RAJESH C

CONTACT

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Saligrama, Udupi

SKILLS

- C, Python Programming
- STM32 Microcontroller
- Digital Electronics
- UART, SPI, I2C, CAN Protocols
- Board Bringup
- Sensor Interface | Application Development
- FreeRTOS | Yocto Project
- Schematic, Datasheet Analysis | AUTOSAR

EDUCATION

- **B.E in Electronics and Communication**
  Shri Madhwa Vadiraja Institute of Technology and Management, Udupi, Karnataka
  2018-2022
- **Pre-University Course**
  Viveka Pre-University College, Udupi, Karnataka
  2016-2018
- **SSLC**
  Viveka English Medium High School, Udupi, Karnataka
  2013-2016

INTERESTS

- Dancing
- Photography
- Cartophile
- Music
- Astronomy

LANGUAGES

- Kannada
- English
- Hindi

PROFILE

Experienced Embedded Software Engineer specializing in microcontroller programming, real-time systems, and low-level driver development. Proficient in C programming, sensor integration, board bring-up, and advanced debugging, particularly with the STM32 series, to ensure optimal system performance and reliability.

WORK EXPERIENCE

Embedded System Engineer

SBCS India Pvt. Ltd, Bengaluru (Client: Phytec Embedded Pvt. Ltd, Bengaluru)
2023-2025

PROJECTS

1. IoT-Based Tilt Switch Sensor

This project integrated the KY-017 Mercury Tilt Switch with an STM32F446RE microcontroller using the HAL library to detect and transmit sensor status (tilted or not) via UART communication to the Rightec cloud. The system underwent rigorous validation, ensuring accurate data transmission, with sensor status actively monitored and debugged using breakpoints for enhanced reliability.

2. IoT-Based Temperature and Humidity Data Monitoring

The STM32F446RE microcontroller interfaced with AHT25 and WE10 sensors over I2C to monitor temperature, humidity, and air quality, transmitting updates to the cloud every 10 minutes using FreeRTOS. The implementation underwent detailed validation, ensuring precise real-time data acquisition, conversion, and seamless cloud integration.

3. Object Detection Using YOLO Model

A PhyBOARD-Pollux-i.MX 8M Plus SBC integrated with a Phycam-M camera via MIPI-CSI interfaces for high-performance real-time object detection, leveraging Python3 and shell scripting for optimized processing.

4. DWIN Display Integration

Configured a DWIN display for seamless communication with the PhyBOARD Pollux i.MX 8M Plus, ensuring efficient data transmission. Responsibilities encompassed board initialization, display integration, and comprehensive functionality validation.

5. CI/CD Automation Using Jenkins on Rugged Board

Developed and deployed applications on the Rugged Board A5D2X using a Jenkins-based CI/CD pipeline. Responsibilities included board booting, Jenkins setup, and automation of build and deployment processes.

6. Kernel Space Integration

Integrated the BMP390 sensor and Neo-F10N-00B GPS on an L&T custom board with driver patches and pin muxing, ensuring successful board bring-up and functionality validation.

CERTIFICATIONS

- Electronic Sensors and Circuit Design -Alison
- Programming for Everybody (Getting startedwith Python)- Coursera
- Introduction to Embedded Systems -Alison
- Accomplished 3-days Entrepreneurship awareness camp organised by Entrepreneurship Development Institute of India
- Introduction to AutoSAR and GenAI- Coursera

CO-CURRICULAR & EXTRA-CURRICULAR ACTIVITIES

- Participated in IEEE Eu-Reka2020 a national level digital teaching competition for students organised by IEEE Pune section.
- Volunteered in“Vyakthitwa Vikasana Shibira 2021”organised for primary and high school students conducted by Department of ECE, SMVITM.
- Organised various activities under NSS
- Participated in Intercollege technical and cultural events.