



**6<sup>th</sup> International Conference on Entrepreneurship, Innovation and Leadership  
(ICEIL – 2024)  
9<sup>th</sup> - 11<sup>th</sup> October 2024**

**SESSION WRITEUP**

**TRACK-2: Engineering & Technology**

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| <b>Session No</b>                     | 2.1   |
| <b>Panel Discussion Session Topic</b> | Entrepreneurship in the Digital Age: Frontier Technologies in Computer Science & Engineering as Catalyst for Atmanirbhar Bharat |
| <b>Day &amp; Date</b>                 | Wednesday, 9 <sup>th</sup> October 2024   |
| <b>Time</b>                           | 12 Noon – 1:30 PM   |
| <b>Venue</b>                          | E-2 Auditorium  |
| <b>Organizing Institute</b>           | Department of Computer Science & Engineering, Amity School of Engineering & Technology  |

**Session Overview:**

The panel discussion on "**Entrepreneurship in the Digital Age: Frontier Technologies in CSE as Catalyst for Atmanirbhar Bharat**" will explore the transformative role of cutting-edge technologies in Computer Science and Engineering (CSE) in fostering entrepreneurship and driving India's self-reliance agenda. With the government's Atmanirbhar Bharat initiative pushing for innovation, local manufacturing, and self-sufficiency, this session will focus on how technologies like Artificial Intelligence (AI), Blockchain, Cloud Computing, Metaverse, and Data Science are enabling entrepreneurs to create disruptive solutions for pressing challenges.

The panel will examine how these frontier technologies are reshaping sectors such as agriculture, healthcare, education, and fintech, offering entrepreneurs a fertile ground for innovation. Through real-world examples and insights from industry leaders, the discussion will highlight how startups are leveraging these technologies to scale operations, reduce costs, and increase market reach, while also contributing to national priorities like job creation, digital inclusion, and sustainable development.

Key challenges, such as access to capital, infrastructure, and skilled talent, will also be addressed, along with the need for policies that encourage technology adoption and innovation. Panelists will share their experiences on navigating the digital landscape, offering strategies to

overcome hurdles and capitalize on the opportunities provided by this tech-driven era. The session aims to inspire entrepreneurs to harness the power of CSE technologies, positioning India as a global innovation leader and advancing the vision of Atmanirbhar Bharat in the digital age.

### **Session Objectives:**

1. **To understand the Role of Frontier Technologies:** Explore how emerging technologies such as AI, Blockchain, Data Science, and Cloud Computing are transforming industries and driving entrepreneurship in India, aligning with the goals of the Atmanirbhar Bharat initiative.
2. **To showcase Innovation and Success Stories:** Present case studies and examples of successful Indian startups that have leveraged CSE technologies to address local challenges, scale operations, and compete globally.
3. **To identify Challenges and Solutions for Entrepreneurs:** Analyze the key barriers entrepreneurs face, including access to capital, infrastructure, and talent, and discuss strategies and policy recommendations to overcome these hurdles in a technology-driven business environment.
4. **To inspire Future Entrepreneurs:** Encourage participants, particularly aspiring entrepreneurs, to harness the potential of CSE technologies in creating innovative, sustainable solutions that contribute to India's self-reliance and global leadership in digital innovation.

### **Key Questions to be Explored:**

1. How can emerging technologies like AI, Blockchain, and IoT serve as catalysts for innovation and entrepreneurship in India, particularly in the context of the Atmanirbhar Bharat mission?
2. What are some success stories of Indian startups that have leveraged frontier technologies in CSE to address local challenges and scale globally?
3. What key barriers—such as funding, talent acquisition, and digital infrastructure—do entrepreneurs face in adopting these technologies, and how can they be overcome?
4. How can government policies and initiatives better support the integration of frontier technologies into startups, and what role should academia and the private sector play?
5. In which sectors (e.g., healthcare, agriculture, education, fintech) do frontier technologies hold the most potential for entrepreneurial growth, and how can startups capitalize on these opportunities?
6. How can entrepreneurs balance the drive for innovation with sustainability and inclusivity, ensuring that technological advancements contribute to broader socio-economic goals?

