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Empowering Futures with Code Unnati

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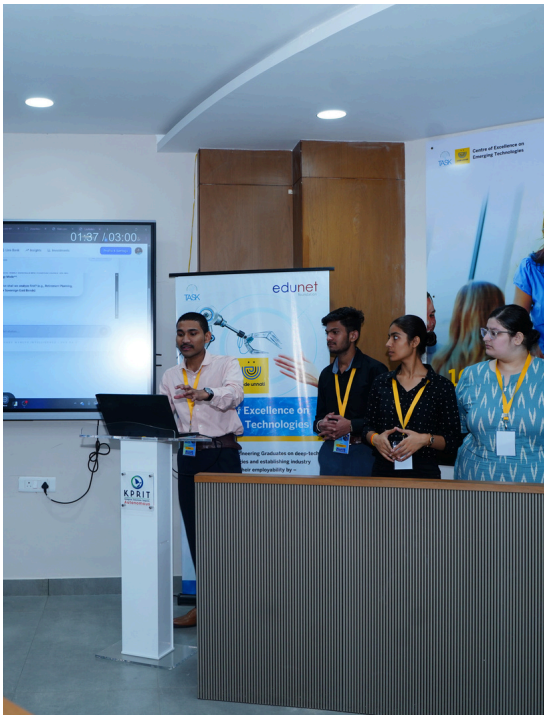
SAP CODE UNNATI INNOVATION MARATHON 4.0

Telangana & Karnataka

The SAP Code Unnati Innovation Marathon 4.0 marked a landmark milestone in fostering a culture of technology and entrepreneurship among engineering students across the Telangana and Karnataka regions. Organized under the broader Code Unnati initiative, the marathon served as a platform for young minds to tackle real-world challenges through artificial intelligence, internet of things (IoT), and data science. The event was physically hosted at the Kommuri Pratap Reddy Institute of Technology (KPRIT), where brilliant student innovators gathered to exhibit their functional prototypes and software models.

- **Date:** March 13, 2026
- **Total Teams:** 29
- **Venue:** KPRIT, Survey no: 1140, Ghanpur, Ghatkesar, Hyderabad, Telangana 500088.

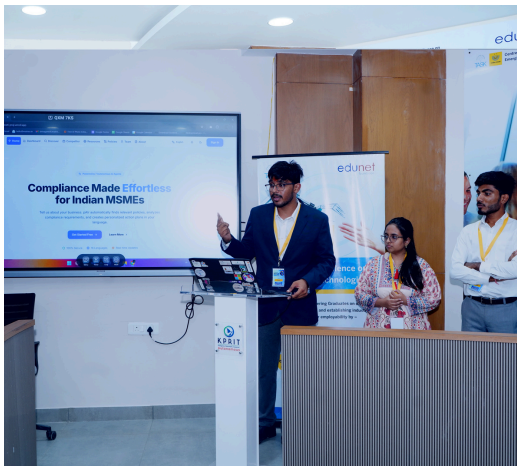
Grand Inauguration



The marathon was inaugurated in an atmosphere of great enthusiasm and anticipation. The event was honored by the presence of **Shri Gaddam Vivek Venkata Swamy**, the current **Minister for Labour, Employment, Training, Factories, Mines, and Geology in the government of Telangana**.

In his inaugural address, the **honorable Minister** highlighted the indispensable role that practical, technology-driven education plays in the current industrial era. He emphasized that initiatives like Code Unnati actively bridge the gap between classroom theories and industry demands, ensuring that the youth are not just educated but highly employable and future-ready. He lauded the collaboration of academic institutions with tech giants to scale up skilling and labor preparedness in emerging domains.

Objective and Participation



The primary objective of Innovation Marathon 4.0 was to provide students with an experimental playground to apply their technical upskilling directly to societal and corporate bottlenecks. The event saw diverse participation from colleges across both states, featuring highly competitive projects that targeted health, environment, business, and daily utility problems. Panels of evaluators and industry experts rigorously assessed each project based on innovation, real-world feasibility, UI/UX, and implementation completeness.

Female Students Leading Projects

There is clear and positive evidence in the uploaded records showing strong female participation and leadership among the projects. Several high-impact projects were registered with female students taking the helm as Team Leads.

