

SHIVANGI

Electronics Engineer | Embedded Systems & IoT

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PROFILE SUMMARY

Recent Electronic Science postgraduate with hands-on internship experience designing, testing, and troubleshooting embedded systems and IoT projects using Arduino, ESP32, and Raspberry Pi platforms. Skilled in microcontroller programming, sensor interfacing, PCB design fundamentals, and wireless communication. Proven ability to build complete hardware-software solutions, from circuit design to firmware development, and eager to contribute to innovative electronics and IoT projects.

TECHNICAL SKILLS

Microcontrollers: Arduino, ESP32, Raspberry Pi Pico / Pico 2W, Raspberry Pi 5

Programming: Arduino C/C++, C, C++, Python (MicroPython), Block-Based Programming

Communication Protocols: I2C, SPI, UART

Sensors & Modules: Ultrasonic, PIR, IR, DHT11/DHT22, RFID, OLED Displays, Relays

IoT: Wi-Fi-based IoT projects, sensor-to-cloud data flow, wireless device integration

PCB Design: Schematic capture and PCB layout (basic to intermediate)

Tools & IDEs: Arduino IDE, Thonny IDE, Keil, Tinkercad

WORK EXPERIENCE

Embedded Systems Engineer (Intern) | Innow8 2024 – 2025

- Developed and tested robotics and IoT projects using Arduino, ESP32, and Raspberry Pi Pico.
- Performed validation and troubleshooting of embedded hardware modules and sensor interfaces.
- Designed and implemented multiple educational projects involving sensors, displays, actuators, and wireless communication.
- Assisted in integration testing of Python-based block programming modules.
- Collaborated with software and hardware teams on platform improvements and bug reporting.
- Designed a basic variable power supply PCB as part of PCB design training.
- Supported STEM training programs on embedded systems and robotics.

KEY PROJECTS

Smart Home Security System | Project

- Built an integrated safety system on Raspberry Pi Pico 2W combining RFID-based door lock, LPG leak detection, fire detection, rain detection, and intruder alert into a single unit.

Edge-Avoider Robot – “UNOX” | Innow8 Product Development

- Designed and programmed an autonomous obstacle/edge-avoiding robot using block-based coding, developed as part of the company's own educational robotics product line.

Real-Time Face Detection System | Project

- Implemented a real-time face detection application using Raspberry Pi 5 and Raspberry Pi Camera Module with Python-based computer vision.

EDUCATION

M.Sc. Electronic Science | Kurukshetra University

2024 – 2026

- CGPA: 8.4

B.Sc. Physics (Spl. in Electronics) | Panjab University

2021 – 2024

- CGPA: 7.0