Aryan Panwar

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Education

MIET Meerut — Meerut, Uttar Pradesh
B.Tech in Electronics and Communication Engineering — *2022 – 2026*

Shardein School — Muzaffarnagar, UP
Senior Secondary School — *2020 – 2022*

Experience

Assistant - Instrumentation Department — Jun 2025 – Aug 2025
Indian Potash Limited (Internship) — *Muzaffarnagar*

- Performed hands-on calibration of RTD Pt100 temperature sensors, pressure transmitters, and electromagnetic flowmeters using HART communicators and precision test equipment
- Conducted field testing and troubleshooting of industrial instrumentation systems with dead weight testers and precision multimeters
- Gained practical experience with Safety Instrumented Systems (SIS) and emergency shutdown protocols in process control environment
- Assisted in maintenance and diagnostics of field devices, learning industrial communication standards and calibration procedures

Projects

Wireless EV Charging System | *Arduino, IPT, IoT* | GitHub — 2025

- Developed Arduino-based charging station control firmware with automated vehicle detection and safety interlocks
- Programmed IR sensor array processing for 95% accurate vehicle positioning using digital input filtering
- Implemented real-time LCD status monitoring and relay control logic for charging sequence management
- Designed resonant circuit tuning for inductive power transfer achieving 85% efficiency with emergency shutdown capability

Smart Staircase Lighting System | *Arduino, IoT, Automation* | GitHub — 2023

- Designed motion-activated lighting control system using IR sensors and Arduino microcontroller
- Programmed sequential LED control firmware achieving 45% energy reduction through intelligent detection logic
- Implemented adjustable timing parameters using millis() function for customizable automation behavior

Edge-Avoiding Autonomous Robot | *Arduino, Embedded C, HC-SR04* — 2022

- Developed autonomous navigation firmware using ultrasonic sensor array and Arduino motor control
- Implemented sensor data filtering algorithms improving edge detection accuracy by 40% through averaging and calibration
- Programmed real-time obstacle avoidance logic using threshold-based decision making for safe autonomous movement

Note: Selected projects showcased. Additional projects available on GitHub.

Technical Skills

Programming: Embedded C/C++, Arduino (C/C++), Python, MATLAB
Microcontrollers: Arduino (ATmega328), 8051 Microcontroller
Communication Protocols: UART, I2C (working knowledge), HART Protocol
Hardware: Sensor Integration, Circuit Design, Prototyping, PCB Design Basics
Development Tools: Arduino IDE, PlatformIO (basic), LabVIEW
Test Equipment: Oscilloscopes, Multimeters, Function Generators, Logic Analyzers, HART Communicators
Industrial: Process Instrumentation, Calibration Procedures, SIS, Field Device Configuration