Durga Venkata Siva Suryaji Yarramsetti

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PROFILE:

Software Systems Engineer with more than 3 years of Automotive experience in Developing Embedded firmware applications, design Implementation, requirement definition and analysis, testing and validation of firmware.

SKILLS:

Programming:	C, MATLAB, Python, Assembly Language.
Operating System:	Linux-Ubuntu, Windows, Unix.
Tools:	Vehicle Simulator, OBD Simulator, Vehicle Spy, Function generator, CRO, MS Office.
Standards:	OBD -II, CAN, SDLC, STLC.
Environment:	Embedded C, CAN, Linux Kernel, JIRA, GIT, QPST, Eclipse, Quectel.

PROFESSIONAL EXPERIENCE:

System Systems Engineer   **May 2018 – Present**
Danlaw Inc, Novi, MI, USA

- Gathering and Interpreting Technical Systems Specifications and requirements from both internal and external clients.
- Strong knowledge of understanding, writing, Bug fixing and Developing application software and drivers for embedded systems using C.
- Worked on Linux Kernel based RTOS to run various firmware applications, Memory management, boot, recovery, threads, Memory Management, interrupts, polling and multi-tasking.
- Had expertise in using various **Linux and Unix shell** commands to configure, control, flash, extract logs and make changes to the Embedded system device.
- Good knowledge of **OTA** (Over the Air) concept.
- Worked on flashing, recovering and obtaining logs for Embedded devices using **USB** and **RS232**.
- Developed various Automation scripts for automating the everyday testing environment covering various testcases.
- Strong expertise in Unit level, System and Integration Testing for the Development Team before delivering the firmware to the QA Team or to the Customer.
- Sound knowledge of different transport layer protocols like **TCPIP, UDP, FTP and HTTPS.**
- Basic knowledge of Various **modules** and **API**s used to build firmware for an Embedded system.
- Familiar in testing infotainment domains such as **Infotainment System, Navigation, Cellular, Dashcam, WIFI** and **Bluetooth.**
- Had worked extensively on **IOS and Android Apps** and their connectivity via **Bluetooth** and **WIFI** with the Datalogger device.

- Familiar with the process of Vehicle protocols and how different parts of the vehicle communicate with each other.
- Hands on experience in analyzing real time vehicle **CAN** data obtaining using **Vehicle SPY**.
- Considerable amount of experience using Version control system **GIT** for tracking changes to the firmware from time to time.
- Hands on experience on bug tracking and reporting tools such as **JIRA**.
- Tested **Security** based Applications for Dataloggers and generated secured keys to secure data.
- Verified for different **PID** values of **OBD-II** specifications using Vehicle spy.
- Performed vehicle testing with various real time scenario test cases.
- Proficient in "**Effective Root Cause Analysis**" with analytical ability to solve complex problems.
- Expertise in executing test cases of different infotainment modules following given pre-conditions, test steps and test description and verifying if expected results are obtained.
- Involved in all the phases of **Software Testing Life Cycle** (STLC), Validation phase of **Software Development Life Cycle** (SDLC).
- Familiar with **V-model** and **Waterfall** methodologies.
- Developed and modified test cases for testing various telematics features and performed corner case and negative test cases along with positive test cases.
- Developed and modified test cases for firmware to process Accelerometer data to detect hard turns and impact events in a vehicle.
- Developed test cases and tested firmware to control the Super Capacitance to transfer the trip data in case of vehicle battery failure.
- Had used MS office tools for updating Documents, reports and data validation.

Engineering Intern   **December 2017 – April 2018**
Danlaw Inc, Novi, MI, USA

- Requirement Gathering and Analysis also created quality test plans, test designs and Manual Test Cases.
- Involved in complete Firmware development testing and developed test cases for functionality of different Boot Loaders.
- Worked with tools like OBD Simulator, CAN Diagnostic Utility and Regression Test Tool.
- Worked with GPS, **Bluetooth, WIFI,** Dashcam and Accelerometer modules functionality for different Firmware's and Boot Loaders.
- Tested different OBD protocols like ISO 15765, CAN (11 and 29 bit) and **JBUS** Protocols.
- On Job training of CAN protocol using Vehicle Spy for testing different OBD messages.
- Performed stress testing, regression testing and full cycle functional testing.
- Involved in Production and Distribution of Datalogger devices and Configuring them for bench and vehicle testing based on requirements.
- Hands on experience with collecting CAN logs and analyzing logs using **NEOVI** hardware tool and **Vehicle Spy3.**
- Preformed temperature control regressive testing of **Beacon Id's** at extreme low and high temperatures using special Temperature Control units.
- Preformed **NMEA GPS** and performance testing using GPS Simulator.
- Evaluate documentation, specifications, test plans, procedures & troubleshoot Captured Test Fleet issues.

Internship at Electronics Corporation of India, Hyderabad   **December 2014- January 2015**

- As an Intern, I worked on an **Embedded** Project **Real time controlling of agricultural Motor** using GSM SIM300 modem which is mainly focused on automating the irrigation system for social welfare of agricultural system.
- Designed and Implemented the whole project using the 8051 Microcontroller board and Keil μ Vision software using the assembly Language and Embedded C.
- Developed a few test cases to cover all software/System requirements and testing.
- Perform manual and semi-automated Software Functional Verification and Validation (V&V).
- Worked with multiple teams in building better test procedures and software to give the best output possible.

EDUCATION:

Master of Science, Computer Engineering   **GPA: 3.67/4**
The University of Michigan - Dearborn, Dearborn, Michigan, USA.   September 2016 – April 2018

Bachelor of Technology, Electronics and Communication Engineering   **CGPA: 8.14/10**
Vellore Institute of Technology, Vellore, India.   July 2012 – May 2016

ACADEMIC PROJECTS:

Implementation of Ultrasonic Rangefinder using 8051 Microcontroller:

- Constructed an Ultrasonic range finder using the **8051 Microcontroller and HC-SR04 Ultrasonic module,** created an interface between hardware and software by using Assembly Language.
- The entire project is implemented using the Embedded C and Assembly Language using the Code warrier IDE Software.
- With the help of Ultrasonic technology, able to measure the distance between two objects successfully.

Simulation of simple Link Layer Protocol Using TCP IP protocol:

- Implemented the working model of Simple Link Layer Protocol using the socket programming of **TCPIP** protocols in **MATLAB** Software using the client – server architecture.
- An Image is transferred from One PC to another using the socket programming of the simple data link layer protocol.

Implementation of convolutive speech separation using Independent Component Analysis (ICA):

- This Project will highlight the Separation of convolutive speech signals using Kurtosis and Neg-entropy algorithms of **Independent component analysis (ICA)**.
- The entire platform is first simulated in **MATLAB** and then implemented in **TMS320C6713** Processor using Code Composer Studio.

ACHIEVEMENTS:

- University of Michigan-Dearborn Chancellor's Scholarship.
- Successfully Completed a Certification Course named Programming for Everybody (**Getting started with python**) which is offered by University of Michigan through Coursera.

PROFILE LINKS:

- https://www.linkedin.com/in/suryaji-yarramsetti-60515b83/