web Development Internship at EDU TANTR. This internship, spanning from August 2025 to November 2025, provided her with hands-on exposure to modern web technologies and real-world software development workflows. During this period, Nikitha actively engaged in assigned development tasks, strengthened her technical competencies, and demonstrated an impressive ability to apply theoretical concepts to practical implementation. Her dedication, consistency, and eagerness to explore new tools and frameworks reflect her commitment to continuous growth and her potential to excel as a Full Stack Developer.

We congratulate Nikitha S on this commendable accomplishment and wish her continued success in her academic and professional journey.



## INDUSTRY APPRENTICESHIP ACHIEVEMENT



KPMG Global Services Private Limited  
RMZ Ecoworld,  
6th Floor, Campus 7  
Devarabeesanahalli, Outer Ring Road  
Bangalore 560 103, Karnataka, India  
Telephone +91 80 6132 6100  
Email: indiawebsite@kpmg.com

01-November-2025

Noor Aamira

Address:- no.4, 11th cross, 2nd main road, B.K Nagar, Yeshwanthpur, Bengaluru-22, Bengaluru,  
Bengaluru Urban, Karnataka - 560022.

Dear Noor Aamira,

On behalf of KPMG Global Services Private Limited, we are pleased to offer you an opportunity of Apprenticeship. You will be part of the Managed Services team at our Bangalore Office and shall be designated as a "Apprentice". As mutually agreed, your apprenticeship will be for a period starting from 1st Dec 2025 to 29th May 2026.

During this period, you will be paid a stipend of **Rs 20,000 per month**. For all other policy guidelines kindly refer to the isek (policy hub), which shall be read as part and parcel of the terms hereof.

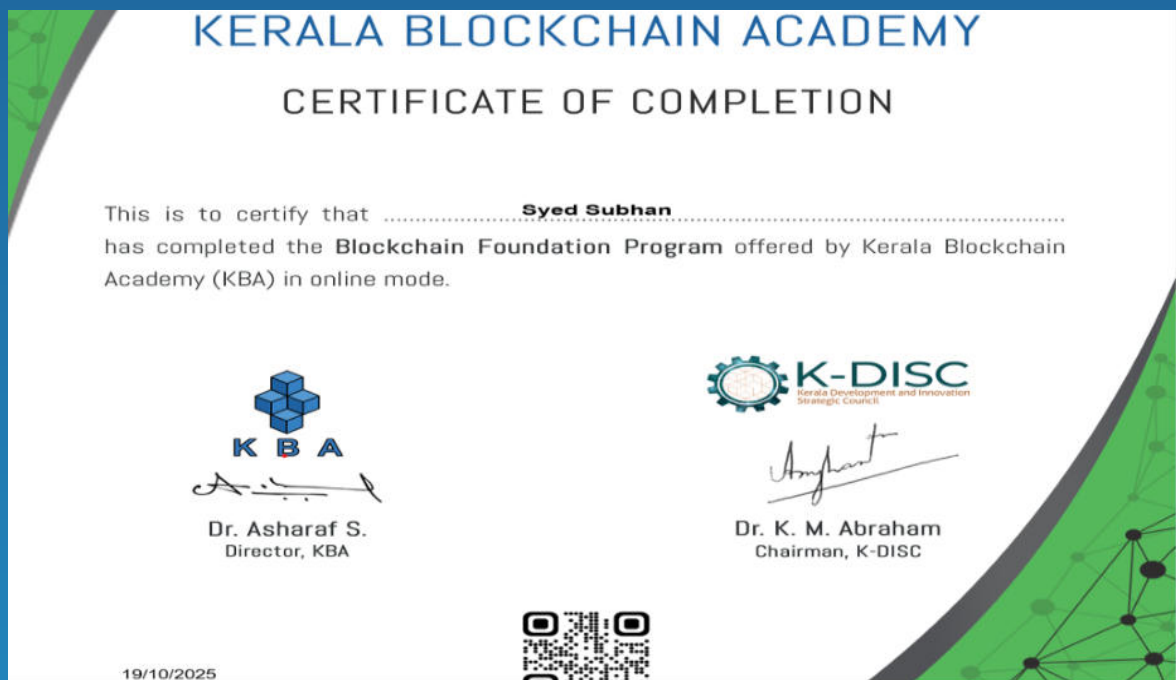
### Provisional Offer

The offer also is subject to your completion of, to the Company's satisfaction, comprehensive background screening procedures, including without limitation, education, residence, identity and other verifications; criminal records and civil database checks; and various compliance authority checks. You further consent to the collection, storage and independent verification of the information provided to the Company and/or any background screening service provider of the Company. In the event it is discovered at any stage that any information/particulars and/or details provided by you are incorrect and/or any material information has been withheld/suppressed by you, the same shall constitute breach of discipline and your services will be liable to be terminated with immediate effect without notice and with no liability to make any further payment to you.

Noor Aamira

We proudly highlight the professional achievement of **c (2022ICDV0047)**, a student of the School of Computer Science and Engineering, from Section 7CDV01, who has secured a prestigious Apprenticeship Opportunity at KPMG Global Services Private Limited, Bengaluru. She has been selected to join the Managed Services team as an Apprentice, marking a significant milestone in her academic and career journey. This apprenticeship, scheduled from 1st December 2025 to 29th May 2026, comes with a monthly stipend of ₹20,000, reflecting the organization's confidence in her abilities. Noor Aamira's selection by a reputed multinational firm such as KPMG demonstrates her dedication, knowledge, and readiness to step into real-world corporate environments. This opportunity will allow her to gain hands-on experience, strengthen her technical and managerial competencies, and build a strong foundation for her future professional endeavours. We congratulate Noor Aamira on this remarkable accomplishment and extend our best wishes for her continued success in the industry.

