Hari prasath Chandrasekaran

Embedded Software Engineer

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Summary

- Having **3 years and 6 months** of total experience as **Embedded Software Engineer** in **Industrial automation domain , Automotive domain and Test Automation**
- Strong Experience in design of user and system interfaces using communication protocols **UART, SPI, I2C** and RS232 using **Embedded C**.
- Experience in creating Test Scripts in **Test Automation Framework** based on **Python**
- Having hands-on in **CDD(Complex Device Driver) area development in AUTOSAR Architecture in Automotive domain.**
- Having Hands-on in Automation TestBench Setup preparation and **DevOps** tool- **Jenkins**.

Work History & Responsibilities

Embedded Software Engineer | JULY 2021 – OCT 2022 || *Kalycito Infotech Pvt.Ltd, Coimbatore.*

- Working as Embedded Developer and Test Automation assistance for Customer – Bosch Global Software Technologies.
- Collaborated with clients from concept through final delivery of product or service.

Embedded Software Engineer | FEB 2018 - AUG 2020 || *New Qbitronics, Coimbatore.*

- Managed creative projects from concept to completion while managing outside vendors.
- Collaborated with clients from concept through final delivery of product or service.

Skills

Programming Languages : **C**, **Embedded C**.

Scripting Languages : Python, Linux Shell scripting

Operating system : **Windows**, Linux, QNX

Test Automation Framework : Robot Framework, Python based Proprietary framework

Devices : PIC 8 bit microcontrollers, Renesas controller, Qualcomm SoC, ESP8266 NodeMCU, Raspberry Pi 4 Model B, Renesas E1/E2 Emulator/Debugger, PicKit, CANoe 10/15, Saleae Logic analyzer/ Oscilloscope

Wired Protocol : **I2C, SPI, UART**, RS232.

Wireless Protocol : **WiFi** (ESP8266)

Tools

Version Control : Git, Gerrit

Dev-Ops : Jenkins

Software Tools : MPLAB X IPE, Renesas Flash programmer, Putty/ Terra term, DLT trace viewer, Logic analyzer

IDE : MPLAB 8.92 IDE, **MPLAB X IDE,** Renesas Multi Debugger/Emulator**, , PIC CCS IDE, Pycharm**, Arduino IDE, Keil uVision 5 IDE

Project/Task management : IBM Rational Tool (RTC), JIRA

Software Development Methodology

Agile, Waterfall

Project Details

1. Automotive – Life Cycle Management

Role : Embedded developer & Test

Automation Specialist

Organization : Kalycito Infotech Pvt.Ltd

Customer : Bosch Global SW Technologies
Duration : July 2021 to Till now

Team size : 9

Controller : Renesas, Qualcomm SoC

Languages : Embedded C, AUTOSAR, Linux Shell scripting, Python

Protocols : SPI, CAN, UART, RS232

Software : Renesas flash programmer, Multi Debugger, Pycharm, Putty, CANoe 10/15

Description :
Life Cycle management is responsible for Voltage handling, Reset handling and Watchdog Supervision handling in Automotive Infotainment project.

Contribution :

- Implemented new feature for Power Management IC Supervision and presented demo for Customer.
- Created multiple Automation Test Script to validate the quality of features implemented where the testcases will be executed on daily basis for evaluating the reliability of SW.
- Prepared multiple TestBench for automation scripts to be executed for regression testing and reliability Testing on daily builds pipelined from Gerrit using Jenkins.
- Done bug validation and bug fixes by handling joint debug sessions.

2. Automatic Power Factor Controller

Role : **Embedded Software Engineer**
Organization : New Qbitronics
Duration : February 2019 to December 2019

Team size : 4

Controller : PIC18F46K22, NodeMCU (ESP8266)

Languages : Embedded C

Protocols : SPI, UART, Wi-Fi(ESP8266)

Software : MPLAB X IDE, Arduino

Description :
Industries with heavy inductive load faces economical threat called Power factor which not only results in power wastage, but also brings up heavy fines from electricity vendors due to potential threat of transformer or transmission line failure. Hence, we designed power factor controller to monitor and automate capacitor banks to regulate power factor.

Contribution :

- Worked in **device driver** programming to interface **LCD, EEPROM** and **ADC** with PIC controller.
- Interfaced **ADE7758** IC with **PIC18F46K22** microcontroller using **SPI protocol**
- Worked in Relay control module and Software integration.
- Coded and Debugged the program as per client requirements.

3. Automatic Mains Failure Controller

Role : **Embedded Software Engineer**
Organization : New Qbitronics
Duration : May 2018 to December 2018

Team size : 3

Controller : PIC18F4520, NodeMCU (ESP8266)

Languages : Embedded C

Protocols : I2C, UART, Wi-Fi(ESP8266)

Software : MPLAB 8.92 IDE, Arduino

Description :

Power failures and irregularities in power are quite common in high current industries. To avoid damage of instruments and improve productivity, Diesel generators are used for power backup. We provide automation solutions for automatically turning ON and OFF Diesel generators as per client requirements.

Contribution :

- Requirement gathering.
- Worked in **device driver** programming to interface **LCD, EEPROM** and **ADC** with PIC controller using **I2C protocol**.
- Worked in Relay control module and Software integration.
- Coded and Debugged the program as per client requirements.

Education

BACHELOR OF ENGINEERING | JULY 2012 - MAY 2016

Akshaya college of Engineering and Technology, Kinathukadavu.

Major: Electronics and Communication Engineering

CGPA: 6.87

CLASS XII | APR 2011 - MAY 2012

Srinivasa Vidhyalaya Hr.Sec School, Udumalpet.

Percentage: 77.92

CLASS X | APR 2009 - MAY 2010

RKR GRKS Matriculation Hr.Sec school, Udumalpet.

Percentage: 93.5

Personal Details

- Date of Birth - 23/11/1994
- Languages Known – Tamil, English
- Marital Status - Single
- Nationality – Indian

Declaration

I hereby declare that all the above details are true to the best of my knowledge.