Vidhula

bodduvidhula@gmail.com 9963066811 Bangalore

Professional Summary

Embedded Software Engineer with 2 years of experience in designing and developing firmware for automotive embedded systems. Proficient in Embedded C, C#, and microcontrollers including STM32, Renesas, ESP32, and SAME51J20A, with strong skills in CAN, SPI, I2C, and UART protocols. Delivered impactful projects including motor testing and telematics systems, improving testing efficiency and system reliability. Excited to build innovative embedded solutions for the automotive industry.

Skills

- Programming Languages: Embedded C, C, C#
- Microcontrollers: STM32, Renesas, ESP32, SAME51J20A
- Communication Protocols & Interfaces: CAN, SPI, I2C, UART, GPIO, PWM.
- Tools: STM32CubeIDE, Visual Studio, Arduino IDE, MPLAB, CS+, Peak CAN, Hercules, Dock Light, Logic Analyser, KiCad, Sound Meter
- Hardware: ADC, DAC, Sensors, Motor Control, GY521 Sensor
- Domains: Automotive Systems, Firmware Development, Real-Time Systems, Telematics

Experience

Embedded Software Engineer at Infiquity Auto Technologies, Bangalore.

(May 2023 – Present)

- Developed and tested STM32-based firmware for End-of-Line (EOL) motor testing system using Embedded C and CAN protocol, enabling real-time monitoring of RPM, torque, voltage, and current, boosting test accuracy.
- Designed control panel hardware and a C# desktop application in Visual Studio to visualize motor performance, cutting testing time by 20%.
- Built gearbox noise measurement system with STM32 and UART-interfaced sound meter, automating decibel analysis and improving measurement precision.
- Implemented 4G telematics system using SAME51J20A and Quectel EC200U, integrating CAN and I2C for real-time GPS, temperature, and diagnostic data to the cloud, enhancing data reliability.

Projects

➢ **End of Line Automation Test Bench**

- Created firmware for STM32 to test motor performance (RPM, torque, voltage, current) using CAN, generating automated Final Inspection Reports.
- Built C# application for user-friendly monitoring, reducing testing time by 20%.

- **Noise Level Measurement**

- Designed STM32 firmware with UART and sound meter for gearbox noise analysis, automating Pass/Fail reports with 12% improved accuracy.
- Built C# application for user-friendly monitoring, reducing testing time.

- **4G Telematics**

- Developed firmware for SAME51J20A to capture GPS, temperature, and diagnostic data via CAN and I2C, enabling cloud connectivity with Quectel EC200U.

Education

- MTech in VLSI Systems, JNTUA, 2021
- BTech in Electronics & communications Engineering, JNTUA, 2019

Certification

- Microcontroller Embedded C Programming
- DFMEA Specialist (AIGPE)
- Circuit Design for Engineers

Awards

Employee Appreciation Award by Infiquity Auto Technologies Pvt Ltd.