**Professional Summary:**

* 8+ years of experience in software design and development for Distributed, Client-Server and Networking systems for various industries.
* Designed and programmed C++ applications in both a LINUX/Unix and Windows environment. Very strong with Microsoft Foundation Classes (MFC).
* Experience of Software design and development experience including requirement analysis, implementation and testing of various real-time/multi-threading applications using C++, Linux technologies on Embedded platforms.
* Strong experience of C++ Object Oriented Programming (OOPs) at different environment and good experience in Multi-threading, String pool, C++ Packages, Exception- Handling & Collections.
* Exclusively worked on C/C++, OOPS, assembly and embedded C/C++ on Linux/RTOS platform.
* Experience in C/C++ Programming language on Linux and RTOS platforms.
* Developed various embedded applications on different multi-threading RTOS platforms such as VxWorks and QNX.
* Experience in using communication protocols such as CAN, SPI, SCI, KWP2000, and UDS.
* Experience with the Vector tools chain, including CANalyzer, CANoe, Panel Designer/Editor, and the writing CAPL scripts for test automation.
* Good Knowledge in CAN, CAN FD, UDS Vehicle bus Protocol.
* Working experience on Linux/UNIX with Pentium and ARM based chipsets.
* Experience with OOAD (Object Oriented Analysis and Design principles) in building highly sophisticated systems.
* Specified, prototyped, developed and tested an object oriented, multi-platform C++ framework containing support to data structures, common algorithms sockets, and threading.
* Experience in developing C++ services using web services architecture, SOAP, WSDL and XML.
* Experience with various source control tools like CVS, SVN and GIT/GITHUB.
* Applied knowledge of machine-learning, data science, algorithms, and associated tools.
* Expert in network programming skills including both TCP/IP and UDP.
* Good knowledge of relational databases like MySQL, Oracle, and IBM DB2.
* Expert in Python and Linux shell scripting.
* Proficient in Test Driven methodology to design, develop & test software modules.
* Having very good experience on medical devices.
* Experience in working Automated Testing methods. Used HP ALM/QC, JIRA, Bugzilla, and other project management tools.
* Proficient in using static analysis tools and caught many severe bugs before production release.

**Technical Skills:**

|  |  |
| --- | --- |
| Operating Systems | UNIX/Linux, Windows |
| Programming Languages & Scripts | C, C++, Python, Shell |
| Databases | MS SQL Server, IBM DB2, Oracle, SQLite  |
| Libraries & Frameworks | SOAP webservices, Software Design OOP/OOD, Design Patterns, STL, BDE, IPC, multithreading, sockets, Google Test, Google Mock, Quick FIX |
| SCM & CI/CD Tools | SVN, CVS, GIT/GitHub, Jenkins, COVERITY, AWS |

**PROFESSIONAL EXPERIENCE:**

**Nuvation Research Corporation, Sunnyvale, CA Feb 2022 – Present**

**Role: Embedded Systems Engineer**

**Responsibilities:**

* Participated in porting C/C++ embedded systems on Linux development to a new microprocessor development board such as using bash and Python scripts to configure and initialize application
* Programmed Embedded Linux OS for the hardware.
* Optimized a stack size for microcontrollers without memory management unit.
* Researched about unit test frameworks, such as Google Test Framework, and CxxTest, and created a baseline for a unit test framework.
* Experience with Code Collaborator, DevTrack, and Perforce to perform code review and revision control.
* Developed a gain prediction database using Python, c-shell scripting, and MATLAB on a Linux platform
* Responsible for basic board bring up right from uboot, cramfs and kernel, for both the MTD and NFS configuration, with the understanding of given memory map.

**Environment:** C, C++, Matlab/Simulink, Python scripting, Linux.

**Cummins Inc, Columbus, IN Sep 2020 – Jan 2022**

**Role: Embedded Engineer**

**Responsibilities:**

* Involved in software development, integration and testing.
* Developed software in C/C++ to configure sensors.
* Development of Boot loader and Application Development
* Developed software in C/C++ following MISRA C/C++ coding guidelines.
* Worked with hardware architectures such as FPGA.
* Development of the message communication between RA systems using CAN/LIN.
* Involved in developing software interfacing modules for automotive communication protocols such as CAN, LIN.
* Well versed in device communication protocols such as USB, Ethernet, WI-FI and Bluetooth, Zigbee.
* Integration of AUTOSAR OS with MCAL modules.
* Developing the components in AUTOSAR and generate the files using davinci configurator.
* Worked with the hardware and test engineers to design test cases.
* Debugged and resolved the bugs in the software based on issues raised by the validation team.
* Performed black box tests on features developed.
* Documented software design, implementation and functionality.

**Environment:** C/C++, JTAG, Oscilloscope, Code Composer Studio, CAN, Bluetooth, Git, Wi-Fi, Bluetooth, Zigbee, AUTOSAR, Dspace Control Desk, Vehicle Spy.

**NSL Textiles Limited, Hyderabad, India Feb 2015 – July 2020**

**Role: Embedded Developer**

**Responsibilities:**

* Using 'C' code programming we implemented a real time operating system on the microcontroller by Freescale.
* For firmware we used the RTOS functions to control a real time clock by I2C.
* Implemented USB/Serial communication protocol
* Developed USB Host client driver to flash binary image in the embedded board.
* Developed smart tool to analyze Linux kernel crash
* Involved in development of front panel Controller Device Driver in Linux kernel
* Porting the driver for the new platforms to support Multimedia card MMC/SD cards
* Implementation of Interrupt Handling, Transmit and Receive Interfaces
* Testing of the driver using the Wireless tools/utilities
* Initialization of General Purpose Host Port (GPHP) Driver and implementation of I/O interfaces
* Developed Linux Device Driver for serial port, Ethernet port and kernel modules programming for 802.1q Vlan implementation.
* Implemented Wi-Fi, Bluetooth Low Energy (BLE), 802.15.4 mesh networks in hand held instruments

**Environment:** Atmel AT89C51SND2C, C/C++, CAN, Embedded Linux (kernel V 3.13).