Here are notable extracted examples of projects led by female students:

Anushri BR
College: Sri Krishna Institute of Technology, Karnataka
Project: Smart infant cry analyzer for need recognition
Leadership: Confirmed as Female Team Lead managing a team of all-female members (Hemashree BR, Pooja YL, and Brundha R).

Kandagiri Vennela
College: Trinity College of Engineering & Technology, Telangana
Project: BioCortex AI - Smart Medical Report Analyser and Hospital Recommendation System
Leadership: Served as the registered Team Leader for this health-tech initiative.

Eega Chandrika
College: Mahatma Gandhi University, Telangana
Project: ExpenseOracle (AI Driven Autonomous Finance Intelligence Platform)
Leadership: Served as the registered Team Leader for this finance-tech initiative.

Sambari Shailaja
College: Balaji Institute of Technology and Science, Telangana
Project: Smart Companion: Redefining Elderly Assistance
Leadership: Acted as the registered Team Lead for a team of 4 members pushing health and environment wellbeing.

Sama Madhuri
College: Siddhartha Institute of Engineering & Technology, Telangana
Project: Crime Data Analysis and Visualization System Using Python
Leadership: Acted as the registered Team Lead for this data science initiative.

This distribution directly reflects the success of the program in advancing gender inclusiveness, as women are actively spearheading complex AI, hardware, and data science projects on equal footing.

Why This Event Is Crucial for Any Program

The success of the SAP Code Unnati Innovation Marathon 4.0 proves that such events are not just auxiliary perks but core mechanical necessities for any successful skilling initiative. They are vital for the following reasons:

- **Bridging the Academia-Industry Chasm:** It forces students out of rote memorization. To stand before industry evaluators, they must translate abstract coding concepts into living, functional prototypes that operate under real-world constraints.
- **Creating Ecosystem Visibility:** Bringing top government leadership, corporate giants, and ambitious students under one roof generates vital visibility. It creates tangible social proof of the program's return on investment (ROI).
- **Promoting Peer-To-Peer Learning:** High-intensity hackathons and marathons force competing teams to look at what their peers are doing. This observation triggers natural knowledge sharing and pushes the collective benchmark of innovation higher for the next academic year.
- **Fostering Local Leadership & Faculty Growth:** Hosting these events at colleges like KPRIT challenges local faculty to act as project mentors, driving long-term sustainability within campus Centers of Excellence.

Prize winning Projects developed by students

Smart Solar Umbrella

The project "**Smart Solar Umbrella**" addresses the limitations of non-portable and inefficient outdoor power solutions that rely on fixed solar panels or grid electricity. It solves the challenge of adapting to changing sunlight directions.

The solution uses IoT and AI-based sensing to track light intensity and automatically adjust the solar panel using a servo motor. This ensures maximum energy absorption and provides a portable, sustainable power source for outdoor users.

- **Technology Used**: IoT, AI-based sensing, LDR sensors, Microcontroller, Servo Motor
- **Software Used**: Embedded C / Arduino IDE

SENTINEL – AI-Powered Multi-Camera Intelligent Surveillance & Defence Reconnaissance System

The project "SENTINEL" addresses cognitive overload in surveillance systems, where monitoring multiple cameras leads to blind spots and missed threats.

It offers an AI-powered solution with cross-camera tracking, behavioural analysis, and real-time threat detection. The system alerts operators only when necessary, improving accuracy and reducing response time.

- **Technology Used**: Artificial Intelligence, Computer Vision, Multi-camera tracking
- **Software Used:** Python, OpenCV, Deep Learning frameworks (TensorFlow/PyTorch)

Pay By Presence – Smarter Stores For A Smarter India

The project "Pay By Presence" solves inefficiencies in retail such as long queues, manual billing errors, and reliance on QR-based payments.

It enables a fully automated shopping experience using face detection and digital wallets, with computer vision or NFC identifying products and generating instant bills for a seamless checkout.

- **Technology Used:** AI, Face Recognition, Computer Vision, NFC
- **Software Used:** Python, OpenCV, Cloud APIs

pAIr – AI-Powered MSME Compliance & Government Scheme Navigator

The project "**pAIr**" addresses the complexity MSMEs face in understanding compliance requirements and government schemes, often resulting in missed opportunities and penalties.

It uses a multi-agent AI system to analyze policies, generate compliance roadmaps, and simplify processes in multiple regional languages, helping businesses stay compliant and access benefits easily.

