**Pruthvik Raj**

**Sr. C++ Developer**

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**Professional Summary:**

* 8+ years of experience as a Software Engineer and coding with analytical programming using **C/C++ and assembly programming**.
* Domain specialization in execution of development of applications for clients in Finance and Telecom sector using **Solaris/Linux/UNIX/Windows, Oracle, Sybase, Macros** in C-**C++, Java, Perl, Shell Scripting (bash, csh, ksh), AWK, Data Parsing & Middleware i.e. MQ Series.**
* Experienced with full software development life-cycle, architecting scalable platforms, **object oriented programming**, **database maintenance** and **agile methodologies**.
* Extensive experience in **design, development, enhancements** and maintenance of the **avionics** and **industrial automation applications**.
* Porting and Integration of different application layers of **TCP, PPP** and **UDP** for various home automation products on **Embedded Linux kernel**.
* Experience in deploying **UNIX/Linux Inter Process Communication** mechanisms like Shared memory, PIPES, signals and semaphores for various **Embedded products.**
* Experience in implementing the applications under multiple OS platforms using corresponding **APIs (Like Linux internal APIs and win32 APIs).**
* Hands-on experience on SCM tools like **GIT/GitHub**.
* Experience using **MATLAB, Wireshark, Visual Studio, OrCAD** and **CADENCE**.
* Experience in writing **SQL queries** and stored **procedures and packages**.
* Experience in creating **UML Design diagrams** like sequence and class diagrams.
* Experience of Project Management and leading team towards fulfilment of commitments.
* Expertise **in Debugging, Performance** analysis using **GDB, Multi, Keil, Komodo etc**.,
* Keen to work on challenging assignments in any applications and would like to learn, grow and contribute towards the goal of the organization.
* Experience with version controlling system like **IBM Rational Synergy, PVCS, CM21 and TFS.**
* Experience with Change controlling system like **IBM Rational Synergy classic, PVCS Tracker.**
* Used JIRA, Bugzilla and other project management tools.
* Hands on experience with **PL/SQL, MySQL, MS-SQL.**
* Developed various System and **Networking Projects in C/C++ and Unix Environment.**
* Development experience with **XML, JSON, TCP/IP, UDP/IP** and **multithreaded** application using **IPC mechanism.**
* Experience in using the **C++ Standard Template Library (STL).**
* Ability to translate requirements into design and code, identify the dependencies.
* Strong analytical and problem-solving skills, always striving for new technologies. A person with multi-tasking and organizational skills and high ethical standards.

**Professional Experience:**

**Cargill Inc, Wichita, KS Sep 2017 to Present**

**Role: Sr. C++ Developer**

**Responsibilities:**

* Part of a development team to implement Equity Order Management system to accept orders from UI, FIX, send/route to Exchanges and other broker dealers and fill the trades in C++ on Unix and Linux platforms.
* Work with the Business Units to develop an on-going software development strategy for applications. This strategy will support short-term and long-term development.
* Involved in the improvement of documents, such as ensuring the Disaster Recovery document is up-to-date or developing document for the support.
* Developed multithreaded cache offline program in C++ to support various UIs to deliver/process data for a scalable, high throughput, low latency applications.
* Wrote C++ programs for end of day operations (EOD) to close or roll the orders.
* Designed and Developed an integer programming optimization model and is implemented using CPLEX Optimization Studio and deployed as a web service using WebLogic.
* Used CPLEX Optimizer which offers C++ libraries to solve linear programming and related programs. So, Concert Technology that offers an API that includes modeling facilities to embed CPLEX optimizers in C++ applications.
* Used STL extensively to store data on Order history, accounts, securities, etc. for fast retrieval/update.
* Worked with users, business and exchanges to gather new requirements/enhancements, testing and final delivery of sub systems.
* Handled corporate action events to reflect the order price and currently implementing the tick size changes.
* Used C/C++ interface to retrieve/update info from/to the DB.
* Developed/enhanced as part of team to compute commission calculations based on commission rules and generate pdf reports.
* Modified C++ programs to support compliance rule automation for many compliance rules for client accounts for both pre-and post-trade compliance purposes and manage leverage using many metrics like industry exposure, security type, long/short positions, currency / securities / options / futures, credit ratings etc.
* Wrote various SQL stored procedures to compute several metrics like realized/unrealized gain/loss, etc and other data manipulation.
* Performed data modeling, database optimization, understanding and implementation of schemas, and the ability to interpret and write complex code.
* Followed Agile and Scrum Methodologies..