## BLOCKCHAIN CERTIFICATION ACHIEVEMENT



Syed Subhan

We proudly highlight the academic accomplishment of **Syed Subhan** (20241CBC0046), a student at the School of Computer Science and Engineering, from Section 3CBC01, pursuing B.Tech CSE (Blockchain). He has successfully completed the Blockchain Foundation Program offered by the esteemed Kerala Blockchain Academy (KBA) in online mode. This certification marks a significant milestone in his professional journey, strengthening his understanding of blockchain concepts, frameworks, and real-world applications. The program is widely recognized for its industry relevance and completing it reflects Syed Subhan's dedication to enhancing his technical expertise in one of the most rapidly evolving technological domains. His achievement demonstrates his commitment to continuous learning and positions him for future opportunities in blockchain development, research, and innovation. We congratulate Syed Subhan on this commendable achievement and extend our best wishes as he continues to pursue excellence in the field of blockchain technology.

## SMART INDIA HACKATHON ACHIEVEMENT

Asha V



We proudly celebrate the outstanding achievement of **Asha V** (20231COM0036), a dedicated student at the School of Computer Science and Engineering, from Section 5COM01, enrolled in the Computer Science (COM) program. She has secured the Top 1 Position in the Software Category of the Smart India Hackathon – Internal Round, held on 22nd September 2025 at Presidency University, Bengaluru. This recognition reflects her remarkable innovation, creativity, and strong problem-solving abilities demonstrated during the competition. Her success highlights her commitment to excellence and her readiness to take on real-world technical challenges with confidence and skill. We extend our heartfelt congratulations to Asha V for this impressive accomplishment and wish her continued success in future national-level competitions and innovation-driven pursuits.



## PROFESSIONAL CERTIFICATION ACHIEVEMENT



**Harshitha  
Jain**

We proudly recognize the accomplishment of **Harshitha Jain** (20231COM0134), a student at the School of Computer Science and Engineering, from Section 5COM02, pursuing the Computer Science (COM) program. She successfully completed the Git Training online course offered by Simplilearn SkillUp, earning a Certificate of Completion on 4th October 2025. This certification highlights her initiative to strengthen essential version-control skills—an indispensable competency in modern software development. Her dedication to continuous learning reflects her commitment to enhancing her technical foundation and advancing her career readiness. We congratulate Harshitha Jain on this commendable achievement and wish her continued success as she progresses in her academic and professional journey.

## NPTEL CERTIFICATION ACHIEVEMENT

Sanjana D M



We proudly acknowledge the academic accomplishment of **Sanjana D M** (20231COM0107) from the School of Computer Science and Engineering (SOCSE). She has successfully completed the highly regarded NPTEL Online Certification course titled "Introduction to Machine Learning", offered by the Indian Institute of Technology, Kharagpur, and funded by the Ministry of Education, Government of India. As part of the July–September 2025 session (8-week course), she achieved a consolidated score of 58%, comprising:

Online Assignments: 22.79 / 25

Proctored Exam: 35.21 / 75

Her participation in this nationally recognized program highlights her dedication to strengthening her technical expertise and building a strong foundation in the rapidly growing field of Machine Learning. Completing an NPTEL course, especially one with nationwide participation, demonstrates her commitment to continuous learning and professional growth.

## NPTEL CERTIFICATION ACHIEVEMENT



Vijay  
Kumar

We proudly recognize the academic accomplishment of **cc** (2023ICOM0097), a student of the School of Computer Science and Engineering (SOCSE), for successfully completing the NPTEL Online Certification course titled "Fundamentals of Artificial Intelligence", offered by the Indian Institute of Technology, Guwahati, and funded by the Ministry of Education, Government of India.

As part of the July–October 2025 session (12-week course), he achieved a consolidated score of 44%, comprising:

Online Assignments: 14.38 / 25

Proctored Exam: 30 / 75

His participation in this nationally recognized certification reflects his sincere effort to build foundational knowledge in Artificial Intelligence, one of the most transformative fields in modern technology. Successfully completing an IIT-led NPTEL course demonstrates his commitment to continuous learning and academic growth.

We extend our appreciation to Vijay Kumar for his dedication and wish him continued success in his future academic and professional pursuits.



## NPTEL ONLINE CERTIFICATION – STUDENT ACHIEVEMENT



### Vijay Kumar

We proudly recognize the academic accomplishment of **Vijay Kumar** (20231COM0097), a student at the School of Computer Science and Engineering (SOCSE), for successfully completing the NPTEL Online Certification course titled “Introduction to Machine Learning”, offered by the Indian Institute of Technology, Kharagpur, and funded by the Ministry of Education, Government of India.

As part of the July–September 2025 session (8-week course), he achieved a consolidated score of 51%, comprising:

- Online Assignments: 21.25 / 25

- Proctored Exam: 30 / 75

His participation in this nationally recognized certification reflects his sincere effort to build a strong foundation in Machine Learning—one of the core areas of modern artificial intelligence and data science. Successfully completing an IIT-led NPTEL course demonstrates his commitment to continuous learning and academic excellence.



## NEC – IIT BOMBAY PARTICIPATION HIGHLIGHT NATIONAL ENTREPRENEURSHIP CHALLENGE 2025



Vijay  
Kumar


We are pleased to recognize the active participation of **Vijay Kumar** (Roll No. 20231COM0097), a student at the School of Computer Science and Engineering (SOCSE), Department of COM, Section 5COM02, III Year, V Semester, in the prestigious National Entrepreneurship Challenge (NEC) 2025, organized by E-Cell, IIT Bombay.

