**Bandakunta**

**Professional Summary:**

* 10years of experience in designing and developing client/server and multi-threaded applications using C/C++,C#, Golang and Python.
* Strong skills in C/C++ and object-oriented design and programming, multithreading, network protocols and real-time system.
* Expertise in designing, developing middleware components for software in C/C++ using STL, multithreading, data structures, wrapper library functions, IPC (TCP/IP socket programming), and design patterns.
* Experienced in firmware development with Thread X Real Time Operating system
* Worked on CDI interfaces (middleware between application on Linux and drivers on ThreadX on STB).
* Design and implementation of Linux drivers and proxy on ThreadX
* Experience in using C and Assembly language to debug and update firmware versions
* Expert in preparing functional and design specifications.
* Expert in Boost STL containers, Design Patterns, Socket programming, Multithreading.
* Developed Desktop Applications and Mobile Applications and improve application performance using android, QT.
* Strong knowledge in GUI& HMI libraries like QT/QML, wxWidgets.
* Strong Experience in Graphical User Interface (GUI) design and development in QNX RTOS.
* Expertise in Multilingual Implementation with QNX Photon GUI development tool.
* Experienced with full software development lifecycle, architecting scalable platforms, object oriented programming, database maintenance and agile methodologies.
* Golang excellent coding and problem - solving skills with ability to work as Developer.
* Strong working knowledge in developing Restful web-services and Micro Services using Golang
* Expert in design, build, and maintain efficient, reusable, and reliable C++ and python code
* Good exposure to each of the phases of Software Development Life Cycle (SDLC), developing projects from stage of concept to full implementation.
* Expert in requirement analysis, design, development, testing and Integration of software modules.
* Experience in implementing business logic using Triggers, Indexes, Views, Stored procedures, Transact-SQL and in Design, Normalization of the database tables.
* Strong experience in automating system test and production tasks using Shell Scripting and Python.
* Used JIRA, Version One, Bugzilla and other project management tools.
* Good understanding of SDLC processes, AGILE-SCRUM and waterfall methodologies.
* Good experience with JENKINS and other build environment tools.
* Worked with Git, SVN, CNS and clear case configuration management systems and used tools such as Rally, Review Board, Extra view and Clear Quest.
* Performed Functional, Navigation, Regression and Smoke tests on the new enhancements added to the web application in different environments like UAT, Stress and finally in Production.
* Extensive experience on Web services testing using various party tools like Postman and SOAP UI.
* Ability to work with team and investigate, resolve real-time issues.
* Strong analytical and problem-solving skills, always striving for new knowledge.
* Excellent communication and interpersonal skills, ability to work independently as well as part of an integrated team.

**Technical Skills:**

|  |  |
| --- | --- |
| **Programming Languages & Scripts** | C, C++, Java,Golong, Python. |
| **Operating Systems** | Windows NT/2003/XP/Vista, UNIX/Linux. |
|  |
| **Databases** | Oracle, Microsoft SQL Server, IBM DB2, SQLite and MongoDB. |
| **Libraries & Frameworks** | STL, BDE, IPC, multithreading, sockets, heap allocators, signals/event handling, SOAP web services, Software Design OOP/OOD, Design Patterns, Google Test, Google Mock, Quick FIX. |
| **Version Controls** | GIT/GitHub, SVN, CVS. |
| Tools | QNX Photon GUI Tool, QAC++, McCabe, Coverity, IBM Rational MKS Integrity Client, MS Visio, Source Insight, Eclipse, MS Visual Studio, QNX Phindows, Cygwin, |
| **Network Analyzers** | CANalyzer, CANoe, CAT |
| **Automation Testing Tools** | Postman, SOAP UI, UFT/QTP, Selenium IDE |
| **Software Packages** | Oracle-8, MATLAB-6.5 |
| **Test Frameworks** | CPP,Junit Google’s C++ gTest and gMock |
| **Build** | Jenkins, cpp Check, Coverity. |

