**VAMSI**

**Email:vamsi.dev09@gmail.com**

**Phone: 612-298-2015**

### PROFESSIONAL SUMMARY:

* Around **5+ years** of experience as an embedded software professional.
* Extensively worked on embedded real-time systems, software applications design, development, coding, and test engineering.
* Developed software using **C, C++, and Assembly** programming languages.
* Sound knowledge on embedded communication protocols **CAN, LIN, FLEXRAY and E2E**.
* Hands on experience in Integrated Development environments such as **MS Visual Studio, Code Composer Studio IDE, MATLAB Simulink, State Flow, MS Visio**.
* Worked on testing tools like **Cansniff, CPS**.
* Writing test scripts using PYTHON, CAPL and test plan for the product performance check.
* Experienced in **ARM11 and ARM9** architecture.
* Experience in development of system Software Requirement **in DOORS** and Software Design document in **Rhapsody**.
* Experienced in Hardware and Software design of **microcontroller** embedded systems.
* Excellent Knowledge of **debugging** the hardware / software modules.
* Exposure on Software Life Cycle Model Agile & Water Cycle
* Expertise **on Module testing, Integration testing, system testing, performance testing, Inter-operability testing & Compliance testing**.
* Experienced with various communication standards such as **LIN RS232 and RS422** serial communication standard**, I2C, SPI, CAN**.

### EDUCATION:

1. **Masters in Electrical Engineering**

Gannon University – Erie, PA, USA.

GPA – 3.6/4.0.

1. **Electronics and Communications Engineering**

Bachelors of Technology from JNTU, Hyd, India.

GPA -3.5/4.0

### PROFESSIONAL SKILLS:

**Languages and Scripts:** C / C++, Python, C#, Embedded C, MISRA-C, Perl, CAPL, Unix, Awk

**Hardware Platforms:** PowerPC**,** MIPS, x86,ARM, RCM2200, RabbitProcessors,8051.

**Protocols:** CAN, OBD, RS-232, I2C, SPI, SAE, RS485, UDS, GM LAN, Flash

**Tools:**Emulator, Simulator, QAC, ECAD, Makefiles, Debugger, Jira, MS Visual Studio, Eclipse, GDB, JTAG, TRACE-32, VSS, CVS, CANOe, MATLAB, LabView, Microwind, LT Spice, P Spice,Xilinx ISE,Electric EDA,VoltLab, PCB design, DOORS, ECU.

**Embedded OS:** QNX, VxWorks, RT Linux, Nucleus, WinCE.

### PROFESSIONAL EXEPERIENCE:

**Role: Embedded software Engineer Dec 2016 to PresentClient: Quantenna Communications - Fremont, CA**

**Responsibilities:**

* Involved in software development for In-Vehicle-Infotainment system.
* Hand-coded algorithms using C/C++ programming language.
* Developing application software using C/C++.
* Worked on MATLAB TARGETLINK to generate firmware C code based on algorithms
* Analyze CAN messages using Vector tools CANaylzer and CANoe.
* Worked on SPI, RS-232, USART/UART, WIFI, Bluetooth Low Energy (BLE).
* Configured the CANalyzer simulation in consonance with the requirements, performed the tests and Root caused the infotainment issues across LIN and CAN protocols while testing.
* CAN Driver integration and maintenance.
* Developed a hardware interface test automation framework using Linux/Python
* Implemented the I2C protocol in Python 2.7 on Linux and used USB 2.0 Programming.
* Involved in SDLC process like requirement analysis, designing, coding, testing, releasing and providing maintenance, and documentation at each stage.
* Writing test Case in IBM rational DOORS.

