

# Muhammad Sohail Zahid

Embedded Systems & IoT | Automation | Electronics | Python | Industrial Controls

Electrical Engineer with hands-on experience in industrial automation, embedded platforms, and electronics repair. Skilled in Python programming, circuit troubleshooting, energy monitoring, and hardware/software integration. Detail-oriented and collaborative, with proven ability to implement technical solutions and optimize performance. Passionate about applying IoT and automation technologies to develop smart devices and industrial solutions.



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## WORK EXPERIENCE

### Electrical & Automation Engineering Intern S.A. Hamid & Co. Engineering Company

06/2025 - 08/2025

Lahore, Pakistan

#### Achievements/Tasks

- Worked on **Energy Monitoring Systems (EMS)** for real-time energy data monitoring and analysis.
- Integrated **Modbus RTU/TCP devices** for communication with energy meters and industrial equipment.
- Gained hands-on experience in **PLC programming and testing** using **Siemens, WAGO, and Allen-Bradley (AB)** platforms.
- Assisted in **industrial automation tasks**, including system integration and basic diagnostics.
- Implemented **local data logging using Raspberry Pi** for offline data storage and analysis.
- Supported **fault diagnosis, commissioning activities, and technical documentation** in compliance with industrial safety standards.

### Electronics Technician Ahmad Qureshi Laptop

04/2021 - Present

Lahore, Pakistan

#### Achievements/Tasks

- Performed **precision soldering/desoldering** on electronic circuit boards.
- **Diagnosed and troubleshot** laptop hardware and software issues.
- **Replaced faulty components**, including ICs, connectors, and power circuits.
- Installed and configured **operating systems and drivers**.
- Conducted **data recovery** from damaged storage devices.
- Upgraded **laptop hardware** (RAM, SSD/HDD, LCD) and advised customers on repairs.

## EDUCATION

### Bachelor of Science in Electrical Engineering Information Technology University (ITU)

2022 - 2026

Lahore, Pakistan

#### Courses

- Internet of Things
- Embedded Systems
- Machine learning
- Electronic Devices & Circuits

### Diploma of Associate Engineer in Electrical Punjab Poly Technical Institute

2018 - 2021

Lahore, Pakistan

#### Courses

- Electrical Drafting
- Digital Electronics
- Power Systems
- Telecommunications

## SKILLS

Embedded Systems

Industrial Automation

IoT & Sensor Networks

Electronics Design

Circuit Design & Troubleshooting

Testing & Diagnostics

System Integration

Commissioning & Deployment

Soldering & PCB Assembly

Python Programming

Computer & Software Skills

Technical Communication

## PERSONAL PROJECTS

### LoRa-Based Intelligent Industrial Monitoring System

- Designed a Modbus-based monitoring device for real-time energy, environmental, and motor data.
- Integrated Modbus RTU (RS485) with LoRa for long-range, low-power data transmission.
- Enabled cloud connectivity and real-time visualization for remote industrial monitoring.

### Fastest Finger First

- Developed a quick-response circuit to detect the first buzzer press.
- Ensured accurate and fair competition for quiz settings.

### 24 V and 3A DC Variable Supply

- Designed and built an adjustable DC power supply (0-24V, 0-3A).
- Performed PCB layout, circuit design, and testing for stable and precise output.

### Wireless Battery Charger

- Developed a wireless charging system using resonant inductive coupling.
- Ensured safe, efficient battery charging without direct electrical contact.

### Buggy Cam with Mobile App Control

- Built a camera-equipped buggy with STM32F407, ESP8266, and ESP32-CAM hardware.
- Enabled real-time video streaming and remote control via a mobile app.
- Integrated motor driver and multiple microcontrollers for seamless operation.

### Business Management App

- Developed an app for product entry, repair tracking, and employee management.
- Implemented income/expense tracking, profit calculation, and historical record viewing.

## LANGUAGES

English

Professional Working Proficiency

Urdu

Full Professional Proficiency