- **Technology Used**: Artificial Intelligence, NLP, Multi-agent systems
- **Software Used:** Python, LLM APIs, NLP frameworks

SAP CODE UNNATI INNOVATION MARATHON 4.0

Gujarat & Maharashtra

The Grand Finale of the SAP Code Unnati Innovation Marathon 4.0 for the Gujarat and Maharashtra regions successfully concluded at the Shree Swaminarayan Institute of Technology, Gandhinagar. This program, supported by SAP Corporate Social Responsibility (CSR) and implemented by the Edunet Foundation, serves as a premium platform to identify and reward promising technology-driven social innovations by young engineering students.

The Marathon challenges academic talent to move beyond theoretical concepts and create functional prototypes that address localized community challenges, aligning with national digital skilling agendas.

- **Date:** March 18, 2026
- **Total Teams:** 20
- **Venue:** Shree Swaminarayan Institute of Technology, Gandhi Nagar, Gujarat.

Prize winning Projects developed by students

Portable Life Saving Kit

The project "Portable Life Saving Kit" addresses the lack of affordable and reliable respiratory support in rural hospitals, ambulances, and disaster zones. This gap often leads to delayed or inadequate emergency care.

The solution is an intelligent, portable ventilation system that automates bag compression while monitoring vital parameters like heart rate, oxygen levels, and temperature. It enhances emergency care, reduces manual dependency, and improves patient safety.

- **Technology Used**: IoT, Embedded Systems, Sensors (Heart Rate, SpO2, Temperature), Automation
- **Software Used**: Embedded C, Arduino IDE, IoT Dashboards

ArchVision – Smart House Layout Analysis Using Artificial Intelligence

The winning project "ArchVision" addresses the inefficiencies of manually interpreting residential floor plans from images and PDFs, which are often error-prone and time-consuming.

The solution uses AI with YOLOv8 instance segmentation and dual-path OCR to detect rooms, extract labels and dimensions, and generate structured outputs. It simplifies architectural analysis and enables scalable digital planning.

- **Technology Used:** Artificial Intelligence, Computer Vision, YOLOv8, OCR
- **Software Used:** Python, OpenCV, Deep Learning frameworks

Safe Travels – AI Driven Hotspot Detection & Navigation

The project "Safe Travels" addresses the absence of adaptive crime prediction systems in India that can identify patterns and forecast crime hotspots, especially during events.

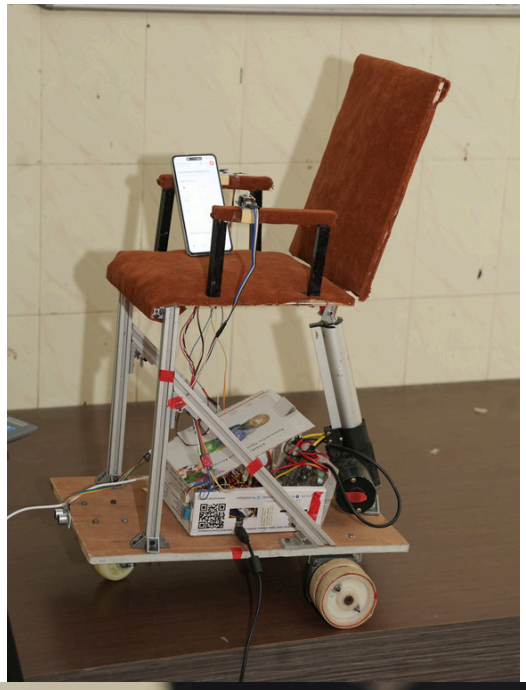
The solution leverages AI with data from FIRs and court records to predict crime-prone locations and timings. It supports proactive policing, improves public safety, and enables anonymous citizen reporting.

- **Technology Used:** Artificial Intelligence, Data Analytics, Predictive Modeling, Web Scraping
- **Software Used:** Python, Machine Learning libraries, Data Visualization tools

Driving Active Industry-Academia Collaboration

The greatest challenge for any academic Center of Excellence is preventing it from becoming a static laboratory.

- **Operational Vitality:** Hackathons and marathons force continuous interaction between the host institution, external industry leaders (like SAP and Edunet), and government officials.
- **Network Expansion:** These events bring seasoned professionals, venture capitalists, and industry evaluators physically or virtually into the CoE ecosystem. This opens pathways for continuous consulting, joint research initiatives, and professional training programs, creating diverse revenue streams for the CoE.