This year's NEC witnessed exceptional competition, with teams from across the country showcasing innovation, leadership, and a strong collaborative spirit. Although the contingent was not selected for the NEC Finals, the commendable dedication, teamwork, and enthusiasm demonstrated throughout the competition are truly appreciated.

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Thank You for Participating in NEC 2025, Your Journey Continues with E-Summit, IIT Bombay

Inbox



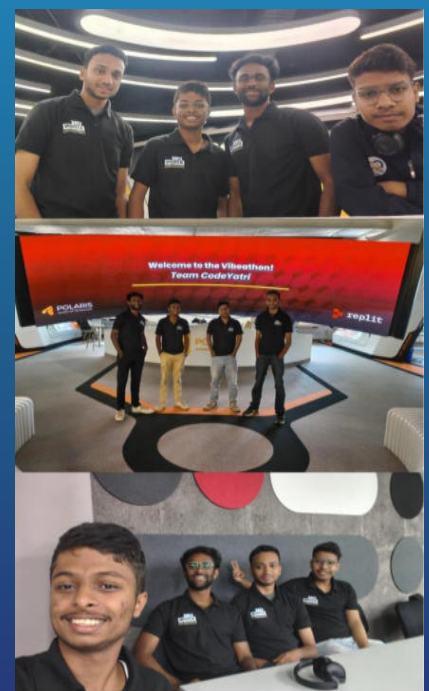
NEC E-Cell IIT Bombay <nec@ecell.in>

Nov 7, 2025,  
2:46 PM (13  
days ago)

to me

Dear Team,  
Thank you for your enthusiastic participation in the **National Entrepreneurship Challenge (NEC) 2025**. The competition this year was exceptionally tough, with contingents from across the country showcasing tremendous effort, innovation, and teamwork.  
Although your contingent was **not selected for the NEC Finals**, we truly appreciate the dedication you've shown throughout this journey.  
But your NEC journey doesn't end here - it's time for the **Contingent Leader (CL) Task!**  
Here's your chance to represent your college at **Asia's largest business and entrepreneurship conclave - the 21st E-Summit, IIT Bombay**, themed "Deciphering the Labyrinth."  
**What is E-Summit?**  
E-Summit is IIT Bombay's annual flagship business conclave - a one-stop destination for all startup and entrepreneurship enthusiasts.  
It features:

- **Keynote sessions** by top entrepreneurs & creators
- **Entre-MUN**: A UN simulation focusing on global entrepreneurship issues
- **Networking Arena**: Meet investors, mentors & startup founders
- **Workshops**: Get certified by world-class trainers & industry leaders
- **Internship & Job Fair**: Connect directly with top startups & companies for exclusive roles



TECH IMPRINT

## CODING EXCELLENCE ACHIEVEMENT – OPTICODE CHALLENGE (III PRIZE)



Sheikh Mohammed  
Mustafa

We proudly acknowledge the achievement of **Sheikh Mohammed Mustafa** from the Presidency School of Information Science for securing the III Prize in the event "Byte-sized Brilliance: Opticode Challenge." It was held on International Programmers' Day (12th September 2025) and organized by the GEN AI Club. This competitive coding event celebrated creativity, logical thinking, and problem-solving excellence.

Mustafa's accomplishment reflects his strong analytical skills and innovative approach to coding challenges. His performance highlights the growing technical talent within the university and sets an inspiring example for fellow students striving for excellence in programming and technology-driven competitions.

Congratulations, Sheikh Mohammed Mustafa! Your dedication, skill, and hard work have earned you well-deserved recognition. Keep coding, keep innovating, and continue inspiring others with your remarkable achievements!



# GEN-Z IS BUILDING THE 2040 WORLD — WITHOUT REALIZING IT

## A SHORT ANALYTICAL REFLECTION ON THE GENERATIONAL FORCE SHAPING THE NEXT ERA OF GLOBAL INNOVATION



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Generation Z is quietly shaping the architecture of the future through constant digital immersion, accelerated knowledge acquisition, and a heightened socio-ethical awareness that earlier systems rarely prioritized. Their deep engagement with open-source platforms, artificial intelligence tools, climate-focused design, and inclusive digital ecosystems reflects a fundamental shift from passive consumption to active world-building.

Unlike previous generations, Gen-Z demonstrates a natural fluency in navigating interdisciplinary digital spaces. Studies on youth-driven innovation reveal that this generation's behavioural patterns, ranging from micro-entrepreneurship and purpose-driven problem solving to collaborative digital creativity, are directly influencing the evolution of emerging technological ecosystems. Learning, for Gen-Z, is no longer confined to classrooms or structured curricula; it unfolds continuously through experimentation, iteration, and community-driven platforms.

Research on the future of work further highlights how Gen-Z's preference for ethical technologies, transparent communication, and socially responsible innovation is reshaping organizational cultures worldwide. Their inclination toward multidisciplinary thinking challenges rigid hierarchies and promotes flexible, value-driven models of productivity. As a result, workplaces are increasingly being redesigned to accommodate creativity, inclusivity, and meaningful impact rather than mere efficiency.

What often begins as small-scale experimentation, campus prototypes, student-led initiatives, or digital side projects, frequently evolves into scalable contributions with far-reaching implications. These seemingly modest efforts collectively redefine societal expectations around technology, sustainability, and governance. Without formal authority or institutional power, Gen-Z is nonetheless establishing the blueprint for 2040 through mindset, design choices, and persistent experimentation.