**Environment:** C/C++, Design Patterns, SQL, bash, ksh, Linux, POSIX Threads, CVS, git, GitHub, OOAD, IBM SPSS Modeler, CPLEX, BOOST libraries, gdb, pdb, dbx, OpenGrok, Jira.

**Discover Financials  Riverwoods, IL Oct 2015 to Aug 2017  
Role: Sr. C++ Developer  
Responsibilities:**

* Lead the 2-member team to develop the features and helped team members in resolved technical issues.
* Modifying existing build systems and building RPM packages for the new release candidates using CMake.
* Developed Application that would allow transfer of log files from Linux computer to Linux server using C++ multithreading environment.
* Ported the legacy application to new desktop single page application using Java FX, Scenicview, Scenebuilder.
* Designed and implemented APIs using Java Native Interface that allow clients to customize the base engine code (which is implemented in C++) in Java.
* Used Swing components to update directly only in the context of callback methods invoked from the event dispatch thread.
* Developed client side components utilizing Java Swing framework.
* Written a lot of ClearCase triggers in Perl and ClearQuest Web hooks in Perl and developed and maintained tools written in Perl, CGI and Cold Fusion.
* Maintained all software builds and documents in ClearCase.
* Had complete responsibility for setup, management and operation of ClearCase.
* Performed daily multi-site synchronizations, code deliveries, baseline creations, user training, documentation, and troubleshooting of ClearCase.
* Responsible on providing infrastructure to launch and deploy latest release candidates.
* Created C# console applications to manipulate data.
* Refactored existing code by introducing inheritance based design.
* Improved the code efficiency by optimizing the code and caching frequently used data.
* Managed SQL Server databases using C# with entity frameworks.
* Developed Complex database objects like Stored Procedures, Functions, Packages and Triggers using SQL, My SQL.
* Writing stored procedures in SQL Server and integrated into the application to access the data from databases and store the data into database.
* Expertise in developing both front end & back end applications using C++, VC++ (MFC).
* Involved in the implementation, support and enhancement of a Radio Communications application written in VC++, MFC.
* Used Data Access Object (DAO) classes within MFC to access the Database.
* Migrated from SVN for source control to git, local github.
* Configure and troubleshoot L2 switching technologies including STP, MSTP, VTP.
* Implemented logics to install/update/upgrade software packages in Reprogramming Application Manager using QT interface.
* Programming and Changing UI screens using C++/QT Used multi-threading and thread synchronization extensively.
* Strategize with the outside sales team to architect solutions utilizing the QT framework.
* Utilized STL and C++ algorithms to achieve optimal design efficiency.
* Experience using Agile/Scrum/Waterfall software development methodologies on customer collaboration.
* Developed new reports using Python to identify the sales margin overrides.
* Commands, Windows performance monitor and Database Tuning Advisor.
* Implemented code in Python to retrieve and manipulate data.
* Developed native UI using JavaScript with event handlers and fetching data using SOAP interfaces.
* Worked on Android content providers for implementing features like sending E-mails, SMS, etc., from the app.
* Responsible for deploying the app to the Android Marketplace and supported the app for different releases of Android OS.
* Involved in production support and providing hot fixes to the production issues.

**Environment:** C++, Java, Python, gSOAP, SQL, XML/JSON, JavaScript,Java FX, Java Swing, Splash, ClearCase, Design Patterns, STL, gdb, multi-threading, Android SDK, Linux.

