

Anisha Bomma

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OBJECTIVE

Highly motivated Embedded Engineer with experience in design, development, and testing. Proficient in C, assembly, and passionate about building innovative embedded solutions.

WORK EXPERIENCE

- Microchip Technology India Pvt. Ltd, Bengaluru, India | MCU16 Applications InternJuly 2023 –July 2024
 - Worked as an integral contributor to the Functional Safety team (ISO 26262).
 - Bidirectional traceability is being followed for tracking from the stage of design to development. Contributed in developing the diagnostic libraries in embedded C for the peripherals like Ports and CRC.Supported in development of the diagnostic libraries for other modules.
 - Proficient in generating code coverage reports using LDRA Tool Suite, facilitating thorough evaluation of test coverage and compliance
 - Proficient in adhering to ASPICE processes and MISRA 2012 standards, ensuring robust development practices for diagnostic libraries for the different peripherals of the dsPIC microcontroller.
 - Actively contributed to the generation of benchmarking and static analysis reports of all modules of dsPIC
- Tata Consultancy Services, Hyderabad, India | Assistant Systems EngineerAugust 2020 – Sept 2022
 - Worked with the site modernization team and assisted in providing the V2V migration using VMware vSphere, server data backup, and data migration. Provided day-to-day health-check reports and troubleshooting of the Virtual Machines.Implemented infrastructure changes to enhance performance.

PROJECTS

- Bare-Metal Driver Development for STM32 Peripherals – ARM Cortex M
 - Designed firmware drivers for GPIO, I2C, SPI, and USART on STM32F407, utilizing direct register access.
 - Implemented interrupt-driven and polling-based protocols, optimizing data transfer and CPU usage
- Lightweight Real-Time Operating System (RTOS) Development for STM32
 - Designed and implemented a custom RTOS kernel with Round-Robin, Cooperative, and Rate Monotonic Scheduling algorithms.
 - Implemented context switching and task management using bare-metal C and ARM assembly on Cortex-M processors.
 - Optimized CPU utilization and RTOS performance by analyzing scheduling algorithms and system overhead
- Implementing RFID Technology with AWS Cloud for Efficient Warehouse Management
 - A level 2 Internet of Things (IoT) framework that leverages Amazon Web Service (AWS) IoT core and AWS Lambda services to facilitate communication between RFID Tags and Raspberry pi through the MQTT protocol.

TECHNICAL SKILLS

Programming Languages: C, Embedded C, Assembly Language Programming
Protocols: UART, SPI,I2C, Basics of CAN, LIN, MOST, FlexRay, I3C
Software Tools: MPLABX IDE, LDRA Tool Suite, Keil uVision, Visual Studio Code, STM32CubeIDE
Real time operating system: FreeRTOS
Operating system: Windows, Linux
Compilers: xc8, xc16, xc32, gcc
Microcontrollers worked on: PIC, ARM, Raspberry Pi
Basics of Device drivers and Bootloaders

EDUCATION

- Vellore Institute of Technology, Vellore,IndiaSept 2022 – Sept 2024CGPA:8.7/10M.Tech in Embedded Systems
 - Relevant Coursework: Microcontroller Organization and Architecture | Embedded System Design | InVehicle Networking | Fault Tolerance and Dependable System | Intelligent IoT System Design and Architecture| Parallel Processing and Computing|RTOS
- Chaitanya Bharathi Institute of Technology, Hyderabad, IndiaAugust 2017 – Sept 2020CGPA: 7.8/10Bachelor of Engineering in Electronics and Communication

PUBLICATIONS

- Design and Implementation of Energy-Efficient 8-Bit Vedic MultiplierAugust 2022
 - Published in International Journal of Research in Applied Science and Engineering Technology, ISSN No. 2321-9653