

RESUME

ARAJALA MOUNIKA

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Objective:

Having 2+ years' experience in firmware development and testing. interested to work with an esteemed and progressive organization that provides an opportunity to enhance my skills and knowledge in Embedded Systems.

Professional Summary:

- Having good knowledge and experience on "C & Embedded C" programming language and basics of python.
- Experience on Microprocessor NXP(S32V234), Controller Atmel AT89S52, STM32F103RB, TM4C123GH6PM.
- Completed Embedded Systems Design and Development from VECTOR Institute.
- Experience with Communication protocols like UART, I2C and SPI and basics of CAN.
- Experience in Module and Integration level code development and testing.
- Having experience in software documentation.
- Having experience on the IDEs like KEIL, DAVE, STM32 CUBE, visual studio and basic idea MATLAB Simulink.
- Hands on experience in using testing tools like Oscilloscope, Multimeter and Function Generator Network Analyzer, Spectrum Analyzer, Signal Generator.
- Hands-on experience in implementing functional blocks and generating code using MATLAB Simulink for the development of control systems and simulations.

Educational Qualification:

Bachelor of Engineering in Electronics & Communications Engineering from Gurunanak Institute of Technology which is affiliated to JNTUH University, Hyderabad in August 2018.

Professional Experience:

- Have been working as an Embedded Software Engineer in Cyient, Hyderabad since March 2022.
- Worked as an Graduate Apprentice Trainee in BHARAT ELECTRONICS LIMITED from

February 2019 to February 2020.

Technical Skills:

Programming languages: C, Embedded C, Basics of python & Linux.

Operating System's: Windows All Versions and Linux.

Software Tools: KEIL, Dave IDE, STM32CUBE IDE, S32DS, MATLAB Simulink and Visual STUDIO.

Embedded Communication protocols: UART, I2C, SPI and basics of CAN.

PROJECT DETAILS AND RESPONSIBILITIES:

Project-1

Title : "NAVCOM – Navigation Communication"

Technology : STM32F767ZI, STM32cubeIde.

Description :

The NAVCOM is a cockpit mounted instrument used by the pilot to Navigate (VOR), Landing (ILS) and establish voice communication (COM - VHF) between pilot and the ATC.

Responsibilities:

- Understanding and implemented Software Requirement Specifications and Software Design Document.
- Worked on the HMI Display [256 x 64].
- Integrated STM library and tested with examples like USART, I2C, Q-SPI external flash SPI.
- According to DO178C guidelines.
- Implemented Ethernet driver as per the requirements.
- Bug fixes and Testing.

Project-2

Title : "Schindler CANGIO"

Technology : STM32F103RB, MATLAB(Simulink).

Description : The CANGIO 1.Q HW subsystem lies on the CAN shaft bus or CAN bus speed is 50kb/s if installed as shaft node and 125 kb/s if installed as car node. It provides 8 inputs, 8 relay outputs, Gray-code position indicator output, 2 indicator outputs and communicates with elevator control using CAN open.

Responsibilities:

Model Development: Create mathematical models or simulations using Simulink and MATLAB to represent dynamic systems.

Requirements analysis: understand and translate system requirements into model specifications.

Ensure that the accurately represents the system's behavior and meet the project's objectives.

Block diagram design: create block diagrams in Simulink, which represent the components of the system and their interactions. This involves selecting appropriate blocks, configuring parameters, and connecting them appropriately.

Model verification and validation: verify and validate the model's behaviour against specifications, requirements, and expected results. Perform simulations and analyses to ensure the model's correctness.

Peripheral configuration: configure and control various on-chip peripherals, such as gpio pins, uart, spi, i2c, timers and adcs to interface with external components and sensors.

Interrupt handling: Manage interrupt service routines (ISRs) to respond to hardware events and handle time-critical tasks.

Project-3

Title : "Common Graphics and Processing Module"

Technology : (I.MX6), Design studio, LINUX.

Description : The main aim of the project is to store and process the aerospace data by various interfaces present on processor board.

Responsibilities:

- Analyzing the requirements.
- By gathering requirements, developed the code for testing and executed.
- Test case preparation by gathering the requirements from SRD and test execution to check the functionality.
- Interfaces used ADC, PMIC, DDR, GPIO, I2C, UART, ETC and tested all interfaces using test software.
- Prepared User Manual for Test Software.

Project-4

Title : "power supply Module"

Technology : STM32U5ZIQ6, Embedded C, STM32 CUBE IDE.

Description : The Power Supply Module (PSM) is composed of control and health logic that provides power to the various platform computing system

Responsibilities:

- Analyzing the requirements.
- By gathering requirements, developed the code for testing and executed.
- Test case preparation by gathering the requirements from SRD and test execution to check the functionality.
- Interfaces used ADC, GPIO, I2C, UART, ETC and tested all interfaces using test software.

- Prepared User Manual for Test Software.

Project-5:

Title : “Design and Development of SBC”

Technology : (I.MX6), Embedded C, Visual STUDIO

Description :

RSB-3270 developer kit is the main board which act as a SBC and STM32 board is our ControlModule. Ubuntu 20.04 is running on SBC. Communication between SBC and CM is based on PPP over serial. Installed all the IoT azure modules on the SBC and it will act as an IoT edge device. Totally five dockers are running on the SBC those are directly deployed from the azureIoT cloud. Communication between dockers is based on gRPC proto buffer. All the applications running on the docker is dotnet based.

Responsibilities:

- Deployed the custom IoT Edge Module through Visual Studio Code.
- IOT Edge Device Creation in UBUNTU.
- Setting up & booting up the board with default images.
- Published the code into container registry.
- Testing the manual test cases of web application and maintaining in the document.

Project-6

Title : “Design and Development of RDFS”

Client : INDIAN ARMY.

Description : The RDFS Means Reconnaissance and Direction-Finding System. This RDFS system is a part of LIC (EW) Low Intensity Conflict Electronic Warfare System. The purpose of the RDFS system is to perform DF (Direction Finding) and LF (Location Fixing) of the unknown frequency signals with in the frequency band of 1.5 to 3000MHZ.

Responsibilities:

- Testing & Troubleshooting DF antennas and its PCB's.
- Involved in Factory Acceptance Test (FAT) of EW projects.
- Involvement in system functionality testing.
- Preparation of the documents.

PERSONAL DETAILS:

Name : A. Mounika.

Languages Known : Telugu, Hindi, English.

Permanent Address: H-No: 1-215, BN Reddy Nagar Colony, Hyderabad -500054

Declaration:

The above-mentioned details are true to the best of my knowledge.

Place : Hyderabad

Date : (ARAJALA MOUNIKA)