This generational influence underscores a critical insight: cultural transformation precedes structural change. Long before policies are rewritten or systems formally adapt, Gen-Z is already redefining norms, values, and innovation pathways. In doing so, they demonstrate that the future is not abruptly constructed, it is gradually engineered through everyday choices made in the present.

### References

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### Acknowledgment

I sincerely thank my guide, Dr. Sharmasth Vali Y, for his invaluable guidance, encouragement, and insightful feedback throughout the development of this article. I also extend my gratitude to the Department of Computer Science and Engineering, Presidency University, for providing a platform to present this work.



# CREDIT CARD FRAUD DETECTION USING GENERATIVE ADVERSARIAL NETWORKS



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## INTRODUCTION

Credit card fraud continues to challenge banks with evolving patterns of attacks. Conventional detection systems are finding it hard to cope with emerging attack types. The primary issue is the disparity between fraud and normal data. The model ends up preferring the majority classes while not being able to distinguish fraud transactions. With the significant impact that undetected fraud has on security, addressing this problem is extremely critical.

Many models tend to favor the majority classes and have trouble spotting fraud cases. That means lots of fraudulent transactions can slip by unnoticed, which is a big problem for security. So, making sure we catch these cases is incredibly important. Generative Adversarial Networks (GANs) show a lot of promise for creating synthetic data. However, they don't work as well when we use them with complex financial tables. For example, the Wasserstein GAN can help balance training a bit, but it doesn't do enough to fix class imbalance issues. Conditional Tabular GANs are designed for table-like data, but they still struggle when there are complicated links between features.

So, we built FC-TABGAN, a fully connected GAN made just for tabular data. The main purpose we built this model is to block class imbalance issues. The smart system carefully mixes the right features. This makes sure all classes with the rare ones as well gets proper attention.

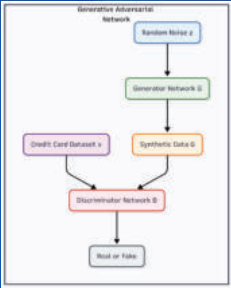


FIG. 1 GAN ARCHITECTURE.

## RELATED WORK

Here, we will examine the classical techniques that exist to detect fraud in transactions.

## SYNTHETIC DATA GENERATION FOR TABULAR DATA

The most popular approach used is Synthetic Minority Over-sampling Techniques [Chawla et al, 2002][1]. This machine learning technique produces new samples of minority classes. Although this technique has proven to be an effective solution to create new samples, it still disregards the complex patterns of data. This paves a way for generative adversarial networks to outperform this method.

## GANS FOR IMBALANCED CLASSIFICATION

Generative Adversarial Networks (GANs) [Goodfellow et al., 2014][2]. Here, two models are trained at the same time. A generator G and a discriminator D. The aim is to train Generator G such that it increases the probability of D making a mistake. This is a minimax two player game. But thus, games are fragile. There is a probability that one network becomes dominant. This breaks the balance.

Table 1 provides a comparative summary of key synthetic data generation methods for imbalanced tabular data.

Aspect	SMOTE	WGAN-GP	CTGAN	FC-TABGAN (Ours)
Core Technique	Geometric interpolation	Wasserstein distance	Conditional GAN	Feature-conditional GAN
Data Type	Tabular	General (needs adaptation)	Tabular	Tabular (flexible)
Class Conditioning	No explicit conditioning	No conditioning	Class labels only	Feature + Class conditioning
Feature Relationships	Poor (linear interpolation)	Moderate	Good	Excellent (multi-modal)
Training Stability	Not from scratch	High	Moderate	High
Fraud Specific	No	No	No	Yes
Generator Guidance	None	Gradient penalty	Conditional vector	Feature-conditional embedding
Discriminator Role	N/A	Binary real/fake	Binary real/fake	Multi-task (F1, AUC, Recall + Precision)
Handles Mixed Data	Yes	With modification	Yes	Yes
Computational Cost	Low	High	Medium	Medium-high



## COMPARISON OF SYNTHETIC DATA GENERATION METHODS

CTGAN (Conditional Tabular GAN) [Xu et al., 2019][3]. It is a work designed only for tabular data. Nevertheless, its conditioning is essentially on the class label itself, which can occasionally lead to the generation of samples that are credible but not ideally discriminative for intensifying the decision boundary of a downstream classifier. Refer Fig 2

The Wasserstein GAN with Gradient Penalty (WGAN-GP) [Gulrajani et al., 2017][4] is another fundamental model that remarkably refined the stability and performance of GAN training. But its architecture is not designed for the confusion of tabular data. Refer Fig. 3

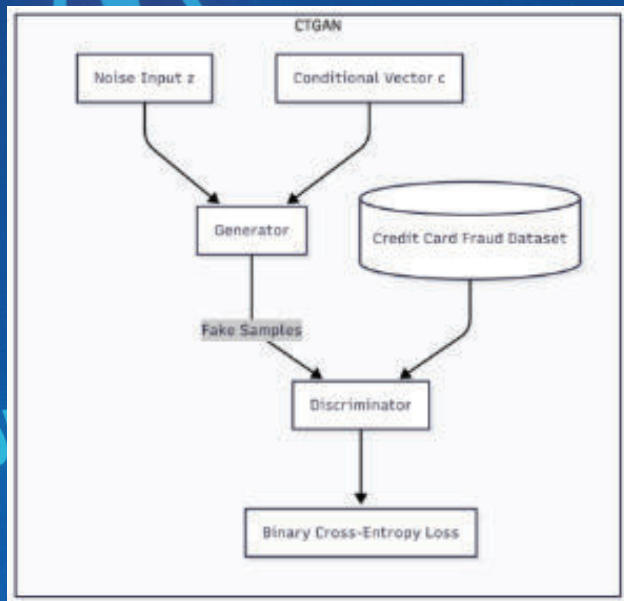


FIG.2 CGAN ARCHITECTURE.