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| <b>Session No</b>                     | 2.2   |
| <b>Panel Discussion Session Topic</b> | Innovative DeepTech Startups to Make India as IT Superpower |
| <b>Day &amp; Date</b>                 | Wednesday, 9 <sup>th</sup> October 2024                     |
| <b>Time</b>                           | 2:00 pm - 2:30 pm   |
| <b>Venue</b>                          | F-1 MDP Hall  |
| <b>Organizing Institute</b>           | Department of IT, Amity School of Engineering & Technology  |

### Session Overview:

India is poised to become a global IT superpower, driven by a surge of innovative DeepTech startups that are reshaping the technological landscape. DeepTech, grounded in scientific and engineering advancements, includes areas such as artificial intelligence (AI), machine learning, robotics, biotechnology, and blockchain. These startups are not just tackling complex challenges; they are also positioning India as a key player in the digital economy.

As India further develops its DeepTech startup ecosystem, the prospect of becoming an IT superpower grows more attainable. By promoting innovation, addressing critical issues, generating employment, and attracting investment, these startups are paving the way for India to excel in the global digital economy. Embracing this path will not only enhance India's technological prowess but also drive sustainable economic growth and development. The outlook is promising, and with ongoing support and innovation, India is poised to become a significant force in the global IT arena.

### Session Objectives

1. Encourage Research and Development: Support R&D initiatives that drive technological advancements and create scalable solutions.
2. Promote Sustainability: Focus on developing sustainable technologies that address environmental challenges and enhance quality of life.
3. Facilitate Global Market Access: Equip startups with strategies and resources to enter and compete in international markets, showcasing India's technological prowess.
4. Strengthen Collaboration: Promote partnerships between startups, established tech companies, research institutions, and government bodies to facilitate knowledge sharing and resource allocation.
5. Attract Investment: Increase both domestic and foreign investment in DeepTech startups to accelerate growth and innovation.

### Key Questions to be Explored

1. How can Indian startups attract more investment in DeepTech, and what role do venture capitalists play in this landscape?
2. How can DeepTech innovations contribute to sustainability goals in India, and what role should startups play in this?
3. What strategies can DeepTech startups adopt to encourage customer adoption of their products and services?

4. How can Indian DeepTech startups compete on a global scale against established players from other countries?
5. What future trends in DeepTech do you foresee having the most significant impact on India's economy?

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| <b>Session No</b>                     | 2.3  |
| <b>Panel Discussion Session Topic</b> | Powering the Future: Entrepreneurial Pathways in Electrical & Electronics Technology for EVs |
| <b>Day &amp; Date</b>                 | Wednesday, 9 <sup>th</sup> October 2024  |
| <b>Time</b>                           | 3:45 pm - 5:15 pm  |
| <b>Venue</b>                          | E-2 Auditorium   |
| <b>Organizing Institute</b>           | Department of EEE & ECE, Amity School of Engineering & Technology                            |

### Session Overview:

The rapid growth of electric vehicles (EVs) is reshaping the automotive industry, creating new opportunities for entrepreneurs in the fields of electrical and electronics technology. As the demand for cleaner, more efficient transportation surges, advancements in battery technology, charging infrastructure, and power electronics are becoming critical. Entrepreneurs can innovate in key areas such as developing advanced energy storage solutions, designing efficient power management systems, and creating smart charging technologies. Additionally, the rise of autonomous driving and connected vehicles offers further opportunities for integration between electronics, software, and mobility solutions. Entrepreneurs with expertise in these fields are well-positioned to lead the next wave of innovation, transforming the EV landscape through sustainable and cutting-edge technologies. With global initiatives pushing for zero-emission transportation, the electrical and electronics sector will play a pivotal role in enabling this transition, offering a promising and dynamic entrepreneurial pathway for the future. This sector faces many challenges such as lack of enough charging stations, high cost of batteries, availability of lithium etc. The innovation pathways in the sector explores new methodologies and entrepreneurial steps in addressing the issues

### Session Objectives

1. The objective of this panel discussion is to explore the emerging entrepreneurial opportunities in the field of Electrical and Electronics Technology, with a specific focus on Electric Vehicles (EVs).
2. The session will bring together industry experts, innovators, and entrepreneurs to discuss the latest technological advancements, market trends, and business models that are shaping the future of EVs
3. Panelists will share insights on how aspiring entrepreneurs can capitalize on these opportunities, the challenges they may face, and the skills needed to thrive in this rapidly evolving industry.
4. By the end of the session, attendees will gain a deeper understanding of the entrepreneurial pathways within the EV sector, including potential areas for innovation and investment.

