

Guru Savant *Embedded Engineer*

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Profile

Dedicated Embedded Systems Engineer with 1.4 years of experience in embedded firmware development and industrial automation. Skilled in ARM cortex microcontrollers (STM32, RL78, LPC21xx, ESP32), communication protocols (CAN, UART, I2C, SPI, MODBUS, J1939), and Windows desktop application development using C# and .NET. Proficient in MISRA-C compliant coding, DFMEA preparation, AIS-173 and AIS-004 standards. Adept at handling real-time testing, data acquisition systems, and full lifecycle software development. Strong background in GUI development and test automation for electric vehicle (EV) applications.

Professional Experience

04/2024 – Present

Embedded Engineer

Bangalore, India

Infiquity Auto Technologies Pvt Ltd

- Developed Embedded firmware for STM32-based EV testing platforms, EV AVAS.
- Designed and implemented C# desktop applications with real-time data acquisition and charting.
- Integrated CAN, UART, USB, I2C, I2S, J1939 and MODBUS(RS485) protocols for hardware-software communication.
- Performed full-cycle development: requirements, design, testing, and client deployment.

Education

08/2019 – 06/2023

B.E - Electronics and Communications

Mangalore, India

Visvesvaraya Technological University

CGPA : 8.1

Skills

Programming Skills

- C, Embedded C, C++, C#

Tools

- STM32CubeIDE, Keil, CS+ Studio, Visual Studio, Espressif IDE, Arduino IDE

Debugging and Support Tools

- P-CAN View, Docklight, Logic Analyzer, Oscilloscope, KiCad, Upgrade download, SSCOM, Modbus Poll, Proteus, LTSpace, GitHub

Other Skills

- Windows .NET Framework , C# GUI Development
- UI/UX Designing

Microcontrollers

- STM32, Renesas(RL78), NXP(LPC2129/2148), ESP32

Protocols

- CAN, UART, SPI, I2C, USB, MODBUS(RS485), CAN TP, ADC, DAC, BLE, Wifi, MQTT, TCP/IP

O.S

- Windows, Linux, RTOS(FreeRTOS)

Projects

06/2025 – Present

Android cluster

- **Objective:** Designed an Android-based vehicle cluster system featuring telemetry, GPS navigation, BLE, and infotainment capabilities for enhanced user experience.
- **Technologies Used:** Neaway Processor, STM32F4xx, CAN, UART, I2C, Wi-Fi, BLE, GPS.

- **Responsibilities:** Developed embedded firmware for I2C communication and peripheral integration. Performed firmware and Neaway processor flashing and troubleshooting. Full cycle Functional testing and Hardware testing.

03/2025 – 06/2025

AVAS

- **Objective :** Artificial engine sound generation for pedestrian safety in EVs. Dynamic sound control based on vehicle speed via CAN (J1939). Customizable throttle, horn, and indicator sound profiles.
- **Technologies Used :** ESP32, CS+, Arduino IDE, Espressif IDE, Dock Light, E1/E2 Emulator.
- **Responsibilities :**
 - Developed embedded software for sound generation based on vehicle speed.
 - Integrated real-time CAN communication (J1939) to control audio outputs.
 - Ensured MISRA-C compliance and updated DFMEA documentation.
 - Collaborated with testing teams to achieve ARAI certification.
 - Resolved hardware integration issues (noise filtering, distortion).

11/2024 – 03/2025

EV NLM

- **Objective :** Developed an automated tool & system to measure EV motor gearbox noise levels at different speeds and load conditions using DB meter integration.
- **Technologies Used :** STM32F407xx, STM32CubeIDE, Visual Studio, C# GUI, CAN, MODBUS, USB, UART, I2C, DB meter, SQL Server, LiteDB.
- **Responsibilities :**
 - Developed embedded firmware and desktop GUI for real-time noise measurement.
 - Integrated DB meter and automated data logging via C# GUI application.
 - Developed communication with microcontroller via CAN, UART, MODBUS, and I2C.

04/2024 – 11/2024

EOL AUTOMATION

- **Objective:** Developed an automated testing tool & system to measure EV gearbox and motor parameters using a dedicated DAQ system. Enabled real-time data capture, protocol communication, and report generation.
- **Technologies Used:** STM32F407xx, STM32CubeIDE, Visual Studio, C# GUI, CAN, MODBUS, USB, UART, I2C, SQL Server, LiteDB.
- **Responsibilities:** Developed embedded firmware using STM32 for motor parameter acquisition. Designed and developed windows desktop application (C# GUI) for real-time test automation and data visualization. Integrated industrial communication protocols (CAN, MODBUS, USB, I2C, UART) between DAQ and application.

Certificates

Advanced Embedded Systems

Vector india Pvt Ltd, Bangalore

Duration: 6 Months

Personal Details

DOB : 05/7/2001

Gender : Male

Languages Known : English, Hindi, Kannada, Konkani, Marathi

Declaration

I hereby declare that the above information stated is true and correct to my belief and I am solely responsible for its accuracy.

Guru Savant
Bangalore