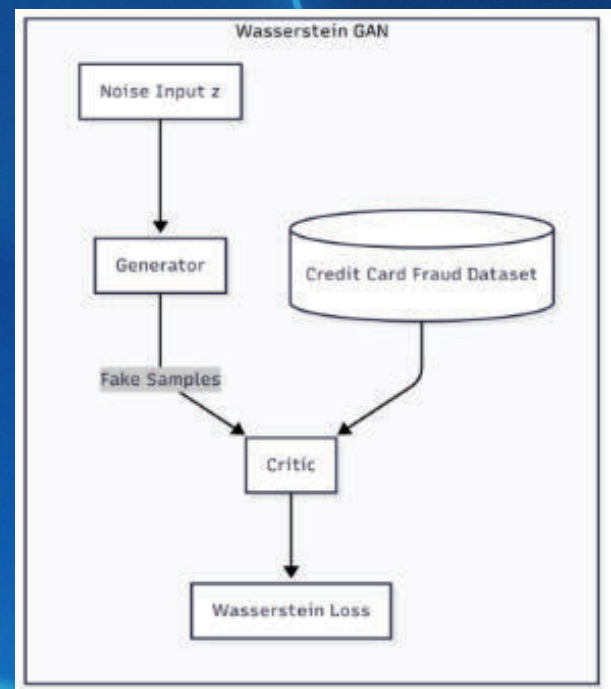


FIG.3 WGAN ARCHITECTURE.

## THE FC-TABGAN MODEL

This section features the architecture and training mechanics of the proposed FC-TABGAN model. Aimed to address the unique challenges of imbalanced tabular data, FCTAB-GAN combines fraud-aware conditioning and a multi-task learning objective to guide the combination of high-quality, minority-class samples.



# A COMPREHENSIVE HOSPITAL ERP SYSTEM FOR PATIENT-CENTRIC CARE



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This article presents the design and implementation of an integrated Hospital Enterprise Resource Planning (ERP) system developed to address key operational challenges in a multi-specialty healthcare environment. The proposed system leverages modern technologies such as Artificial Intelligence, real-time data analytics, and automated scheduling algorithms to optimize hospital operations. Core features include intelligent patient queue management, automated staff rostering, real-time bed occupancy monitoring, predictive patient inflow analysis, pharmacy inventory optimization, and emergency triage coordination. The system aims to reduce patient waiting times by up to 40 percent, improve resource utilization by 35 percent, and significantly enhance overall patient satisfaction through streamlined workflows and data-driven decision-making.

Omega Multispecialty Hospital, Yelahanka, established in 2005, has grown from a 50-bed facility into a 200-bed multi-specialty healthcare institution serving the rapidly developing Yelahanka region and its surrounding areas in North Bengaluru.

The hospital operates in a dynamic healthcare ecosystem characterized by increasing population density, rising patient expectations, and growing competition from corporate hospital chains. The region's transition from a semi-urban locality to a major urban centre has introduced both opportunities and operational challenges in healthcare delivery.

At present, the hospital manages approximately 350 to 450 outpatients daily, with seasonal peaks reaching nearly 600 patients during monsoon and winter months. The inpatient department maintains an average occupancy rate of 85 percent, rising to almost 95 percent during critical periods. While this growth reflects institutional success, it has also exposed limitations in the hospital's existing operational framework, which relies on a combination of legacy software systems, manual workflows, and fragmented digital solutions.

India's healthcare sector is undergoing rapid digital transformation driven by initiatives such as Digital India and the National Digital Health Mission. Patients increasingly expect healthcare services to be seamless, transparent, and efficient, comparable to other service industries. The COVID-19 pandemic further highlighted the need for robust digital systems capable of managing patient flow, optimizing resources, and ensuring continuity of care during emergencies.

The current manual and semi-digital processes at the hospital have resulted in prolonged patient waiting times, inefficient staff allocation leading to burnout, suboptimal bed utilization, unpredictable patient inflow, frequent pharmacy stock imbalances, and delayed emergency response coordination. Addressing these challenges requires a comprehensive, integrated, and intelligent hospital management solution.

The primary objective of the proposed ERP system is to streamline hospital operations through centralized data management and automation. The system aims to incorporate AI-driven predictive analytics for effective resource planning, automate staff scheduling and inventory management, enhance patient experience by reducing waiting times, improve staff productivity and job satisfaction, and enable patient-centric services such as online consultations.



Previous research has demonstrated the effectiveness of hospital ERP systems in improving operational efficiency. Studies have shown that automated queue management systems can significantly reduce patient waiting times, while AI-based predictive models can accurately forecast patient inflow. However, many traditional hospital management systems operate in isolated modules, leading to data fragmentation and inefficiencies. Integrating real-time analytics within an ERP framework offers a holistic solution to these challenges.

The proposed system, named MediSync, follows a modular microservices architecture to ensure scalability, flexibility, and reliability. It employs a modern technology stack comprising React.js for the frontend, Node.js and Express.js for the backend, PostgreSQL with Redis for data management, Python-based AI and machine learning models, and React Native for mobile application support. Real-time communication is enabled through WebSocket technologies.