**Professional Experience:**

**US Bank, Houston, TX July 2022-present**

**Senior Software Engineer**

**Responsibilities: -**

* Involved in writing optimization techniques for more accuracy of Macros in C/C++, java and Oracle SQL.
* Designed and developed Web Forms using
* ASP.NET Controls, CSS and HTML to facilitate the registered users
* Developed classes in Business Layer and in Data Access Layer in C#
* Used Win Forms controls and Custom User Controls to provide standard interactive User Interface
* Created database objects using SQL Server including complex Stored Procedures, DTS
* packages, triggers, cursors, tables, and views and
* Collaborated with cross-functional teams to troubleshoot and resolve AWS cloud infrastructure issues.
* Configured and maintained AWS services such as EC2, S3.
* Installed Stunnel on the server where the relay resides, then set it up to manage the inbound SSL connections and forward data received to the relay.
* Modified the configuration file to accept inbound SSL connections, then forward data to the Dev relay.
* Developed communication protocols such as  TCP/IP, SSL/TLS for Financial Applications
* Developed new application and added functionality to existing applications using Java/J2EE technologies.
* Responsible for user validations on client side as well as server side.
* Responsibilities included the creation of test documentation and debugging and investigating issues utilizing C++ on the client and server.
* Experience writing data APIs and multi-server applications to meet product needs using Golang.
* Experience in writing the HTTP RESTful Web services and SOAP API's in Golang.
* Designed configurable REST APIs on demand using Go.
* Worked on Go technologies on UNIX and Linux platforms. Good understanding of Design Patterns, Multithreading and GO containers. Well versed in using Channels and go routines.
* Support System Testing, Acceptance (UAT) Testing and Production changes. Debugging and Troubleshooting production issues.
* Involved in writing GTest for testing the C/C++ routine developed to independently test.
* Worked on different data structure and algorithm for the data processing and real-time analysis.
* Worked with Queues, Linked List, trees and Graphs to handle the data in different scenarios.
* Involved in software development activities such as high-level design, low-level design, code, unit test cases, code maintenance, troubleshooting, and code documentation on application development/enhancements/initiatives.
* Involved in Code merges, builds, deployments, and setting up of the deployment environments.
* Functional/technical testing on deployment package, troubleshooting any issues that surface during testing, and delegating the task of addressing these issues to the appropriate project teams.

**Environment:** C++,C# Python, Golang, AWS, Mongo DB, DB2,Postman,gSOAP, SQL, XML/JSON, JavaScript, Design Patterns ,STL, gdb, Oracle database ,GTest, multi-threading, RHEL Linux, Centos , JIRA, Shell scripting, Sockets, SQL.

**INTEL, Hillsboro OR July 2021-June 2022**

**Senior Software Engineer**

**Responsibilities: -**

* Identifying, analysing and solving immediate issues with technical equipment.
* Developing and refactor Metor-Lake Project code with modern C++ & STL (up to and including C++17) •
* Responsible for user validations on client side as well as server side.
* Responsibilities included the creation of test documentation and debugging and investigating issues utilizing C++ on the client and server.
* Work as a product team developer on a variety of platforms including Windows, Linux distribution using C++, Python, and Boost Libraries.
* Representation of the system in hierarchy form by defining the components, subcomponents using C++ and developed set of library functions over the system based on the user needs.
* Design, development, and unit, system and integration testing of embedded application software’s with C++ on a multithreaded QNX environment.
* Worked on POSIX standard Inter process communication (IPC) mechanisms and process synchronization mechanisms.
* Graphical User Interface (GUI) module design, development and unit testing.
* Working on Design, code, and debug operations, data analysis and utilizing C++ 14 & 17 standards in developing Metor-Lake Project.
* Created many Jenkins slaves and setup jobs on master to run on slaves.
* Analyze defects and test results to ensure KPI achievement by root causing the issues and designing algorithm improvements
* Work assignments primarily involve intermediate through advanced level work, moving toward complete technical competency and mastery of the field
* Developing a GUI application in python to test high voltage power supply boards.
* Wrote GUI software in QT to interface to the embedded self test software to graph the test results.
* Support project planning process with design options, work estimates and requirement analysis.
* Suggest improvements and problem resolution techniques for workflow.
* Create daily status report for automated runs that reduced errors and is now used by records associates’ organization wide.

**Environment**:- Embedded C, C++, QNX Photon GUI Tool,Docker, QAC++,Java Scripting Assembly Languages: 80x86, HCS12, PIC, 8051, 68306, 68HC11. Message formats: Xml, Json, Cobol Tools: Simulink/State Flow, MS: And Clearcase, SVN.

