

TejaVayila

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🌐 www.linkedin.com/in/teja-vayila-9219a6243 • 📄 <https://github.com/Teja-core>

Career Objective

Embedded Systems Engineer with 2 years of experience in C/C++ programming, microcontroller firmware, and low-level driver development, seeking to contribute to cutting-edge embedded products. Skilled in working with RTOS, communication protocols, and hardware debugging, with a proven ability to design, test, and optimize firmware solutions.

Technical Skills

Programming Languages

- C, C++, Assembly, Python (for automation)

Microcontrollers /Platforms

- ARM Cortex-M (STM32F4), LPC2129.
- ARM Architecture basics (Registers, Exception model, Memory map, Privilege levels)

Communication Protocols

- UART, SPI, I2C, CAN,UDS,TCP/IP.

Tools & IDEs

- Visual studio, keil uVision, Eclipse IDE, Git.

Operating system

- Free RTOS
- Linux
- Windows

Embedded Development

- Understanding of boot sequence, Reset handler, startup code, linker script basics.
- Debugging, troubleshooting, UDS, Interrupt and ISR handling, IPC mechanisms, Firmware architecture
- Bare metal driver development

Debugging and Testing

- JTAG/SWD, Oscilloscope, Logic Analyzer, ST-LINK, Debugging memory corruption / stack overflow, test case automation

Hardware Skills

- Circuit design basics, reading schematics, interfacing peripherals

Work Experience

Company name	: L&T Technology and services
Role	: Associate Engineer
Duration	: march 2024 – march 2026

- Responsible for writing, debugging, and optimizing device drivers (UART, SPI, I2C, GPIO).
- Developed Python-based automated test framework for validation and regression testing.
- Debugged resolved issues using CANoe, CANalyzer, Vector tools.
- Collaborated in Agile teams to analyze logs, requirements, and defects.

Vector India Pvt Ltd
Embedded Engineer Trainee

Bangalore
AUG-2023 to FEB-2024

- Developed UART/I2C drivers for automotive controllers.
- Designed STM32 firmware, integrated FreeRTOS (reduced boot time 25%).
- Hands-on hardware/software integration using Keil & STM32CubeIDE.

Projects

RFID-Based Attendance System: This project automates attendance tracking using RFID technology, interfaced with an STM32F407 microcontroller. RFID cards are used to log user attendance, and all data is integrated with a Linux-based system using SPI communication and stored in a .csv database.

Data Acquisition System Using CAN Protocol: A data acquisition system using two boards: one with an I2C RTC for real-time monitoring and another with an SPI temperature sensor, interconnected via CAN bus for data aggregation and visualization.

Tilt Detection Firmware (STM32F407 Discovery + LIS3DSH): Developed bare-metal firmware to read motion data from onboard LIS3DSH accelerometer via SPI. Implemented tilt detection algorithm with threshold logic, mapping tilt direction to onboard LEDs. Added debounced user button control for enabling/disabling tilt detection.

Student Database Management System in C: The system supports adding, deleting, updating, and displaying student records using structured data and file I/O operations. It was designed with modular functions to ensure readability and maintainability.

Education

JNTUA College of Engineering, Kalikiri
Bachelor of Technology (B.Tech), Electronics & Communication Engineering

India
2019 – 2023

Certifications

Embedded C Programming – [vector India Pvt Ltd]

Strengths

Strong problem-solving and debugging skills
Passion for low-level firmware and hardware-software integration
Ability to quickly learn and adapt to new microcontrollers and toolchains
Experience in collaborating on open-source embedded projects

Declaration

I hereby declare that the above-mentioned information is correct up to my knowledge and I bear the responsibility for the correctness of the above-mentioned particulars

Place : Mysore

(TEJA VAYILA)