MediSync introduces intelligent patient registration and queue management through digital registration, OCR-based document scanning, and smart queue allocation based on appointment type, doctor availability, and patient priority. Real-time queue updates are displayed on digital boards and communicated through mobile notifications, significantly reducing registration time and overall waiting periods.

The system also includes an AI-powered staff auto-scheduling module that considers historical workload patterns, staff qualifications, preferences, predicted patient inflow, and labour regulations. Dynamic shift adjustments and mobile access to schedules help reduce overtime costs while improving staff satisfaction and coverage during peak hours.

Real-time bed and room availability tracking is achieved through a combination of IoT integration and manual updates, providing live dashboards that display occupancy status, expected discharge times, and maintenance requirements. Automated bed allocation improves utilization and reduces patient transfer delays.

An AI-based patient inflow prediction model uses historical data, seasonal trends, weather conditions, and local events to forecast patient volumes with high accuracy. These predictions enable proactive staff scheduling and resource allocation, minimizing overcrowding and service delays.

Pharmacy stock management is optimized through automated inventory tracking using barcode and RFID technologies. Intelligent reordering mechanisms based on consumption patterns, supplier lead times, seasonal demand, and drug expiry dates help reduce stock-out incidents and inventory costs while ensuring consistent drug availability.

The emergency alert and triage system prioritizes patients using standardized triage protocols, triggers instant alerts to medical teams, and provides real-time visibility of emergency bed availability. Integration with ambulance services ensures faster response times and improved outcomes during critical situations.

Data analysis and optimization models form the backbone of MediSync. Patient inflow prediction is achieved using Random Forest regression combined with time-series analysis, while staff scheduling is optimized through constraint programming and genetic algorithms. These models aim to minimize overtime costs, maximize staff satisfaction, and ensure adequate service coverage.

The expected outcomes of the system include substantial reductions in patient waiting times, staff overtime, inventory costs, and emergency response delays, along with improved bed utilization and overall hospital efficiency. Qualitative benefits include enhanced patient experience, improved staff morale, data-driven decision-making, greater operational transparency, and a competitive advantage in the healthcare sector.



While technical challenges such as data integration, AI model accuracy, and system reliability must be addressed, these can be mitigated through continuous model training, robust infrastructure, and phased implementation strategies. Organizational challenges such as staff resistance and process adaptation can be managed through comprehensive training and change-management programs, with strict adherence to data privacy regulations.

In conclusion, MediSync represents a comprehensive and intelligent solution to the operational challenges faced by Omega Mult speciality Hospital, Yelahanka. By integrating advanced technologies with healthcare domain expertise, the system has the potential to significantly enhance efficiency, patient care, and resource utilization. Its scalable and modular design supports future expansion, positioning the hospital as a technology-driven leader in modern healthcare delivery.



# AI MEETS AYURVEDA: TRANSFORMING ANCIENT WISDOM INTO SMART DIAGNOSTICS



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Ayurveda, the ancient science of holistic medicine, has long emphasized understanding the human body through careful observation and experiential knowledge. Among its many diagnostic practices is Taila Bindu Pariksha (TBP), the analysis of an oil drop's behaviour on water or urine, traditionally used to assess disease severity and prognosis. However, the reliance on subjective human interpretation has limited its standardization and scientific validation.

AI Meets Ayurveda seeks to bridge this gap by integrating Artificial Intelligence (AI), Computer Vision, and Machine Learning into the Taila Bindu Pariksha process. This project reimagines TBP as a data-driven diagnostic system, enhancing precision, reproducibility, and accessibility while preserving its Ayurvedic foundations. Perimentation, iteration, and community-driven platforms.

The inspiration behind this work emerged from a simple yet powerful question: Can traditional Ayurvedic wisdom be quantified using modern technology?

The vision was not to replace human expertise, but to enhance it, to revive Taila Bindu Pariksha as a technologically assisted diagnostic companion. By digitizing ancient intuition and making it measurable through AI-powered analysis, the project represents a new era of integrative medicine, where tradition and innovation coexist to promote preventive, evidence-based healthcare.

## System Design and Methodology

To realize this vision, a fully functional prototype of an AI-based TBP diagnostic system was designed and implemented. The system consists of the following key components:

- **Automated Oil-Drop Dispenser:** Ensures controlled release of oil with consistent height and volume.
- **Imaging System:** A camera module integrated with LED ring lighting captures high-resolution, top-view images of oil-drop patterns.
- **Processing Unit:** A Jetson or Raspberry Pi board handles image acquisition, preprocessing, and real-time AI inference.
- **Software Stack:** Image processing is performed using OpenCV, while classification is achieved through a Convolutional Neural Network (CNN) developed using TensorFlow.
- **Cloud Integration:** Enables secure storage of image datasets and diagnostic outputs, supporting continuous learning and system improvement.

Each diagnostic test follows a strict standardized protocol. A drop of oil is released onto the liquid surface and observed for 60 seconds. The system analyses feature such as shape, spread, colour, circularity, and motion, which are then processed by the AI model. Based on patterns described in classical Ayurvedic texts, results are classified as favourable, neutral, or unfavourable, serving as indicators of health status.



## Implementation and Results

The prototype was developed and tested within a controlled Ubuntu environment. A mobile camera, connected via IP Webcam, streamed live video to the processing unit, enabling real-time image analysis and classification.

A pilot study involving 60 participants compared the AI system's predictions with evaluations provided by experienced Ayurvedic practitioners. The results demonstrated an 84% agreement with expert diagnoses and a 95% reproducibility rate, validating the feasibility and reliability of integrating AI with traditional diagnostic practices.