## Key Questions to be Explored

1. What are the most promising entrepreneurial opportunities in the EV industry, particularly in Electrical and Electronics Technology?
2. How can startups and new businesses compete with established players in the EV market?
3. What role do emerging technologies, such as advanced batteries and power electronics, play in driving innovation for electric vehicles?
4. What are the biggest challenges entrepreneurs face when entering the EV sector, and how can they be overcome?
5. How can entrepreneurs leverage government policies, subsidies, and partnerships to drive growth in the EV ecosystem?
6. What are the other materials for the batteries and how the renewable energies can be exploited in the Automobile Sector?

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| <b>Session No</b>                     | 2.4  |
| <b>Panel Discussion Session Topic</b> | Role of Innovation and Entrepreneurship in Building Sustainable and Resilient Construction Industry Towards Viksit Bharat@2047 |
| <b>Day &amp; Date</b>                 | Thursday, 10 <sup>th</sup> October 2024  |
| <b>Time</b>                           | 10:00 am – 11:30 am  |
| <b>Venue</b>                          | F-1 MDP Hall   |
| <b>Organizing Institute</b>           | Department of Civil Engineering, Amity School of Engineering & Technology  |

### Session Overview:

Innovation in construction and real estate are key factors in sustainable development. This session correlates digitalisation and the Sustainable Development Goals (SDGs). Digitalization in the construction industry is often presented as a transformative power, changing our living lifestyle. However, the definition of resilience in construction and housing is always focused on environmental concerns. The expansion in smart construction technology is one of the key focuses of 2030 Agenda and its Sustainable Development Goals (SDGs). This session uses a multidisciplinary approach to analyse the potential role of construction and real estate on the 2030 Agenda. The SDGs explain digitalisation technology such as Information and Communication Technologies as a catalyst for sustainable development. It identifies the SDG-dependent objectives (directly or indirectly) on construction and construction-related projects. The results of the analysis are as follows mapping and demonstration to provide insight to scholars, working with the government.

### Session Objectives

1. How technologies like Building Information Modeling (BIM), Geographic Information Systems (GIS), and project management software are streamlining construction processes, improving efficiency, and enhancing project outcomes.
2. How the use of robotics, drones, and automation in construction tasks increases precision, reduces labor costs, and improves safety on construction sites.
3. How emerging technologies are contributing to sustainable construction practices, energy-efficient buildings, and smart infrastructure that integrates IoT (Internet of Things) for better management and reduced environmental impact.

### **Key Questions to be Explored**

1. What are the current emerging technologies being adopted in the Indian construction industry?
2. How are these technologies being integrated into construction processes and operations?
3. What are the primary benefits of adopting digital and emerging technologies in construction projects?
4. What challenges and barriers are faced by the construction industry in adopting these technologies?
5. How do emerging technologies impact project management and decision-making processes in construction?
6. What are ways of upskilling the construction workers in the emerging technologies like Drones, Robotics, automation etc.

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| <b>Session No</b>                     | 2.6   |
| <b>Panel Discussion Session Topic</b> | Nurturing Indian Industry as Manufacturing Hub Through Engineering Based Innovations and Entrepreneurship |
| <b>Day &amp; Date</b>                 | Thursday, 10 <sup>th</sup> October 2024   |
| <b>Time</b>                           | 12:00 noon - 1:30 pm  |
| <b>Venue</b>                          | F-1 MDP Hall  |
| <b>Organizing Institute</b>           | Department of Mechanical Engineering, Amity School of Engineering & Technology                            |

### **Session Overview:**

We have a vision of nurturing Indian Industry as manufacturing hub through engineering-based innovations. This includes enhancing a culture of Entrepreneurship. The vision of Aatmanirbhar Bharat, or a self-reliant India, is a bold and transformative initiative aimed at positioning the country as a global powerhouse of innovation and production. Central to this vision engineering, which plays a pivotal role in the development of indigenous technologies, manufacturing capabilities, and sustainable solutions that drive economic growth and technological advancement. Mechanical engineering, with its broad applications in industries such as automotive, aerospace, energy, and manufacturing, is at the forefront of this movement. By fostering innovation in areas like advanced manufacturing, robotics, and materials science, mechanical engineers are creating the building blocks for a self-sufficient India. Their contributions not only enhance the nation's industrial output but also reduce dependency on foreign technologies, aligning with the Aatmanirbhar Bharat mission. Moreover, the

integration of cutting-edge technologies such as artificial intelligence, the Internet of Things (IoT), and automation into mechanical systems is revolutionizing traditional manufacturing processes. This fusion of digital and mechanical engineering is enabling Indian industries to compete globally, offering high-quality, cost-effective products that meet international standards. Through continuous research and development, Indian engineers are not only advancing their fields but also creating job opportunities, boosting the economy, and ensuring sustainable development. In conclusion, the journey from vision to reality for Aatmanirbhar Bharat is being significantly driven by the relentless efforts and innovations within the field of mechanical engineering. As these engineers continue to push the boundaries of technology and manufacturing, they are laying the foundation for a self-reliant and resilient India, capable of leading in the global arena.

