SWAMI VIVEKANANDA UNIVERSITY

ELECTRONICS AND COMMUNICATION ENGINEERING

April, 2025

Nirman Mela 2k25

ECE students presenting their innovative projects at Nirman Mela 2K25

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Nirman Mela 2025, the flagship techno-cultural fest of Swami Vivekananda University, emerged as a platform where creativity converged with technical prowess, and nowhere was this synergy more evident than in the vibrant participation of the Department of Electronics and Communication Engineering. In the true spirit of applied engineering, ECE students took center stage by conceptualizing, developing, and demonstrating a range of innovative, real-world projects rooted in core electronics, embedded systems, IoT, signal processing, and automation. Weeks of rigorous preparation preceded the event, during which students engaged in schematic-level design, component selection, circuit simulation, PCB layout, firmware development, and system integration—mirroring the complete product development lifecycle observed in industry.From home automation systems using sensor networks and microcontrollers to real-time surveillance solutions powered by computer vision and signal processing, the breadth of projects on display was a testament to the department's strong emphasis on hands-on learning and interdisciplinary exploration. Visitors, including industry professionals, faculty from other institutions, and prospective collaborators, engaged deeply with the exhibits, questioning design choices, analyzing algorithms, and commending the students' ability to articulate the theory and application behind each system.

The students' engagement didn't end at demonstration. Detailed documentation, live simulations, and interface mockups accompanied many of the projects, reflecting a level of professionalism and readiness that aligns with current industry expectations. The exposure to critical feedback, real-time debugging, and interdisciplinary dialogue not only enriched the students' technical understanding but also prepared them for future innovation ecosystems—whether academic research, entrepreneurship, or corporate R&D. Nirman Mela 2025, for the ECE department, was not merely an exhibition—it was a live testament to their engineering identity, where every sensor pulse and voltage spike told a story of learning, logic, and limitless imagination.
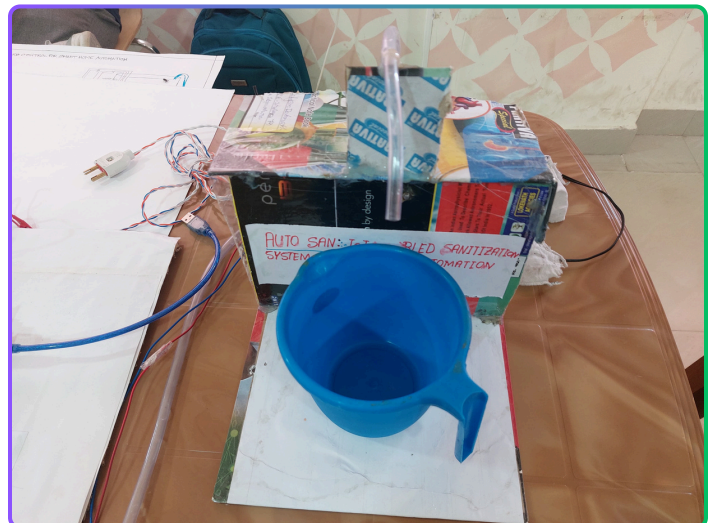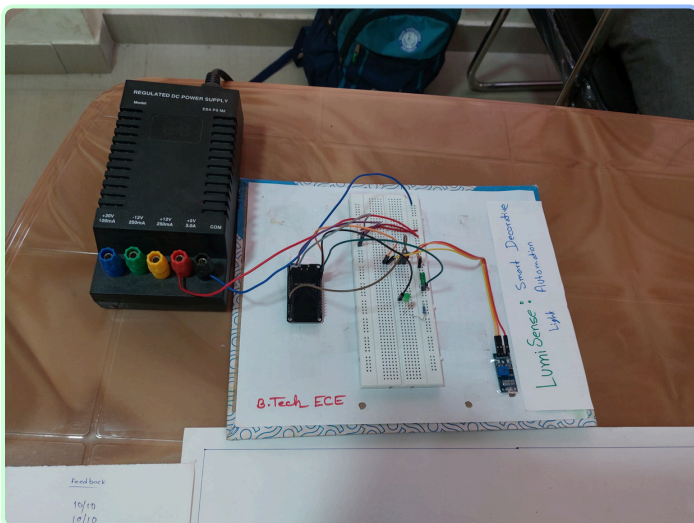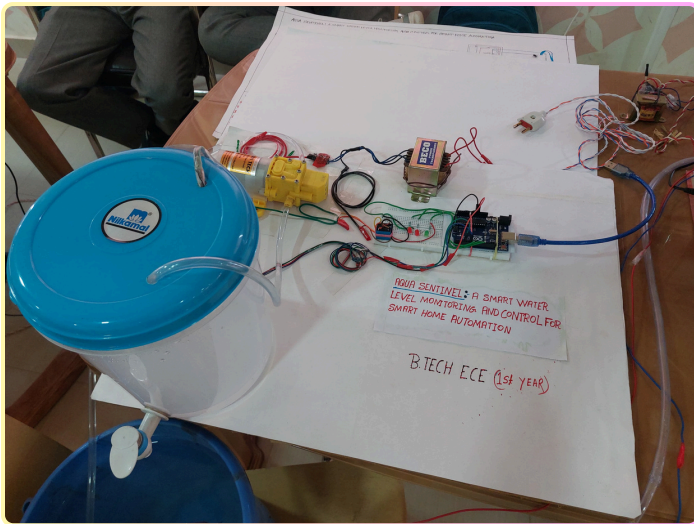
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List of Projects Showcased by the students of ECE