**INTEL (HCL), Folsom CA Dec 2019- July 2021**

**Senior Software Engineer**

**Responsibilities: -**

* Identifying, analyzing and solving immediate issues with technical equipment.
* Debug any bugs that are found and feed it back to silicon/board designers
* Developed and refactored valet application code project with modern C++ &amp; STL (up to and including C++17).
* Supported debug requests coming from various customers building new products pow ered by Intel processors. Worked under strict deadlines to assure customer progress is not blocked.
* Responsible for user validations on client side as well as server side.
* Responsibilities included the creation of test documentation, and debugging and investigating issues utilizing C++ on the client and server.
* Work as a product team developer on a variety of platforms including Windows, RHEL7 Linux

distribution using C++, Python , Boost Libraries, libcurl, sockets , SSL Encryption, Shell scripting.

* Representation of the system in hierarchy form by defining the components, subcomponents using C++ and developed set of library functions over the system based on the user needs.
* Have good exposure in using the third party libraries like libcurl, Boost Libraries, libgit2,
* libssh2, LLVM, EJDB, Shell scripting etc and integrate them in to the VALET application.
* Analyze business and technical requirements, discuss with PMs and a team new features and implement them.
* Worked on Backend Oracle and MySQL databases. Have good experience on PLSQL programming to work with backend API and database.
* Optimization and tuning of previous applications.
* Preparation of Unit test cases and execution of test cases.
* Worked on the Customization for the clients and guiding them to work on their
* Environment.
* Developed SQL stored procedures for data manipulation and querying data for SQL Server 2008.
* Developed Role base Security to authorize member to a specific Role.
* Involved in preparing documents, developing use cases, identifying classes and Objects, drawing class diagrams, sequence diagrams using.
* Provided technical support services and designing standards for software components in
* VALET application.
* Used QT5.0 to design and develop monitoring system for online usages.
* Implemented source modifications and custom development processes.
* Developed and implemented GUI applications and library frameworks.
* Wrote complete programmer’s documentation for object-oriented drawing system used on the project.

**Environment**:- C/C++,C++, QT,RHEL7,golang,ASP.NET web 11/17, Boost library ,STL, libssh2, LLVM, EJDB Python, Python Scripting, CPP Unit testing, Code Collaborator, JIRA, Shell scripting, COM, Sockets, PLSQL.

**ASML (CYMER), San Diego, CA Oct 2018 -Dec 2019**

**Embedded Software Engineer**

**Responsibilities: -**

* Working on Gathering, Understanding higher level Business/functional requirements and writing Software Requirements to develop and test the new applications
* Understanding the existing system design.
* Analyze the requirement and understanding the dependencies between the components.
* Participate in the cross-component team meeting to understand the dependencies and impact on other components.
* Understanding all the components of the system and coming up with a common interface for the communication medium between components.
* Created Element performance specifications (EPS), Software Impact Analysis (SIA), Test Performance System (TPS) and Test analysis Result (TAR) documents (test plan and test specification) for the PAS Team.
* Presenting the demo to all the component owners
* Developed an intermediate proxy interfaces for the communication between the components
* Involved writing documents in Team Center Product lifecycle management (PLM) which is an information management system that can integrate data, processes, and business systems and, ultimately, people in an extended enterprise.
* Working on developing CPD (Calibration, Performance and Diagnostics) software applications using Embedded C , C++, Python, PLSQL development environment in RTOS VxWorks framework and Red Hat Linux environment.to verify and validate the EUV light source machinery.
* Design and implementation of Linux drivers and proxy on ThreadX.
* Work and support various embedded system applications specific to S1/S2 Plasma & Timing Energy and Droplet Generator in EUV Source ASML(CYMER) releases
* Design and developing CPD Test scripts for Droplet Generator steering system, with Python, C++, STL library and used Vector, List and map for Linux Internal and driver interfaces
* Used Code Collaborator for reviewing the code and document to meet the software quality, did Integrations with JIRA, and eclipse, System Diagnostic tool (STD).
* The completed tasks have to be merged to the main server using version control tools like GIT, SVN.
* Support modules for implementation using PL/SQL Scripts, Unix Shell Scripts and Pro\*C.
* Troubleshooting, fixing and deployed many C++, bug fixes of the two main applications that were a main source of data for both customers and internal customer service team.
* Fixing all the bugs found in unit testing, Regression testing, Smoke testing. This also includes helping the application users in understanding the Dev Bench, BT10,BT7 (includes stimulator, sensors, scanner) set up environment for them to make up the Source GUI,ONE GUI application up, and running.
* Build Restful API by building Node JS Server in the back-end to handle requests sent from the front-end jQuery Ajax calls.
* Experience in developing User Interfaces using AJAX, HTML, CSS, JavaScript, jQuery.
* Document and revise system design procedures, test procedures, and quality standards using GTest, GMock and PLC simulator framework test tools
* Implementing Scripts to improve the test code quality and automate test creation.
* Implemented basic and advanced search generically to populate in list views of all the modules.
* Developed Complex database objects like Stored Procedures, Functions, Packages and Triggers using SQL Server.
* Test and deliver the software patches to Trunk (RC) and customer related releases (SPA)
* Check out various versions of the code base to create patches applicable for new release versions and seamlessly integrating delivered patches to SPAs(Source Patch Advice).