### **Session Objectives:**

1. To explore and highlight the critical role that mechanical engineering plays in realizing the vision of making India a manufacturing hub through innovations. This includes enhancing a culture of Entrepreneurship. This will also help make a vision of Aatmanirbhar Bharat a reality.
2. Showcase Innovations: Present key innovations and technological advancements in mechanical engineering that are contributing to the development of indigenous technologies and solutions, reducing reliance on imports, and enhancing India's self-reliance.
3. Discuss Industry Impact: Analyze the impact of mechanical engineering on various industries such as manufacturing, automotive, aerospace, and energy, and how these sectors are aligning with the Aatmanirbhar Bharat initiative.
4. Foster Collaboration: Encourage collaboration between academia, industry, and government to further research and development in mechanical engineering, ensuring that the country remains at the cutting edge of technological progress.
5. Identify Challenges and Opportunities: Identify the challenges faced by the mechanical engineering sector in achieving self-reliance and explore the opportunities that exist for innovation, entrepreneurship, and growth within this framework.
6. Promote Sustainable Practices: Discuss the role of mechanical engineering in promoting sustainable practices, including the development of green technologies and energy-efficient solutions, contributing to a sustainable and resilient economy.
7. Inspire Future Engineers: Inspire the next generation of engineers by demonstrating the importance and potential of mechanical engineering in driving the nation's progress and fulfilling the vision of a self-reliant India.

### **Key Questions to be explored:**

1. What specific technologies and advancements are critical for reducing India's dependency on imports?
2. How can these challenges be overcome to accelerate the pace of indigenous innovation?
3. What role does advanced manufacturing and automation play in driving the Aatmanirbhar Bharat initiative?
4. What are the key areas where collaboration between academia, industry, and government is needed to drive self-reliance in mechanical engineering?
5. What steps are necessary to equip the next generation of engineers with the skills and knowledge required to contribute to this mission?

6. How can Indian companies leverage their innovations to enter and compete in global markets?
7. How can the adoption of digital technologies like AI, IoT, and data analytics enhance the GDP?

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| <b>Session No</b>                     | 2.6   |
| <b>Panel Discussion Session Topic</b> | Nurturing Indian Industry as Manufacturing Hub Through Engineering Based Innovations and Entrepreneurship |
| <b>Day &amp; Date</b>                 | Thursday, 10 <sup>th</sup> October 2024   |
| <b>Time</b>                           | 2:00 pm - 3:30 pm   |
| <b>Venue</b>                          | F-1 MDP Hall  |
| <b>Organizing Institute</b>           | Department of Artificial Intelligence, Amity School of Engineering & Technology                           |

### **Session Overview:**

In today's rapidly evolving business landscape, Artificial Intelligence (AI) has become a key driver of innovation and leadership. This panel discussion will explore how entrepreneurial visionaries are harnessing the power of AI to revolutionize industries and lead groundbreaking initiatives. We will explore how AI is being integrated into entrepreneurial strategies to enhance decision-making, optimize operations, foster a culture of innovation, and create disruptive solutions.

The discussion will also address the leadership challenges and opportunities that arise when adopting AI technologies. Panelists will share insights on how AI is shaping the future of entrepreneurship, providing a competitive edge, and driving strategic decision-making. We will examine case studies of businesses that have successfully leveraged AI to achieve remarkable outcomes and discuss the lessons learned.

### **Session Objectives:**

1. To explore how AI is being used by entrepreneurial leaders to drive innovation and create competitive advantages.
2. To examine the challenges and opportunities that AI presents for startups and established companies.
3. To discuss the impact of AI on leadership styles and strategies in the entrepreneurial context..
4. To provide practical insights and strategies for leveraging AI to achieve breakthrough innovations and leadership success.
5. To explore the potential of AI for social good and foster the ethical application of AI technologies.

