G.SACHIN AMINGAD

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OBJECTIVE

Firmware Developer with 3 year's experience, Areas of expertise includes Device drivers, Userspace, Kernel Space Application and knowledge of OS internals .

SKILLS & ABILITIES

Programming Languages: C, C++, Python

Working Platforms: Windows, Linux, Debian

Software Tools : Keil, AVR Studio, TI- RTOS , Android Studio,

Embedded C

Architecture: Intel 8051, ARM

Protocols: I2c, SPI, TCP/IP, BACNet , CAN bus

EXPERIENCE

Firmware Engineer , Futronic Private limited May 2021- Present

- Worked on Middleware layer for Fatfs modules for Hercules Controllers
- Developed firmware of Charge Balancing, SOC and SOH Estimation, and Protection System
- Hands on experience on Lithium battery cell in battery cell application .
- Worked on Active and passive balancing and integrated in TI-Hercules module .

Firmware Engineer, RACEEnergy Hyderabad ,India November 2019 – March 2021

- Developed Battery swapping station Algorithm in the Electric Auto Vehicle.
- Implemented Embedded Android in Linux Environment for GUI App performance.
- Implemented CAN layer for communication protocol.
- Worked on Container, AWS platforms for Cloud Enterprises
- Hands on Experience on Wireless and Ethernet standards
- Hands on experience in Python development in Cloud Environment and IOT
- Ability to troubleshoot distributed systems.
- Knowledge of writing infrastructure as code (IaC) using CloudFormation or Terraform.
- Experience with building or maintaining cloud-native applications.

Associate Engineer II, Johnson Control (IEC) June 2017-September 2019

- Worked as a Firmware developer for past 2 years in the area of mobile development, Microcontroller, RTOS, Linux development system.
- Delivered firmware activities on Jira , Agile scrum ,tracking issues
- Developed the embedded testing reports and firmware product development life cycle from end to end product delivery.
- Worked on software development life documentation for the Product requirement.

- Worked on a product development of the Linear and Rotary Actuator from Board bring up activities to developing Firmware debugging and coding activity.

Intern ,Johnson Control (IEC) Pune ,India November 2016- June 2017

- As an Intern worked on Industrial Sensor for IPV6 on Texas Instruments
- Worked on Linux Driver on Debian Platform.

Education Qualification:

2015-2017	Master in Technology(Sensor System Technology) , Vellore India, VIT University CGPA: 7.53/10
2010-2014	Bachelors of Technology(EEE), Hyderabad India ,JNTU University Percentage :69.98%
2008-2010	Board of Intermediate Education ,12th class Percentage :79.2%

Project Profile:

Project : BHMS Architecture for Active balancing cell in E-Vehicles

- Developed the Middleware for SD card data logging for SOC, Voltage , current parameter
- SOC and SOH estimation using data from BMU and BPU, Controlling relays of BPU, Data transmission using SPI and CAN communication.
- Monitoring cell's voltage, temperature sensor data, balance between series cells, data communication to MCU via serial UART
- Critical protection issue for Lithium ion battery .

Project 1 : Battery Swapping station for Electric Vehicle System for 3 wheelers

Roles and Responsibilities:

Working platform : C++ , Embedded C

- Designed state machine logic and implemented Battery swapping Algorithm in controller.
- Designed tracking system and lock management.
- Display info on TFT screen.
- System update using cloud management with on line and offline status.
- Worked on CAN to communicate the conversion kit batteries with the system dashboard.
- Build AOSP binaries for oreo version 8.1
- Flashed the ARM board porting with AOSP
- Implemented Circular buffer over read/write operation to add in the emulator system 9.0.
- Created a native daemon that listens to socket connection from system service and push new messages for the extension to status bar in mobile App.

Project2: Deploying python application in AWS

Roles and Responsibilities:

- Creating a python application and launching server using AWS lambda & AWS Gateway servces
- Successfully deployed python application and deployed it to AWS Server.
- Successfully handles GET 7 POST HTTP Method .

Project 3: Condenser Fan Control

Working Platform : C

Tools : IAR studio

Roles and Responsibilities:

- Implemented condenser fan control into the control module in STM32F4 Cortex M4 -Controller series
- Worked on use of Condenser split, variable speed and condenser staging in the system.
- Developed ,Factory test tool Application using UART test command with C# app.

Project4: Condensing Unit Control

Working Platform : C

Tools : IAR studio

Roles and Description:

- Worked on firmware development and QA testing of the refrigeration products.
- Deep understanding of refrigeration product and defrost life cycle.

Project5: Fume Hood Controller

Roles and Description:

- Worked on Device driver for the TFT and LCD Screen and Bluetooth. ‘
- Developed Custom boot loader application for the Firmware Upgrade using Mass Storage device.

Project6: ICON – Actuators

Tools: IAR studio, Android Studio ,

Microcontrollers

Roles and Description:

- Worked on firmware development using of terminal unit valves for both Linear and Rotary Actuator and is operated by stepper motor.
- Worked on NFC SDK development using Android studio, I2C development for EEPROM read/ write operation.

Project7: Industrial wireless Sensor using IP based Communication

Description:

- Building reliability test by using features of TSCH protocol on Open Source platform using Contiki OS software stack which is running on both Raspberry Pi and TI-CC2650.
- Conducted mote experimentation and communication with border router on the test platform.
- Worked on IPC mechanism for the shared resources and implemented locking mechanism such as Mutex in Userspace Application .
- Worked on Signal Handling events and Multi thread programming in the Linux Kernel