Beyond accuracy, the system proved valuable as an educational, clinical, and research tool—supporting Ayurveda students, assisting practitioners, and generating structured datasets for future scientific exploration.

## Learning and Challenges

Designing an AI-assisted TBP system required striking a balance between technological precision and cultural sensitivity. While algorithmic accuracy was essential, preserving the philosophical essence of Ayurveda remained equally important. Key challenges included lighting calibration, dataset consistency, and ethical data handling. These were addressed through iterative experimentation, system refinement, and close collaboration between technologists and Ayurvedic experts.

## Future Scope

- The project opens promising avenues for future development, including:
- Development of smartphone-compatible TBP kits for rural and remote healthcare delivery
- Integration of magnetometer sensors to analyse oil-drop directionality
- Expansion of labelled datasets to improve CNN accuracy
- Collaboration with AYUSH research centres for large-scale clinical validation
- Integration of TBP with other diagnostic techniques such as Nadi Pariksha for comprehensive health assessment

These advancements have the potential to position AI-powered TBP as a cornerstone of preventive and integrative medicine.

## Conclusion

This project embodies the spirit of Dream. Design. Do.

We dreamed of modernizing an ancient diagnostic art, designed an intelligent system powered by artificial intelligence, and executed it with scientific rigour. By blending the timeless wisdom of Ayurveda with the precision of **AI, Taila Bindu Pariksha is reimagined as a sustainable, inclusive, and scientifically grounded diagnostic practice for the 21st century.**

This work demonstrates that innovation is not always about creating something entirely new—it is often about **reviving the timeless through technology.**



# THE BRAIN GYM



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2023ICSE0444

Bachelor of Technology

School of Computer Science and Engineering

## Volume 1 | Exercise Your Mind

Welcome to the Brain Gym. No heavy lifting required—just sharp wits and a bit of patience. Can you make it to the bottom of the page without checking the answers?

### PART 1: RAPID FIRE RIDDLES

Let's get the neurons firing. Solve these fast!

**The Light Weight:** I am light as a feather, yet the strongest man cannot hold me for much more than a minute. What am I?

**The Strange Collection:** I have keys but no locks. I have a space but no room. You can enter but never go outside. What am I?

**The Broken Item:** If you drop me, I'm sure to crack, but give me a smile and I'll always smile back. What am I?

**The Dictionary:** What is the only word in the dictionary that is spelled incorrectly?

### PART 2: THE DETECTIVE'S DESK (Lateral Thinking)

These puzzles require you to think outside the box. The answer isn't about math; it's about the situation.

**Case #1: The Elevator Man** A man lives on the 10th floor of a building. Every day, he takes the elevator down to the ground floor to go to work. When he returns, he takes the elevator to the 7th floor and walks up the stairs to the 10th floor to get to his apartment. He hates walking. Why does he do this?

**Case #2: The Solitary Cabin** A man is found dead in a cabin in the mountains. The cabin is locked from the inside. There is no weapon, and no signs of a struggle. The only things in the room with him are a puddle of water and some broken glass. How did he die?

### PART 3: THE LOGIC LAB (River Crossing)

*A classic test of planning. Don't get wet!*

**The Challenge:** A farmer needs to cross a river with a Wolf, a Goat, and a Cabbage. He has a small boat, but it can only fit the Farmer and one item at a time.

The Rules:

1. If left alone, the Wolf will eat the Goat.
2. If left alone, the Goat will eat the Cabbage.
3. The Wolf will not eat the Cabbage.



**How does the farmer get everything across safely?** (Write your steps in the margin!)

#### PART 4: PATTERN RECOGNITION

Find the missing link.

**A. Number Sequence:** 1, 1, 2, 3, 5, 8, 13, ?

**B. Visual Logic:** If:  $2 + 3 = 10$   $7 + 2 = 63$   $6 + 5 = 66$   $8 + 4 = 96$  Then:  $9 + 7 = ?$

**C. Letter Logic:** O, T, T, F, F, S, S, E, ?

#### PART 5: IMPOSSIBLE TRIVIA

*Did you know?*

**Your Brain's Power:** The human brain generates about 23 watts of power when awake—enough to power a small lightbulb!

**Information Overload:** The brain can store an estimated 2,500,000 gigabytes of digital memory.

**Pain Free:** The brain itself cannot feel pain. There are no pain receptors in the brain tissue (which is why brain surgery can be performed while the patient is awake).

#### ANSWERS (NO PEEKING!)

##### Rapid Fire:

Your Breath.

A Keyboard.

A Mirror.

"Incorrectly."

##### The Detective's Desk:

**The Elevator:** The man is a dwarf (or a child). He cannot reach the button for the 10th floor. He can only reach as high as the 7th button.

**The Cabin:** An icicle fell from the ceiling (or he stood on a block of ice to hang himself), killed him, and then melted.

# THE DRAFTS WE NEVER SAVED



**Sai Tharun M**

2023ICSE0444

Bachelor of Technology

School of Computer Science and Engineering

The coffee cup leaves a ring on the table—a perfect circle, a zero, a beginning. We sit in the glow of blue light while the rest of the city sleeps in darkness. Here, between the textbook and the screen, between reality and imagination, the real work unfolds. Not the assignment due at 8:00 a.m., but the quiet architecture of who we are becoming.