**Environment**:- C/C++, Java Scripting, 80x86 Python, COM,IDL RHEL7, Python Scripting, CPPUnit testing, Code Collaborator, JIRA, ASML System Diagnostic Tool, UML, Workbench, Source, GUI,AJAX, HTML, CSS, JavaScript, jQuery, SQL Server and RTOS VxWorks, Linux, ThreadX.**.**

**Rockwell Automation, Mayfield Heights, Ohio June 2017 – Oct 2018**

**Embedded Software Engineer**

**Responsibilities:-**

* Engineering development and augmentation using C, C++,QT/QML, CPPUNIT architecture and python
* Development and unit testing of log Manager Module that stores various system events on every user case. The development and unit testing is done on QNX RTOS with C++.
* Was responsible for developing execution, peer reviews and final delivery of Graphical User interface in studio 5000(tool to configure the controllers) and firmware functionality in Compact Logix and Control Logix Programmable Controllers.
* Worked on Dynamic Cyclic Read/write Implementation in Firmware in ICE1 and ICE2
* Worked on C/C++, Python,Studio-5000(Including Motion instructions) , **PLC’s**, Logix Platform, Clear Case, GIT, Code collaborator, RHEL6, C++ and OOPS, MFC, SQL Server and python scripting.
* Specialization on **CIP** (**Common Industrial protocol**) used in Studio 5000 Automation Engineering & Design Environment(TM) applications over Ethernet/IP for high-speed motion applications.
* Integration between QML and C++.
* Creating custom item and exposing to QML.
* GUI development using QT/QML we have developed a GUI Engine, It will read the script file, and based on script data it will generate GUI.
* Understand the FRS document and technical documents of Integrated Comms & Execution ASIC ICE1 and ICE2 code.
* Troubleshooting of traffic using Packet Capture and analyze using **Wire Shark** and analyzing the performance of Control-Logix 5580 and 5570 Controllers (Allen-Bradley products).
* Part of the process of writing test strategies, test plans and test cases for manual and automated testing.
* Performed front end, back end, GUI, Functionality, System level testing on the application.
* Responsible for developing complete and accurate design description for ICE1 and ICE2 safety integration level 2.
* Specialized in Rockwell Software such as – RSLinx, Control Flash, Studio5000 (Including Motion instructions), Factory Talk, Control-Logix and CompactLogix family.
* Implementation of Motion Functional Test (MFT) currently owns a set of manual tests and test ware for the purpose of testing motion related firmware functionality in CompactLogix and ControlLogix Programmable Logic Controllers.
* Developed Automate tests with C/C++/RATools software to interact directly with the controller’s.
* Analyze and developing project/module environment, architecture, and interdependencies to determine and apply appropriate test automation methodologies and GUI Integration Unit Testing.
* Responsible for fixing several issues related to synchronization.
* Performing RTB (Run Time Business) activities, such as fixing all the bugs found in unit testing. This also includes helping the application users in understanding the application, setting up the environment for them to make up the application up, and running
* Worked during various phases of Active front end and ITrack small frames projects in Rockwell automation such as designing, development, Execution, Unit testing, Functional Testing (FT), and GUI Integration Unit Testing.
* Implementing Scripts to improve the test code quality and automate test creation.
* Executing and reviewing the test cases, document and report the results.

