ADITYA GOHIL

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Education

Sardar Patel Institute of Technology *June 2024 - Present*
Bachelors of Technology in Electronics & Telecommunication, Minors in Computer Engineering

K.J.Somaiya Polytechnic *Jan 2021 - May 2023*
Diploma In Industrial Electronics

Siemens Technical Academy *Oct 2018 - Sep 2020*
National Course of Vocational Training in Electrician Trade

Technical Skills

Programming: Embedded C, MicroPython, Ladder Logic (PLC), SQL
Hardware & Platforms: ESP32, STM32, ATmega, Raspberry Pi, FPGA (Artix-7), PLC (LOGO)
Design & Simulation: Eagle CAD, Altium, Proteus, Multisim, LTspice, Vivado, Quartus Prime
Software Tools: ESP-IDF, STM32 Cube IDE, VS Code, Github
Domains of Interest: Edge AI, Embedded Systems, IoT, Product Development
Certification: MSCIT, AutoCAD-Electrical 2D & 3D, Tata & Siemens E-courses: AC motors & drives, Fundamentals of EE

Professional Experience

R&D Technician @ Selec Controls Pvt Ltd. *Dec 2023 - July 2024*
- Executed hardware and software validation tests and conducted debugging to ensure product quality.
- Revamped products like MVA591 as per industrial standards and provided automation setup for production.
- Authored technical documentation for IEC61326-1 products and performed comprehensive EMI/EMC compliance tests.

Freelance as CAD Designer *Sept 2023 - Dec 2023*
- Assessed and estimated cable tray routing, earthing, and lighting layouts for electrical & chemical plants.
- Generated detailed electrical calculations and maintained Bills of Quantities (BOQs) for multiple projects.

Engineer Intern @ Techtron Pvt. Ltd. *June 2022 - July 2022*
- Gained hands-on experience across a core electronics company, contributing to departments including SMD mounting, Quality Assurance, Production, and Logistics.

Electrician Trade Apprentice @ Siemens Ltd. *Oct 2018 - Sept 2020*
- Developed extensive technical knowledge of Siemens products and industrial operations in switchgears and drives, culminating in a Vocational Training Certification.

Projects

Low-Cost Industrial IoT Development Board (Mini Project - 1st Place)
- Designed a custom development board using AVR uC, supporting multiple comm. protocols and extended IO expansion.
- Worked on complete hardware bring-up, debugging, validation, system architecture design through datasheet analysis, and performed manual SMD assembly and soldering.

Smart Energy Management System (Hackathon - 2nd Place)
- Developed a hardware-software solution to monitor and optimize energy consumption in real time.
- Designed a custom energy metering circuit using an energy metering IC, integrated ESP32 with Raspberry Pi over MQTT, implemented a time-series database, and deployed AI/ML models for anomaly and error detection.

Automatic Power Factor Correction Unit (Best Simulation Award – MSIC)
- Engineered an ESP32-based APFC unit with integrated OP-AMP circuits for voltage and current sensing.
- Responsible for system architecture, algorithm development, PCB design, and full hardware testing and calibration.

Smart Agriculture System (IETE National-Level Hackathon)
- Designed and built an ESP32-based system integrating various sensors and controls for smart agriculture.
- Key tasks included designing OP-AMP based signal conditioning circuits for sensors, selecting all components and conducting all hardware testing, debugging, and calibration.

Achievements & Leadership

- Secured 1st Place in a Circuit Simulation Hackathon for innovative circuit design and system implementation.
- Awarded 1st Place for Mini Project on Low-Cost Industrial IoT Development Board.
- Achieved 2nd Place in Intellify National-Level Hardware Hackathon & Agritech 2026.
- **Core Head of Technical Team - IETE Student Chapter, S.P.I.T.** (June 2024 - June 2025).
- Led technical workshops and hackathons, including a PCB Fabrication Workshop for juniors.