Sl. No.	Project Title	Name of the Students
01	ClimaTrack: IoT based Automated Home Temperature System	Pratik Seth
02	AeroMine Shield: An Undermine Lethal Gas Sensory System Using Robust IoT Network	Avijit Midhya, Moumita Pal, Dipendu Mondal
03	FlameWatch: Real-Time Fire Detection and Auto-Extinguishing System	Arka Pal, Rupam Das, Supriya Das, Santanu Pakre, Suvajit Sinha, Pritam Pal
04	Echo Strike: A Motion Triggered Ultrasonic Enemy Tracking Device	Pratik Seth, Papai Mal
05	AeroTrack: Real-Time Room Humidity Tracker	Pratik Seth
06	Cardio Sense-X: An AI-Powered Heart Monitoring System	Avijit Midhya, Pintu Ghosh, Moumita Pal
07	GreenFlow: Intelligent Irrigation Management	Indrasish Bhattacharyya, Anish Banerjee, Santu Manna
08	Stealth-Eye: An IoT Based Motion Sensing & Tracking in Combat	Indrasish Bhattacharyya, Anish Banerjee
09	Hydro Crop-360: A Cloud Connected Agri-Business Solution	Saniya De, Indrajit Manna
10	PowerSync: IoT-Based Smart Home Energy Distribution	Sampat Karmakar, Suman Roy,

		Sayan Choudhuri, Biswajit Barman
11	Rhythm Care: Continuous ECG Monitoring for Healthcare	Rupam Raychaudhuri, Bidisha Mitra, Arka Das, Furqan Abid
12	VitalO2: Automated Pulse Oximetry Solution	Rupam Raychaudhuri, Bidisha Mitra, Arka Das, Furqan Abid
13	Intelli Traffic: A Robust Traffic Management System for Smart City	Madhusudan Maity, Anik Biswas, Pranab Barik, Narayan Shit
14	LumiSense: Smart Decorative Light Automation	Sampat Karmakar, Suman Roy, Sayan Choudhuri, Biswajit Barman
15	Aqua Sentinel: A Smart Water Level Monitoring & Control for Smart Home Automation	Soumyajit Dey, Subhradeep Bhowmick, Subhadip Khilari, Narayan Shit
16	Eco Office Gen-X: Energy-Efficient Cloud Enabled Fan & Light Control	Nirupam Das, Saniya De, Souma Kayal, Chiranjit Hazra
17	Auto San: IoT-Enabled Sanitization System for Building Automation	Soumyajit Dey, Subhradeep Bhowmick, Subhadip Khilari, Narayan Shit

18	Lumi Home: IoT-Based Intelligent Lighting System	Sampat Karmakar, Suman Roy, Sayan Choudhuri, biswajit Barman
19	SafeTrack: Real-Time IoT-Based Obstacle Sensing	Pratik Seth
20	Touch Ease: Sensor-Based Automated Switching for Building Automation	Pratik Seth

Continued display of ECE student work at Nirman Mela 2k25