





Mark Joel Moparthy

Embedded Engineer

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PROFILE

Embedded Software Engineer with close to 2 years of experience in automotive and telematics firmware development. Skilled in communication protocols including UART, SPI, CAN, K-Line, CAN-TP, I2C, USB, MQTT, and TCP, with hands-on expertise in FreeRTOS and microcontrollers such as (STM32, Renesas ra6m1, RL78, LPC2129, Arduino UNO). Experienced in integrating cloud and wireless communication for real-time data handling. Passionate about delivering efficient, scalable embedded solutions.

PROFESSIONAL EXPERIENCE

Embedded Engineer, Infiquity Auto Technologies Pvt. Ltd. 04/2024 – Present
Bengaluru

Project 1: 4G Telematics System for Electric Vehicles – Designed and developed a 4G-based telematics unit to capture GPS, battery health, and motion data, transmitting it to the cloud for diagnostics and fleet monitoring.

- Developed communication stacks for UART, I2C, USB, CAN, and CAN-TP.
- Integrated GPS, MQTT, and TCP/IP over Neoway N58.
- Implemented FreeRTOS multitasking for real-time tasks.
- Added SPI Flash logging with offline diagnostics.

Project 2: WiFi-CAN Vehicle Diagnostics – Configured CAN & CAN-TP for vehicle diagnostics and ECU reflashing using UDS with Renesas RA6M1.

- Developed BLE communication stack and GATT profile for efficient data parsing.
- Implemented USB communication stack integrated with FreeRTOS.
- Designed and integrated CAN-TP stack compliant with ISO 15765-2.
- Developed SD card functionality using FatFs for reliable data storage.

Project 3: Integrated Cluster System – Unified PMVA Display, TCU, and AVAS into a single platform to improve maintainability and optimize resource usage.

- Implemented OpenCPU programming on Neoway N58 for GPS, IMEI, and RTC.
- Developed GPS tracking with real-time sync.
- Created custom debug logging and efficient file operations.
- Performed CAN bus and timing analysis using PCAN and Logic Analyzer.

EDUCATION

Bachelor of Engineering (ECE), KLE Institute of Technology 08/2020 – 07/2023
6.7 CGPA Hubli, India

Diploma (ECE), KLE Society's Smt. C I Munavalli Polytechnic 06/2017 – 04/2020
6.65% Hubli, India

SSLC, Saint Andrew's English Medium High School 07/2016 – 04/2017
75.0% Hubli, India

SKILLS

Programming Languages

C, Embedded C

Protocols

UART, CAN, CAN-TP, SPI, I2C, TCP/IP, MQTT, USB, K-Line

IDE

e2 studio, CS+, STM32Cube, KeilVision, Code Blocks, Visual Studio.

OS

FreeRTOS, Ubuntu, Windows

Tools

Docklight, PCAN-View, Logic, J-link RTT Viewer, Teraterm, Research Download

Flashing Tools and Debugger

Segger J-Link, Segger RTT Viewer, ST-Link.

Version Control Systems, Project management

GitHub, Zoho

COURSES

Advanced Embedded Systems, *Cranes Varsity Pvt.Ltd*

08/2023 – 03/2024
Bengaluru, India

CERTIFICATES

- Advanced Embedded Systems

Course (Cranes Varsity Pvt.Ltd)