

RAMESH CHARY VADLA

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SUMMARY

Over 2+ years of experience in developing firmware on ARM Cortex microcontrollers, ensuring the functionality aligns with Applications. I have strong skills in Embedded C programming and Linux-based systems, aiming to create high-performance firmware solutions. I am committed to continuous improvement and delivering exceptional results that align with organizational goals.

TECHNICAL SKILLS

- Understanding the Application and creating the flowchart and Pseudocode.
- Developing Firmware with Low Level C, C++, python.
- Bare metal Programming.
- Simulations: STM32 cube IDE, Keil, LT Spice.
- ADC, DAC, Timers, GPIO, RTC.
- Communication Protocols – UART, SPI, I2C, wireless Communications, CAN.RS485, MODBUS, USB.
- Controllers -STM32 Controllers, Arduino. ESP32, Raspberry pi Pico.
- SBC – Raspberry PI 4, Beagle bone Blue.
- Simulating, Testing, Debugging & Problem-solving skills.
- Integration of firmware developed on different modules.
- Familiar with FREERTOS Concepts.
- Languages – C , C++ and Python.
- Basic Hardware design knowledge.
- Experience on Lab instruments.

EXPERIENCE

- **Embedded Firmware Developer** at **iLenSys Technologies Pvt Ltd** Hyderabad (August 2022 – Till date)

PROJECTS

Project 1: Temperature Chart recorder.

Developed firmware for a temperature recording system using the MAX31865 RTD sensor, featuring customizable chart range and format selection via keys, and LED blink rate indicators. The system includes battery monitoring and an alarm, with thorough testing verifying all functionalities. Comprehensive documentation was also created for the project.

Responsibilities:

- Understanding the project requirements & Creating The Flowchart and Pseudo code.
- Developing Firmware and Integrating code.
- Preparing the test document and Board testing.

Project 2: MODULAR ELECTRONICS.

This is a the project related to the firmware which is developed on STM32G series controller for a specific module and creating the library for it. These Library files can be integrated to other projects, Allowing the firmware to be used on different controllers simple by enabling the necessary peripherals. This Approach, combined with use of macros, facilitates easy adaption across various platforms.

1.SD CARD module:

- Developed Pseudocode and Flowchart.
- Developed firmware for SD card module the User input on serial to store data.
- Tested the working and prepared Test Document and Design Document. Worked with Fatfs & FILEx libraries of STM32.

2. Monochrome Display, 1.8, 2.8, 3.5 inch TFT and Alpha numeric displays:

- Developed firmware with User input for monochrome and TFT display. Integrated the functionality with keypad as input.
- Developed Pseudocode and Flowchart.
- Tested the working and prepared Test Document and Design Document

3. BLDC and Stepper motor:

- Developed firmware for the User controlling speeds of BLDC and Stepper motor with Drivers.
- Tested the working and prepared Test Document and Design Document.

4. MODULES and sensors:

Firmware developed for Ultrasonic sensor, IR sensor, Encoder, MAX31865, Rs485, ADS1219-ADC, HC-05 Bluetooth module.

Project 3: ROBOT CONTROLLING ON BEAGLE BONE BLUE:

Developed a comprehensive robotics project utilizing the Beagle Bone Blue platform to leverage its internal features, including GPS, accelerometer, barometer, and motor encoders.. Installed and implemented the Strawson library to test and validate functionalities such as data reading from the GPS, accelerometer, and ADC. Integrated the Robot Control Library for effective motor control, showcasing the capabilities of the Beagle Bone Blue in real-time applications.

Certifications:

- STM32 Bare Metal Programming – Udemy.
- BOOT Loader Development on STM32 – Udemy.
- 8051 microcontroller Embedded C & Assembly language – Udemy.
- Embedded system design with ARM - NPTEL

EDUCATION

Course	Institution	Specialization	% (or) CGPA	Year of Pass
B-Tech	HITAM	EEE	6.8	2022
Diploma	ST Peters Engineering college	EEE	78	2019
SSC	T.V.R model High School	NA	8.8	2016

PERSONAL INFORMATION

- Date of birth : December 04, 1999
- Nationality : Indian
- Gender : Male
- Languages : English, Telugu, Hindi.
- Hobbies : Playing Games, News reading, exploring new things.

Declaration

I hereby declare the details above are correct and true to the best of my knowledge.

Place: Vadla Ramesh Chary **Date:**