### **Key Questions to be Explored:**



1. How are entrepreneurial visionaries leveraging AI to drive innovation and gain a competitive edge, and what role does AI play in fostering creativity and developing disruptive solutions?
2. In what ways is AI reshaping leadership approaches and decision-making in entrepreneurial ventures, and how does it influence leadership styles and processes in innovative enterprises?
3. What are the primary challenges faced by entrepreneurs when integrating AI into their business strategies, and what strategies can they use to effectively incorporate AI into their business models and operations?
4. How can startups and established companies utilize AI to optimize operations, enhance overall business performance, and anticipate market trends to stay ahead of competitors?
5. How can emerging entrepreneurs prepare for and adapt to the rapidly evolving AI landscape, and what future trends in AI should they be aware of to build successful ventures?
6. What roles do mentorship and collaboration play in leveraging AI for entrepreneurial success, and how can leaders foster a culture of innovation and adaptability i

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| <b>Session No</b>                     | 2.7   |
| <b>Panel Discussion Session Topic</b> | Exploring Innovations in Cybersecurity Technologies to Support Entrepreneurial Growth for Viksit Bharat |
| <b>Day &amp; Date</b>                 | Thursday, 10 <sup>th</sup> October 2024   |
| <b>Time</b>                           | 3:45 pm – 5:15 pm   |
| <b>Venue</b>                          | E-2 Auditorium  |
| <b>Organizing Institute</b>           | Amity Institute of Information Technology   |

### Session Overview:

As India strides towards its vision of Viksit Bharat by 2047, cybersecurity innovations play a crucial role in supporting entrepreneurial growth in the digital economy. Startups and SMEs, the backbone of this growth, face escalating cyber threats as they embrace digital transformation. Emerging technologies in cybersecurity can provide much-needed protection.

AI-driven cybersecurity offers real-time threat detection and automated response, helping small businesses defend against evolving attacks like phishing and ransomware. Cybersecurity-as-a-Service (CaaS) provides affordable, scalable security solutions tailored for startups, ensuring robust protection without heavy investments.

For digital transactions and supply chains, blockchain technology offers secure, tamper-proof systems, enhancing trust and transparency. Post-Quantum Cryptography (PQC) future-proofs businesses by safeguarding data against emerging quantum computing threats. With the rise of connected devices, IoT security innovations, including encryption and edge computing, are essential for sectors like manufacturing and agriculture.

Cloud security is strengthened through Zero Trust Architecture and Cloud Access Security Brokers (CASBs), securing critical data while enabling cost-efficient, scalable infrastructure.

Additionally, cybersecurity training platforms increase awareness, mitigating risks due to human error.

By adopting these cutting-edge solutions, Indian entrepreneurs can build secure digital businesses, driving sustainable growth and innovation. As cybersecurity evolves, it will be a key enabler in realizing Viksit Bharat, fostering a secure and thriving digital ecosystem.

India's cybersecurity landscape has seen significant growth, with startups playing a pivotal role in protecting the country's expanding digital infrastructure. The market has been growing at a compound annual rate of 25% since 2019 and is expected to continue to expand. Several innovative companies are emerging as key players, offering cutting-edge solutions to tackle cyber threats to name just a few: **Prophaze, Kratikal, TAC Security, Aristi Lab, Wijungle**. These startups represent a new wave of innovation, addressing the growing demand for advanced cybersecurity in a digital-first world.

### **Session Objectives:**

1. Securing digital infrastructure via cloud security solutions.
2. Fostering Innovation in securing digital transactions systems.
3. Empowering SMEs with Affordable Cybersecurity by providing Cybersecurity-as-a-Service (CaaS) and AI-driven tools
4. Enhancing Digital Trust and Compliance using data privacy tools.
5. Leveraging the start ups for the development of trusted platforms and systems.

### **Key Questions to be Explored:**

1. What role does AI-driven cybersecurity play in protecting Indian entrepreneurs?
2. How can innovations in cyber security be applied to secure cloud infrastructure for Indian startups that increasingly rely on cloud-based platforms?
3. In what ways can Cybersecurity-as-a-Service (CaaS) democratize access to advanced security solutions?
4. How cyber security innovations can enhance transparency and security in financial transactions and supply chain management?
5. What are the immediate steps startups should take to prepare for potential security threats?
6. What are the best practices Indian entrepreneurs can adopt to ensure data privacy and compliance with regulations like the Digital Personal Data Protection Act?