The SAP Code Unnati Innovation Marathon 4.0 demonstrates that CoEs are at their most sustainable when they function as open, active ecosystems. By channeling student energy toward solving localized problems, the marathon bridges the gap between raw talent and scaled impact, making the CoEs indispensable hubs of regional economic development.

CODE UNNATI PROGRAM – TRAINING DELIVERY REPORT (FEBRUARY)

The Code Unnati Program successfully conducted extensive training activities during the month of February across multiple states, focusing on Technical Training, Employability Skills, and Capstone Project implementation. The program continued to strengthen students' industry readiness through structured learning sessions, project-based learning, and skill development initiatives.

Key Highlights:

- A total of 392 training sessions were conducted during February.
- Overall training delivery accounted for 1872.75 hours across all participating states.
- Technical Training contributed the highest share with 999 hours delivered through 211 sessions.
- Capstone Project mentoring and implementation activities accounted for 560 hours through 125 sessions.
- Employability Skills sessions contributed 313.75 hours through 56 sessions.

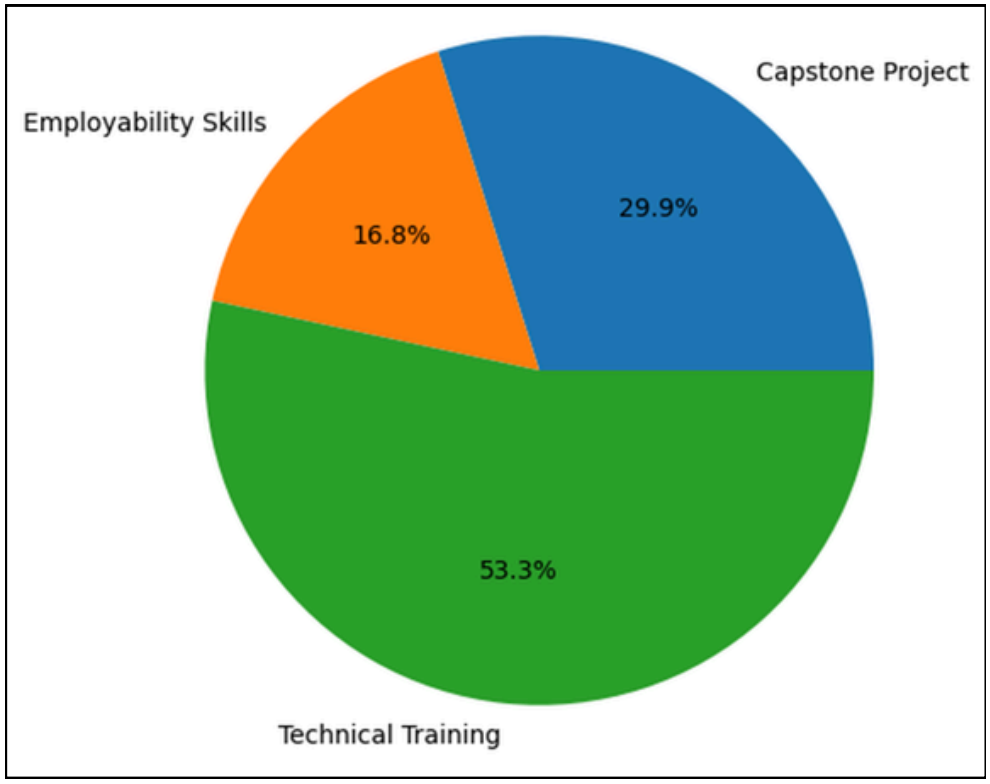


Figure: Distribution of Training Hours by Training Component

State-wise Performance:

- Telangana recorded the highest training engagement with 930 hours delivered.
- Gujarat contributed 569.25 hours of training delivery.
- Karnataka completed 231.5 training hours.
- Maharashtra contributed 142 training hours during the reporting period.

The training data highlights strong implementation momentum under the Code Unnati Program, with a major focus on technical upskilling and hands-on project learning. The consistent execution of technical sessions and capstone activities demonstrates the program's commitment toward enhancing employability, innovation, and industry-oriented competencies among students.