**Environment:** C++,QT/QML, QNX RTOS with C++, 80x86, and cobal ,Python, RHEL6Clear -Case,Version One, GIT, GIT-LAB, Studio 5000,RQM, Control Flash,Canalyzer, Canoe, Test Director

**Bloomberg, NY March 2016 – June 2017**

**C++ Software Engineer**

**Responsibilities:**

* Developed C++ Trade Capture and processing application which is a single unified platform for booking and tracking Credit derivatives like CDSI, Single Name CDS, and Index Tranches, etc.
* Applications Systems that trade with BAML via FIX, Trading Screen, Bloomberg (EMSX), Fidessa, Autex, Port ware, Ullink, Charles River etc.
* Developed SOA interfaces for booking trades for derivative instruments and receiving orders from external interfaces like SEF, ICELINK.
* Involved in implementation of procedures for gathering the requirements from clients for solution demonstrations.
* Introduced to Golang while working within a project.
* Wrote microservices using Golang. Build Restful API by building Node JS Server in the back-end to handle requests sent from the front-end jQuery Ajax calls.
* Experience in developing User Interfaces using ASP.NET, AJAX, HTML, CSS, JavaScript, jQuery
* Developed asynchronous event model for processing and tracking transactions.
* Designed, developed and implemented new classes and objects in C++ for handling various trade and clearing events.
* Developed new application and added functionality to existing applications using Java/J2EE technologies
* Designed and developed Flex Based-user interface for a sophisticated data-center solution.
* Involved in developing Custom User Interface (UI) Components in Flex using MXML and Action Script and flash.
* Experience in standard library, boost and XML.
* Utilized various object oriented techniques and implemented new logic for processing ICELINK events and CLEARING messages.
* Designed, developed, and deployed new processes for sending trading events to downstream RISK applications.
* Developed new reports using Python to identify the sales margin overrides.
* Developed native UI using JavaScript with event handlers and fetching data using SOAP interfaces.
* Analyzed, designed, developed and deployed new C++ classes and modules for implementing Main Message Flow (MMF), a layer that ensures persistence and delivery guarantee.
* Design and develop solutions using C, C++, Multi-Threaded, Shell Scripting.
* Using PVCS Version Manager as code repository and PVCS Tracker as Defect management system. Using Oracle SQL Developer for Database Activities.
* Peer reviews of the Design and Source Code (C, C++, and Shell Scripts).
* Develop and Execute the Module Test Cases on Unit and Integration Testing environments.
* Coding and reviewing of enhancements done in the Interface side during implementation.
* Support modules for implementation using PL/SQL Scripts, Unix Shell Scripts and Pro\*C.
* Support System Testing, Acceptance (UAT) Testing and Production changes.
* Debugging and Troubleshooting production issues.
* Worked with communication protocols such as TCP/IP, SSL/TLS .
* Worked with Bulk Data Exchange over a FTP gateway system hosted on a Solaris machine. The application was built in Sun Workshop IDE using C/C++, DB Libraries and text was formatted using Python, shell scripting and SED.
* Implemented inter-process synchronization using semaphores to synchronize various tasks.
* Worked with an alert system that generated alerts for customers based on specific events happening in the market using C++,
* Implemented the function to send and receive AMQP messages on RabbitMQ synchronously and asynchronously, and send JMS message to Apache ActiveMQ on the edge device.
* Designed and developed various scripts for enablement or disablement of data using C, Shell and proprietary SQL database.
* Improved the code efficiency by optimizing the code and caching frequently used data.
* Utilized STL and C++ algorithms to achieve optimal design efficiency.
* Designed, developed and deployed new oracle PL/SQL stored procedures.
* Developed new RESTful API services that work as a middleware between our application and third-party APIs that we will used using Golang.

