

# Samruddhi Patil

**Address** . **Contact** . **E-mail** . **LinkedIn**  
Pune, Maharashtra 8329180518 [samruddhi180518@gmail.com](mailto:samruddhi180518@gmail.com) [www.linkedin.com/in/samruddhi-patil-36a91925](http://www.linkedin.com/in/samruddhi-patil-36a91925)

## CAREER OBJECTIVE

Motivated early-career professional with expertise in embedded programming and microcontroller development seeking to apply technical proficiency in firmware design where I can drive innovation, develop, and optimize next-generation embedded systems solutions. Passionate about contributing to cutting-edge embedded solutions while expanding hands-on experience in collaborative, innovation-driven environments.

## SKILLS

- C Programming
- C++
- Embedded C
- Python
- PIC18F4580
- LPC2148
- STM32
- KEIL  $\mu$ VISION
- UART
- MODBUS
- I2C
- SPI
- CAN
- MPLAB X IDE
- DSO
- Logic Analyzer
- STM32 Cube IDE
- Debugging

## EDUCATION

**Bachelor of Engineering (Electrical Engineering) | 2021 - 2024**  
*P.E.S. Modern College of Engineering*

**CPI: 8.32**  
**Pune, MH**

**Diploma in Electrical Engineering | 2018 - 2021**  
*T.K.E.I.E.T and Polytechnic*

**Percentage: 93%**  
**Warananagar, MH**

## PROJECTS:

### Environmental Monitoring System Using AHT21B Sensor and PIC18F4580 Microcontroller

- Developed an embedded system to monitor environmental parameters, including temperature and humidity using the AHT21B sensor.
- Interfaced the AHT21B sensor with the PIC18F4580 microcontroller via the I2C communication protocol to enable precise data acquisition.
- Programmed the microcontroller in Embedded C to read sensor data and process environmental measurements.
- Configured an LCD module to display real-time temperature and humidity values for effective monitoring and user interaction.

### Automatic Power Factor Correction Using Arduino

- Developed an APFC system to improve power efficiency and reduce penalty charges for industrial units.
- Interfacing two zero-crossing detectors to accurately detect the zero crossings of voltage and current.
- Designed the system to dynamically adjust the power factor in real-time, reducing reactive power.

## COURSE AND CERTIFICATION:

### Advance Career Track in Embedded Systems

- Completed a 6-month course in embedded systems, learning programming languages like C, Embedded C, C++, basic Python, and Linux commands.
- Gained experience with Microchip PIC microcontrollers, ARM7, and ARM Cortex-M (STM32) microcontrollers, working across 8-bit, 16-bit, and 32-bit architectures.
- Developed practical skills in sensor interfacing and microcontroller programming through projects like an Environmental Monitoring System.