BEYOND THE CLASSROOM

Scaling Success: A Landmark Year for Code Unnati's Innovation Ecosystem

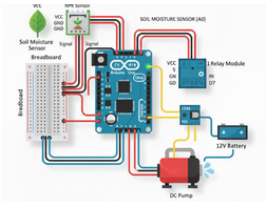
The landscape of technological education reached a new milestone today at the Rishi MS Institute of Engineering & Technology, Hyderabad, as the Innovation Hackathon showcased the exceptional talent of Code Unnati students. Representing the Center of Excellence (CoE), several teams stepped into the arena to solve real-world challenges, with two standout projects securing top honors for their ingenuity, technical depth, and social relevance.

1st Prize: GreenGenie – Revolutionizing Precision Agriculture

Thallapelly Bhavani

Team Lead: Thallapelly Bhavani
Institution: Jyothishmathi Institute of Technology and Science

Securing the prestigious first place, the GreenGenie project addresses the critical gap between traditional farming and modern data-driven agriculture. Recognizing that many farmers struggle with resource management and unpredictable crop health, the team developed an integrated AI and IoT-based smart farming ecosystem.



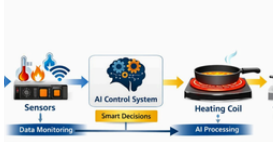
GreenGenie utilizes a network of sensors to monitor real-time field data, including soil moisture, pH levels, and weather conditions. What sets this project apart is its "Wow Factor"—the integration of AI-driven image recognition for early disease detection and a live market-price dashboard. By providing intelligent, actionable insights on irrigation and crop health, GreenGenie empowers farmers to reduce waste and maximize yield, proving that technology can indeed be a "genie" for the agricultural sector.

3rd Prize: Smart Solar Cooking Stove using IoT & Agentic AI

Praveena Gunturi

Team Lead: Praveena Gunturi
Institution: Rishi MS Institute of Engineering & Technology, Hyderabad

Taking the third-place podium, the Smart Solar Cooking Stove project represents a sophisticated fusion of renewable energy and cutting-edge artificial intelligence. In an era pushing for sustainable living, this team reimagined a traditional appliance by infusing it with IoT connectivity and Agentic AI.



The project moves beyond simple solar heating; it utilizes Agentic AI to autonomously manage heat distribution and cooking cycles based on real-time environmental data. The IoT integration allows users to monitor energy efficiency and cooking progress remotely. This innovation highlights the potential of AI to solve everyday energy challenges, making sustainable cooking more accessible, precise, and efficient for modern households.

Free Books for students

Python Data Science Handbook
Scan Me to Read

Machine Learning
Scan Me to Read

BEYOND THE CLASSROOM

Shielding the Streets: Perkari Srichandana Secures Major MSME Grant for Next-Gen Rider Safety

The Code Unnati initiative is proud to announce a monumental achievement by one of our standout innovators, **Perkari Srichandana** (Jyothishmathi Institute of Technology and Science, Hyderabad). Competing on a national stage at the MSME Hackathon 5.0, Srichandana's visionary project on two-wheeler safety didn't just win accolades—it secured a prestigious development grant of 12 Lakhs to transform her prototype into a commercial reality.

A Milestone for Student Innovation

The MSME Hackathon 5.0 is one of the most competitive platforms for young entrepreneurs, focusing on projects with high social impact and market scalability. Srichandana's success in securing a 12 Lakhs grant is a testament to the technical rigor and practical viability of her design. This funding will be instrumental in further refining the wearable's ergonomics, enhancing sensor accuracy, and moving toward large-scale manufacturing.

This achievement highlights the core mission of the Code Unnati Center of Excellence: empowering students to not only master advanced technologies like IoT and AI but to apply them to solve urgent, real-world crises.

Perkari Srichandana

The Innovation: A Smart Wearable Airbag System

In a country where two-wheeler accidents account for a significant portion of road fatalities, Srichandana identified a critical "protection gap" in existing safety gear. Her project, the Smart Wearable Airbag System, is an intelligent, active-response garment designed to protect a rider's most vulnerable areas—the head, spine, and chest—during the milliseconds of a collision.

Technical Excellence in Action:

- **Intelligent Crash Detection:** Utilizing a high-precision MPU6050 Accelerometer and Gyroscope, the system continuously monitors motion and orientation, detecting a crash event with lightning speed.
- **Active Protection:** Upon detection, a controlled chemical reaction generates CO_2 to inflate the airbag instantly, providing a protective cushion before the rider impacts the ground.
- **IoT-Enabled SOS:** Integrated with an Arduino Mega and ESP32, the system automatically transmits the rider's exact GPS coordinates to emergency services and pre-defined contacts, ensuring a rapid response when every second counts.