**Environment:** C++,Python,Java/J2EE,GolangActionScript3.0,FlexBuilder3.0,FlexSDK**,**POS,Postman,gSOAP, SQL, AMQP, XML/JSON, JavaScript, Design Patterns, OCCI, STL, gdb, PostgreSQL database,multi-threading, Linux.

**Client: Brown Brothers Harriman, NJ June 2015 – Feb 2016**

**Sr. C++ Software Developer**

**Responsibilities:**

* Excelled in guiding the work of technical teams. Articulated project goals and scope, translated business needs into technical terms, prepared detailed work breakdown structures (WBS) and instilled shared.
* Reviewed codes in Shell Script, Pearl, Python, AWK, C++, PL/SQL created subprograms, procedures and functions, DB triggers, cursors and optimization techniques for T-SQL.
* Led the migration of historical data to client; fine-tuned SQL & database, generated reports for management, etc.
* Coding and reviewing of enhancements done in the Interface side during implementation.
* Support modules for implementation using PL/SQL Scripts, Unix Shell Scripts and Pro\*C.
* Developed **C/C++, Pro\*C** Batch programs using **Multithreading programming** for handling large volumes of data for parallel processing/load to purge RMS data.
* Developed and executed Perl, Python shell scripting programs
* Peer reviews of the Design and Source Code (C, C++, and Shell Scripts).
* Develop and Execute the Module Test Cases on Unit and Integration Testing environments.
* Support System Testing, Acceptance (UAT) Testing and Production changes. Debugging and Troubleshooting production issues.
* Responsible for Development/Enhancement, bug fixing as well as Production Support.
* Involved in writing PL/SQL part depends upon user requirements.
* Identifying/documenting data sources and transformation rules required to populate and maintain data warehouse content.
* Analyzing, designing and implementing change requests for the C/C++.
* Involved in writing optimization techniques for more accuracy of Macros in C/C++, C and C++ routines and Oracle SQL, PL/SQL.
* Developed communication protocols such as  TCP/IP, SSL/TLS, HTTP for Financial Applications
* Experience with various Android UI components such as List Views, Spinners, Text View, Buttons,Checkboxes, Dialogs and Action bar.
* Experience working with Material Design for android.
* Wrote Shell/Perl/Awk scripts for Production Systems. Used Oracle and Sybase as the backend databases.
* Experience in Continuous Integration, Test Driven Development, Jenkins, PTC Integrity, SVN
* Involved in customer query resolution and maintenance of the messaging products like MQ series.
* Responsible for project lifecycle documentation and day to day status reports.
* Maintaining Quality measures as per the agreement policy.

**Environment**: Solaris, Perl, Shell scripting, Python, various Android UI Sybase-TSQL, Oracle, Sun Studio 7 (Forte -Cross Environment), MQ series, UNIX, Linux, SQL-Loader, POS, WIMS, JIRA.

**Client: GGK Technologies, India Jun 2013 – Aug 2014**

**Software Engineer**

**Responsibilities:**

* Coding and implementation of routing software for handling customer queries and re-routing to appropriate divisions. The customer’s calls are automatically answered and place into a holding the queue until an agent becomes available.
* Developed tools like LINUX IDE (Eclipse) for C++, C, UNIX Shell Scripting, Clear Case, Clear quest, QNX, Eclipse etc.
* Involved in designing and developing the functionality and features using C++.
* Involved in the code and requirement reviews of work products developed by team members.
* Data base Enhancements for new customers and departments/divisions.
* Writing stored procedures in SQL Server and integrated into the application to access the customer's calls, department's data from databases and store the customer's calls, department's data into database.
* Preparation of Unit test cases and execution of test cases.
* Porting of application from Windows to Linux.
* Developed and executed User Acceptance Testing portion of test plan.
* Worked on creating various documents that include Use Cases, Class Diagrams, Sequence Diagrams and Activity Diagrams.
* Developed, coded, tested, debugged and deployed web services, MQ for the input and output forms on the web services.
* Review of design document, code and test case documents.

**Environment**: C, C++, STL, QT Frame work, CVS, OOPS, DBX, Linux, GCC Compiler and Perl Scripting, SQL Server 2008, Windows Services, Boost C++ Library.

**Education:**

* Bachelors in Computer Science - GITAM University, India(2009-2013)
* Masters in Information System and Assurance – Wilmington University in (2014-2015)