

# Meghana Dadi

[meghanadadi37@gmail.com](mailto:meghanadadi37@gmail.com) | India, Visakhapatnam | +91 7981952201 | [linkedin.com/in/meghana-dadi](https://www.linkedin.com/in/meghana-dadi)

## WORK EXPERIENCE

### L&T Technology Services | **Embedded Firmware Developer**

India, Mysore | **June 2023-August 2025**

- Engineered **embedded firmware** in **C++** using **STM32** to enable seamless **integration** of different sensing modules in the **VS Code IDE** and worked in **RTOS(Zephyr)**.
- Led firmware for Solid State Circuit Breaker: designed sensing modules, TCC algorithms, trip logic which involves auto/manual trip.
- Built **state machine** logic for power modes, LED, gate driver, and solenoid control; completed end to end **functional testing**.
- Integrated **Wi Fi WPA3** in Digital Tri Phase Ground Relay, resolving RTC timing and secure protocol issues with QA.
- Contributed to EVerest EV charging framework on **Linux**: added modules, configured **YAML/Node RED** flows, debugged OCPP connectivity.
- Mentored** peers on Zephyr, peripheral drivers, and interrupt driven design.
- Executed comprehensive firmware **verification** and **debugging** using **ST-Link** by setting breakpoints, tracing execution flow, analyzing logic and overcame integration roadblocks and shipped the release **2 weeks ahead of plan**.

### Wipro Limited | **Project Engineer**

India, Hyderabad | **May 2022-Jan 2023**

- Completed intensive **C programming** and **problem-solving** training.
- Supported version control, **agile** processes and **cross-team collaboration**.

## TECHNICAL SKILLS

**Programming Languages:** C, C++, Embedded C. **Microcontrollers:** ARM Cortex-M, STM32U5, STM32F4 series.

**IDEs:** Visual studio, STMCubeIDE, Git, CMake.

**OS:** Linux- Ubuntu, Zephyr RTOS **Protocols & Interfaces:** UART, SPI, RS232, WIFI, BLE (Bluetooth Low Energy), MQTT.

**Hardware Skills:** Oscilloscope & Logic Analyzer usage, UART Sniffing, Power Measurement, Dock light.

**Firmware & Embedded Skills:** Secure Boot, Flash Memory Handling, Modular Firmware Design, Real-Time Scheduling, Functional Testing.

**Documentation and Debugging:** Reading Datasheets, Breakpoint Debugging with J-Link, St-Link, Code Flow Tracing.

## TECHNICAL PROJECTS

**Solid State Circuit Breaker (SSCB):** *Duration: 10 months, Tech Stack: STM32U5, Zephyr RTOS, C++, VS Code, STM32CubeProgrammer, West*

- Engineered **embedded firmware** in **C++** using STM32 to enable seamless integration of three independent sensing modules current measurement, voltage measurement and temperature monitoring module and gate driver in the VS Code IDE.
- Integrated TLE4973 Current Sensor via UART for AC/DC measurements; coded for current measurement and parameter configuration and implemented TCC (Time-Current Characteristic) calculations, trip time, and protection logic for overcurrent protection.
- Architected and validated state machine logic covering ON/OFF/Standby modes, LED indicators, gate-driver control and solenoid actuation; consolidated modules into a unified firmware and executed end-to-end functional testing.
- Developed Zephyr RTOS abstraction layers for ADC, GPIO, Interrupts, External Switches, Internal Flash and Board Overlay files.
- Led module integration, MCU pin configuration, and real-time monitoring with manual/auto trip handling.
- Executed comprehensive firmware verification and debugging using ST-Link by setting breakpoints, tracing execution flow, analyzing logic
- Enabled real-time monitoring and fault response in high-voltage environment.

**Digital Circuit Breaker (DTPG):** *Duration: 8 months*

- Engineered** a **microprocessor**-based overcurrent protection relay operated via **current transformers** (CTs), mounted on switchgears for industrial safety applications, with integrated **Wi-Fi**, **BLE**, and **RNDIS** communication interfaces.
- Analyzed** system architecture and **evaluated** modular functionalities including LED status indicators, wireless interfaces, and controller logic to ensure seamless interoperability. Integrated Wi-Fi WPA3 in Digital Tri-Phase Ground Relay, resolving RTC timing and secure-protocol issues with QA.
- Integrated** secure **Wi-Fi WPA3** connectivity, collaborating with QA to **diagnose and resolve** RTC timing discrepancies and protocol handshake failures.
- Validated** RTC resolution to millisecond precision and provided **cross-functional firmware testing support**, accelerating feature verification and release readiness.

**EVerest – Open-Source Modular EV Charging Framework (Linux):** *Duration: 3 months*

- Developed** and **customized** a modular open-source EV charging framework, enabling **full-stack, configurable environments** through interchangeable modules and **MQTT**-based integration.
- Configured** and **deployed** EVerest on Linux, **authored** new modules, YAML configurations, and system parameters to extend platform capabilities.
- Simulated and validated** modules for functional accuracy in charging scenarios and **resolved** OCPP, Steve/Maeve configuration, and CPO connectivity issues via targeted debugging and community research.

## EDUCATION

**Dr.Lankapalli Bullayya College of Engineering | **Bachelor of Engineering****

India, Visakhapatnam | **2018-2022**

**Major:** Electronics and Communication Engineering

**CGPA:**7.69/10

**Narayana Junior College | **Secondary Higher Education****

India, Visakhapatnam | **2016-2018**

**Course subjects:** Maths, Physics, Chemistry (MPC)

**Score:**93%

**VT High School | **High School****

India, Visakhapatnam | **2015-2016**

**CGPA:**9/10