2025 Tech Reset: March Edition

March 2025 marked another milestone in the rapidly evolving technology landscape, with innovations across Artificial Intelligence, Cloud Computing, Cybersecurity, and Digital Transformation continuing to reshape industries and education. Organizations, educational institutions, and young innovators are increasingly adapting to emerging technologies to stay future-ready in an increasingly digital world.

One of the biggest highlights of March 2025 was the continued advancement of Artificial Intelligence and Generative AI solutions. Companies across sectors accelerated the adoption of AI-powered tools to enhance productivity, automate workflows, and improve customer experiences. AI integration into education, healthcare, finance, and manufacturing has become more prominent, enabling smarter decision-making and efficient operations. Students and professionals alike are actively exploring AI, Machine Learning, and Data Analytics as essential future skills.

AI & Future Technologies

Cloud Computing & Cybersecurity

The month also witnessed strong momentum in Cloud Computing and Cybersecurity initiatives. As businesses continue their digital transformation journeys, the demand for secure cloud infrastructure and data protection solutions has significantly increased. Organizations are investing heavily in cloud-based services, cybersecurity awareness, and ethical hacking practices to safeguard digital ecosystems against emerging cyber threats.

In the education and skilling ecosystem, industry-academia collaborations gained remarkable traction during March 2025. Programs focused on employability, innovation, and hands-on learning continued to empower students with industry-relevant competencies. Technical workshops, hackathons, innovation marathons, and Centers of Excellence (CoEs) established across institutions are creating opportunities for students to gain practical exposure to cutting-edge technologies and real-world problem solving.

Another major trend observed during the month was the growing importance of sustainability and green technology innovations. Technology-driven solutions in renewable energy, smart infrastructure, and sustainable development are gaining increased attention from governments, industries, and startups worldwide. Young innovators are actively contributing through projects focused on energy efficiency, smart agriculture, IoT-based monitoring systems, and environmentally responsible technologies.

Sustainable & Smart Technologies

MENTOR JOURNEY

A 6-Month Journey as an SME in CodeUnnati 4.0

Indranil Bakshi

Joining Edunet Foundation as a Subject Matter Expert in AI/ML under the CodeUnnati 4.0 program has been one of the most transformative experiences of my career. Over the past six months, I have had the privilege of directly impacting the learning journey of 200+ students, guiding them through the ever-evolving landscape of Artificial Intelligence and Machine Learning.

What started as a teaching role quickly evolved into a two-way learning experience. My students' curiosity and their relentless questions pushed me to go deeper — to not just teach, but to truly master the subject. To stay ahead and offer industry-level insights, I pursued two significant certifications: MLOps with Azure and Big Data Engineering. These credentials were not just additions to my résumé; they fundamentally strengthened my understanding of end-to-end machine learning pipelines at an industrial scale, enabling me to bridge the gap between academic concepts and real-world solutions for my students.

The role of an SME is not merely about delivering content — it demands continuous growth in both technical depth and managerial acumen. Every session taught me something new: how to simplify complex ideas, how to keep learners engaged, and how to inspire a growth mindset that transcends numbers like age or academic year.

NIRVANTA : A STUDENT-FOUNDED AI STARTUP

Yash

Durga

Aishwarya

Mahantesh

Students of CoE, Brindavan college of Engineering, Bengaluru

the story of Nirvanta represents the collective vision of four extraordinary young minds. What began as a friendship nurtured within the walls of CodeUnnati 4.0 sessions has blossomed into something far greater — a full-fledged AI-based startup.

Yash, Durga, Aishwarya, and Mahantesh are the Four founding members of Nirvanta, an ambitious venture built on the foundations of Artificial Intelligence. Once close friends who sat together in sessions, they are now business partners, co-founders, and entrepreneurs on a shared mission. The transition from being classmates to business partners is a remarkable testament to how education, when delivered with the right intent, can do more than impart knowledge — it can spark entrepreneurial fire.

Nirvanta is a bold and inspiring initiative, and it reflects the true purpose of CodeUnnati 4.0: not just to create technically skilled graduates, but to nurture innovators who are ready to solve real-world problems. As their SME, watching these four individuals take this leap fills me with immense pride.