Saurabh Katiyar

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Education

Madan Mohan Malaviya University of Technology — Gorakhpur, Uttar Pradesh
B.Tech in Electrical Engineering-7.87CGPA — *2022 – 2026*

Sir Padampat Singhania Education Center — Kanpur, Uttar Pradesh
CBSE Class XII - 95.6% — *2020 – 2021*

Sir Padampat Singhania Education Center — Kanpur, Uttar Pradesh
CBSE Class X - 94.6% — *2019 – 2020*

Experience

Summer Research Intern – IIT Kanpur — May 2025 – July 2025

- Engineered an industrial-grade AHRS system using STM32 and IMU sensors, achieving sub-2° accuracy.
- Streamlined embedded data pipelines using UART/I2C with nanopb and Protocol Buffers; improved communication speed and reduced data loss by 40%.
- Reduced EMI by 25% through PCB layout optimization with Altium Designer.
- Conducted validation and testing in industrial environments, ensuring deployment readiness.

SINE Intern – IIT Ropar — June 2024 – July 2024

- Conducted 200+ high-voltage experiments on dielectric materials.
- Improved sample evaluation throughput by 60%, processing 30+ samples in under 6 weeks.
- Enhanced calibration protocols, boosting test accuracy by 15%.
- Authored SOPs now adopted by the High Voltage Engineering Lab.

Projects

DC Microgrid Prototype | *Arduino, Solar, Battery, Power Electronics*

- Designed and built hardware integrating solar panels, batteries, converters, and load circuits.
- Developed control algorithms using Arduino for energy management, load balancing, and monitoring.
- Engineered scalable system combining renewables, storage, and smart load control.

Low-Cost LPG Leakage Detector | *Arduino, MQ6 Sensor, GSM Module*

- Built device to detect LPG levels using MQ6 sensor and Arduino.
- Triggered real-time SMS alerts via GSM and included LED indicators.
- Designed for affordability and fast deployment in household environments.

Skills & Abilities

Hardware Design & Tools: AutoCAD Electrical, Altium Designer, PCB Design

Embedded Systems: STM32, Arduino, UART, I2C, SPI, Interrupts, Protobuf

Programming Languages: C, C++, Python, MATLAB

Simulation & Analysis: MATLAB/Simulink, PSpice, AutoCAD, SCADA, Control Design

Applications: High Voltage Testing, Power Electronics, Smart Grid, IoT

Responsibilities

- Executive Member, BIS Standards Club, MMMUT (2023–Present)
- Member, Electrical Engineering Legation, MMMUT (2022–Present)

Certificates

- Fuzzy Sets, Logic & Systems – NPTEL (Gold + Elite)
- Introduction to IoT – Cisco
- AUTOCAD Electrical Courses – LinkedIn Learning