They tell us the world moves in a straight line, a ladder to climb, rung by rusted rung. But we understand the truth of the scatter plot: data points drifting where they do not belong. We are the generation of the glitch, the ones who know that Ctrl + Z cannot undo the words spoken in anger or the chances we never took. We are learning that memory is not just RAM; it is the scent of rain on hot asphalt and the echo of laughter in a crowded hall.

Do you remember the ideas we once had; the ones scribbled on the backs of receipts? The inventions that would save the oceans, the code that would map the stars. Some were deleted. Some were lost in the noise of “being realistic.” Yet, look closely at the margins of your notebook, at the doodles in the corners of the page. The ambition still lives there, waiting for the signal to run.

It is easy to feel insignificant in the server room of the universe, just another node in an infinite network. But even the smallest spark can start an engine. We are not merely storing information; we are processing it into wisdom, or at least, we are trying to. We debug our biases, patch the gaps in our patience, and upgrade the version of ourselves that walked in yesterday.

So, to the one reading this with headphones on and worry weighing heavy—pause. Breathe. The error logs will clear. The compile will succeed. The story is not finished yet. You are the author, the coder, and the pilot. Turn the page. The future is blank, and you are holding the pen.



# ARTWORK



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**Ravikumar**

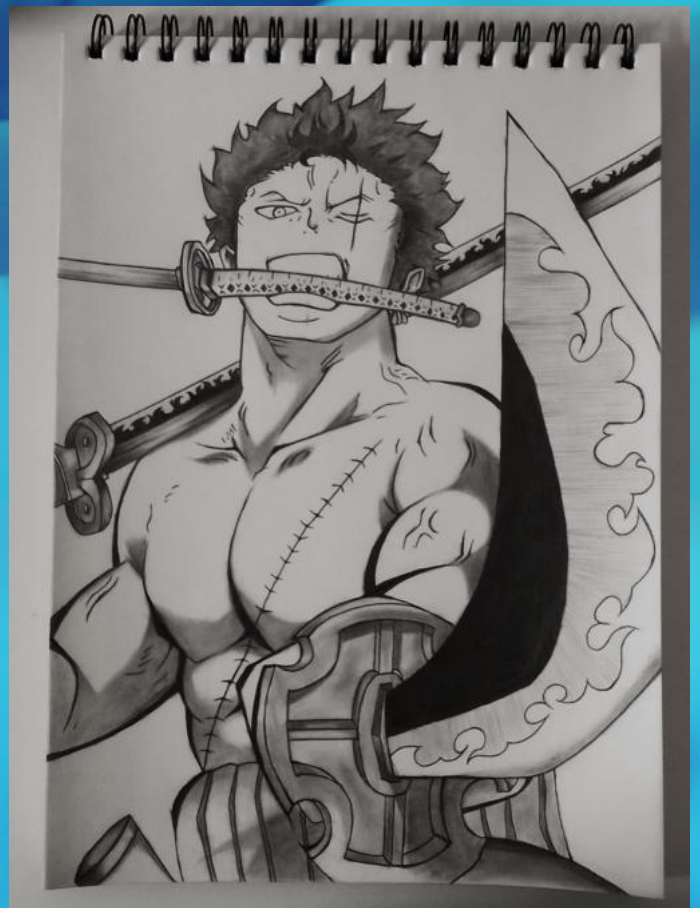
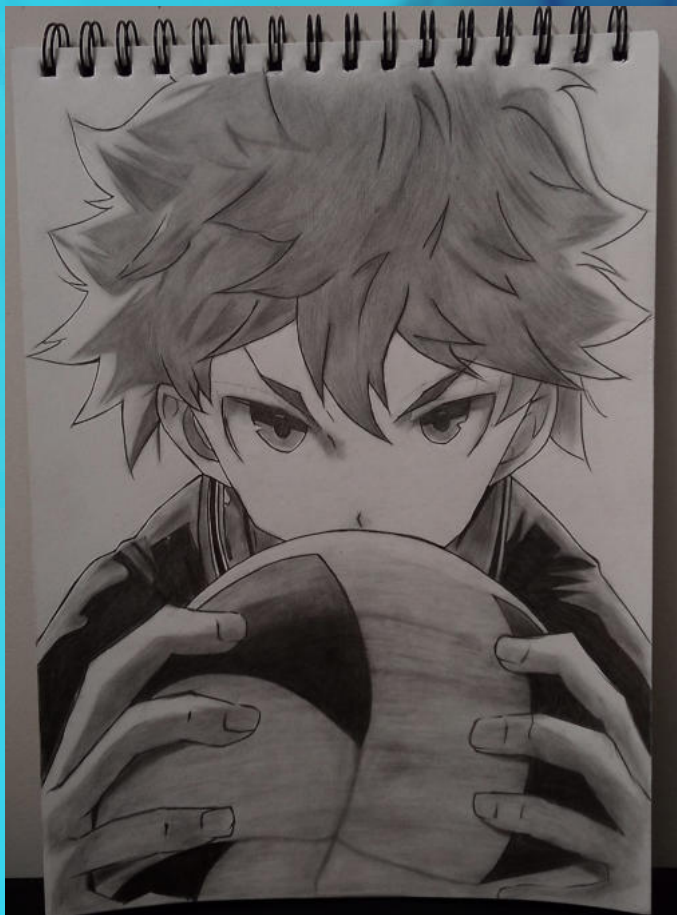
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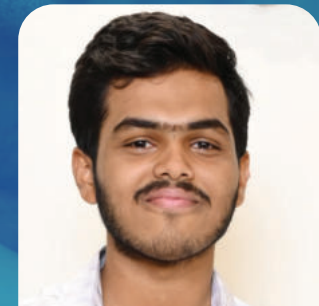
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