**Environment:**C/C++, Agile Methodology,Python, MATLAB/Simulink, CAN, SDLC.

**Role: Embedded Test Engineer May 2016 to Dec 2016**

**Client:Millennium soft - Sparks, MD**

**Responsibilities:**

* Working as an I/O processing and diagnostics qualification software developer. Developed embedded control system software to implement robust diagnostic strategies that could meet the OBD regulations.
* Involved in font design creation for the letters, characters and image for the different languages in menus.
* Developed communication protocol to communicate between Cluster and PC.
* Worked on Testing the complete functionalities related to HMI like peripherals, vehicle history and Functionalities which are related to Infotainment system like FM Radio, USB, IPOD connection, SD card connection to Car Infotainment system
* Validate the test cases and Automation of test cases using CAPL scripting
* Code review at meetings and ensure correct implementation and follow-up on any concerns.
* Knowledge of wireless and networking infrastructures including Physical Layer, Data Link Layer (MAC), Network Layer, and Transport Layer (IP). Working knowledge of 802.11 Wi-Fi a/b/g/n/ac standards
* Dynamic modeling and analysis, Numerical simulation using MATLAB and control system design for a simple project.
* Developed various specifications such as (CANbus, test specifications, product requirements, and test procedures).
* Validated the control logic and CAN communication using CAN bus monitoring software named CANKing.
* Updated the data in DOORS by importing, and reviewed these requirements by exporting and familiar with Aspice.
* Activities involve Development, Design, Code, and Bug fixes, Code Optimization, Debugging and Manual Testing.

**Environment:** CAN Sniff, DOORS, CANBUS, Linux, HMI, CAN Analyzer, Wi-Fi,Python,MATLAB/Simulink, C/C++

**Role: Embedded Software Engineer Dec 2013 to Jun 2015Client: Celestial Systems Pvt. Ltd, Bengaluru, India**

**Overview:**

This application was developed for automating the testing of automotive instrument clusters. A web cam captures the image of the cluster that is processed by the MATLAB code to extract the desired parts in the image corresponding to various dials, diagnostic messages and icons on the cluster. These readings are stored in the database and compared with another set of readings obtained from the CAPL script running in CANoe tool. The status of test cases depends on the result of comparison. This code also applies the technology of OCR (Optical Character recognition) for image to text conversion for cluster LCD analysis.

**Responsibilities:**

* Involved in the requirement and the resources analysis.
* Developed the code in MATLAB for the above-mentioned tasks.
* Developed the interface between MATLAB and CANoe tool.
* Designed the GUI in MATLAB.

**Environment:** Linux, C, MATLAB, JTAG, Tool for RCM2200 Micro-controller programming, Rabbit processor, VxWorks, Bluetooth

**Role: Intern Embedded Dept. Aug 2012 to Nov 2013 Client: Access Computech - Hyderabad, Andhra Pradesh**

**Responsibilities:**

* Provide technical support in design and development of embedded systems.
* Worked on keil 4.0 for programming in embedded c to develop output and load to hardware by Flash magic tool.
* Supported all phases of the software development process i.e., Requirements, Design, Development
* Worked on ECG display on smart network project.
* Hands on experience in Microcontrollers, Microprocessors, Analog and Digital Communications, RF filter analysis in LabVIEW.

**Environment:** C, Advanced C, C++, TCP/IP, Embedded Linux, RTOS, Bluetooth, LabView.

### ACADEMIC PROJECTS:

**Huffman Coding Project,** Fall 2016

* Implemented code for the encryption and decryption based on the Huffman coding
* Developed GUI in MATLAB
* Run the code and sent and receive the data securely
* Resulted Graphs are plotted by using the MATLAB.
* Calculated the MSE and PSNR values using Validation.

**Control of Vehicle Project,** Spring 2015

* Simulated integration of DC micro grid; operational optimization was plotted using MATLAB and Simulink
* Calculated the gain values (Kp, Ki, kd) and transfer function using vehicle suspension plant
* Designed PI and PID controller to control the vibrations in vehicle in closed loop response
* Tested the designed system using MATLAB and Simulink in both open and closed loop

**Wireless Control System Project,** Fall 2012

* Develop the code in Embedded environment.
* Fixed the tools and Microcontroller on the PCB.
* Execute the code in the ISP software.
* Dump the Required code into the Microcontroller by using the Keil software.
* Tested with the Bluetooth Android devices.

**Embedded Systems Project,** Spring2012

* Built the sensors, tools and Microcontroller on the Express PCB
* Implemented the required embedded code
* Run and test for the results
* Dump the executed code into the Microcontroller By using the Keil Software.
* Verified the results