**Client: HP Inc San Diego, CA Dec 2012 to Sep 2015  
Role: Sr. Software Developer**

**Responsibilities:**

* Implemented the Internal DDF (Data Definition File) Interfaces for HPSM Proxy Driver, for Controlling and Monitoring of LC11 using C/C++.
* Implemented the Internal DDFInterfaces for PLC Driver to communicate with PLC component.
* Implemented the Internal DDFInterface for TruCoax Driver to communicate with Safety Handling PLC.
* Implemented the Internal DDFInterfaces for PLC Driver to aid communication with TwinCAT ADS library for PLC.
* Used XMLWeb Services using REST to transfer the amount to transfer application that is remote and global to different financial institutions.
* Implemented the External DDFInterface to communicate to System Function Controller (SFC).
* Implemented the External DDFInterface to communicate toActive Diagnostic Tool (ADT).
* Implemented Transitions and Events for Specific States (Ideal, PrepareToFire, Firing, Error)and Generic States (Terminating and Initializing) for HPSM Driver State Machine.
* Implemented FHA Read/Write facility to Retrieve, Update and Add data to Database facility.
* Implemented the Unit Test Cases for all the internal, external interfaces and State Machine methods using CXX Unit Test Frame work.
* Developed TPS Document for the review of Test Scenarios and a TAR Document that contained the results from bench testing.

**Environment:** C/C++, C++ 11, Pro \*C, QT, Windows 64bit (7), COM, MFC, VC++, Visual Studio 2013, QNX , Red Hat (Linux) , WindRiver (RTOS), STL, Jenkins, Xquery, Eclipse , SNMPv3,Jira-Project tracking software, GIT, COCO, Agile Methodology, CXX Unit Test Framework, TCP/IP, MS Visio.

**Role: C++ Programmer Oct 2011 to Nov 2012  
Client: Camirine Hyderabad, INDIA   
Responsibilities:**

* Distributed application developer for enterprise security master application (SMDB) which provided indicative, pricing and corporate actions data to internal and external customers such as JP Morgan, ING and others.
* Designed, implemented and maintained a multithreaded server that received and processed acknowledgement messages from downstream applications regarding event data pushes using C++, STL, multithreading, shell scripting and UNIX.
* Participated in the development of a multithreaded publish/subscribe process which consisted of several subscription and push servers using C++, STL, multithreading, shell scripting and UNIX.
* Implemented additional rules and logic to provide indicative and corporate actions data to new subscribers by extracting all the required information from data base, generating and pushing messages using C++ and Rogue Wave.
* Implemented a SOAP web-service client program which was used extensively to process and stored in the data base corporate actions data from various vendor feeds using C++ and Rogue Wave.
* Designed and developed a multithreaded process that generated breaks on income events and notified the users when underlying indicative data changed using C++, STL and multithreading.
* Modified existing multithreaded server infrastructure to push additional indicative information to downstream subscribers. Implemented additional validation logic for a rule engine server that checked for logical inconsistencies in indicative data and reported them in a user workflow using C++, STL and multithreading.
* Developed and tested a client that handled the parsing of the municipal bonds feed file and created business objects which were streamed to various servers for data analysis using C++ and STL.
* Created an automated generic archiving utility written in raw DB2 CLI which was used to archive rows from different tables depending on the flag.

**Environment:** C, C++, STL, Unix, AIX, Linux, g++, gcc, Python, pdb, Shell Scripting, IBM DB2, Oracle, SVN, event handlers, Observer Pattern, multithreading, thread pools, IPC, gpg encryption, gdb, dbx.

**Education:**

Bachelor's in Computer Science from JNTU@ Hyderabad, India.

**Technical Skills:**   
**Languages :**C, C++, Java.   
**Scripting :**JavaScript, Unix-Shell, PowerShell, C#, Pearl, Bash, Python.   
**Web services:** SOAP, REST, AWS.   
**Web-Application Tools:** HTML5, CSS3, XML.   
**Database:** DB2, Oracle, SQL Server, MySQL, PostgreSQL, MongoDB, Hive.   
Core Expertise   
STL, BDE, IPC, Multithreading, Sockets, Heap allocators, Signals/Event Handling, SOAP Web Services, Software Design OOP/OOD, Design Patterns.   
**Version control Tools:**  SVN, CVS, IBM clear case.   
Build Tools Ant, Maven, Cruise Control.   
Testing Tools Unit, Quality Center, SOAPUI.   
IDE Tools Emacs, Eclipse, PyCharm, Visual Studio, Splunk, Jira, Putty.   
Operating Systems Windows, UNIX/Linux, Sun Solaris.