**SHYAM SUNDER**

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**SUMMARY:**

* C/C++ Software Engineer with more than 7 years of hands on experience in Software Development, Production, Support, troubleshooting & Maintenance.
* Strong experience in C/C++ on Linux using STL, multithreading (POSIX), Boost libraries, data structures, IPC (TCP/IP socket programming).
* Strong in Object-Oriented Programming (OOP), Object Oriented Analysis and Design patterns
* Experience in various aspects of system architecture, software design, development, implementation and validation.
* Good understand of LTE Layer 3 protocols viz.. RRC, S1AP, X2AP, SON
* Responsible for development on an ARM/Renesas based Embedded Controller (EC)
* Experience in real time embedded systems for developing embedded software in consumer electronics and Agriculture and automotive industry.
* Developed user mode software drivers that drive the HMI Software, Middle Layer Environment.
* Experience in designing HMI screens using QT /QML and Experience in developing QT/C++ based HMI Application for Vehicle Infotainment Systems.
* Good knowledge on Wi-Fi/I2C/BLE/ZigBee protocols.
* Strong experience in creating Test Plans and Test procedures, driving Test Strategies and tools identification, Managing Test design through cross functional teams and creating Test Summary Reports.
* Good knowledge on IoT(Internet of Things) end-to-end application development.
* Experience with application migration to cloud platforms like AWS.
* Used Boost C++ library for Documentation providing an elegant and efficient platform independent to needed services
* Good hands on experience on Web services like RESTful API, SOAP API and XML data integration.
* Very strong exposure on software development on Embedded Linux, VxWorks (RTOS).
* Proficient at debugging code using gdb tools. Acted as second and third level support at various positions.
* Good debugging and analytical skills on x86 and ARM platforms. Performed Debugging profiling for optimization purpose and finding bugs in Linux platform
* Experience using in Python, Shell, Bash, Pearl scripting, Kernel debugging and QT-QNX.
* Experience in various SCM tools GIT, GitHub, CVS, Gerrit.
* Performed Database integration to Integrate MySQL with cloud applications and relational databases to load and synchronize MySQL data with sources having different data structure to execute automatically.
* Have experience in working on UML on creating class, sequence, activity, deployment diagrams.
* Experience in Python, C/C++ on Linux, Cross-platform and embedded systems
* Strong exposure on software development on Embedded Linux, VxWorks (RTOS), Solaris and Linux
* Have good skills in writing requirement, design and unit test documents.
* Experience in Performance tuning on Oracle cluster to optimize writes and reads.
* Knowledge on voice/video application over wireless network. Development experience with XML, JSON, TCP/IP, UDP/IP and multithreaded application using IPC mechanism
* Used Design patters for Program creation and organizing code into objects and relationships
* Have excellent analytical, problem solving, communication and interpersonal skills, with ability to interact with stakeholders at all levels and work as a part of a team and independently.
* Have exposure with Agile software methodology and Scrum activities

**SKILLS:**

Languages C++, Embedded C, Core Java, RESTful, JSON

Operating System Linux, RHEL, Unix, Ubuntu, Windows7/10

Scripting UNIX Shell Scripting, Python

Databases Oracle, PL/SQL, IBM DB2, SQLite, MongoDB, Cassandra

OOAD, UML, Design Patterns

Configuration Management tools CVS, SVN, Git/GitHub

Debugging Tools gdb, dbx

Build Tools Make, Apache Ant

Bug Tracking tools Bugzilla, JIRA

Protocols TCP/IP, I2C, SPI, UART, RS232, Bluetooth, Wi-Fi

Libraries & Frameworks STL, IPC, multithreading, QT/QML, Sockets, signals/event handling, Google Test, Google Mock

**PROFESSIONAL EXPERIENCE**

**Verizon Wireless, Irving, TX April 2020 – Current**

**Software Engineer Developer**Verizon Wireless developed an application to support customer management profile which hosts the contact details, address details and customer profiles of the customer. This project is to modernize the existing legacy applications to make them more cloud ready. This included a migration project where existing Action Engine Framework was converted to Reactive Framework.

**Responsibilities**

* Analyzed user requirements and defining functional specifications using Agile methodologies.
* Communicate with client management to analysis current operational procedures, identify problems and learn specific system operations.
* Developed enhancements for systems using C**/C++, Client Server** technologies. Developed/Understand backend server which handle all business logic.
* Lead multiple modeling, simulations and analysis efforts to uncover the best Client Server multithreaded solutions.
* Developed UML class diagrams and sequence diagrams.
* Analyze and reverse engineering **Server and client flow and design to enhance using current technologies.**
* Drafted detailed technical document for given server and client along with data structure specifications, Data Base calls, detail description of database procedures and triggers, and client server dependencies.
* Understand and Incorporate End to End server and Client Technical/Business Flow based on Business Use case to implement in the Targer Systems.
* Analyzed Backend Server Dependencies and Drafted the Detailed Technical Flow Description in the Document.
* Created Pro\*C program using Pointer, Structures, Macros, Functions.
* Developed PL/SQL stored procedures to automate processes like Email Sending (UTL SMTP). This was used for both on-demand basis and pre-defined schedules
* Created **SQL** queries, PL/SQL stored procedures, functions for database layer by analyzing the required business objects and validating them with stored procedures
* Developed PL/SQL scripts, packages, procedures and functions used for migrating data.
* Created technical design documents for new custom Batch programs according to business needs for development team.
* Maintain version control using **GitLab**.
* Being a technical resource for direct communications to team members in the project development, testing and implementation processes.
* Study existing information processing systems to evaluate effectiveness in developing new systems to improve the overall system architecture.
* Involved in migrating existing monolithic application into Micro Service Architecture based RESTful Service.
* Documented modifications and enhancements made to the systems as required by the project.
* Created **SQL** queries, PL/SQL stored procedures, functions for database layer by analyzing the required business objects and validating them with stored procedures

**Environment**: C/C++, Pro\*C, DBX, Visual Studio 2019, Linux 7, MySQL, Microsoft GitLab, Jenkins, Oracle Database, 12c,MSOffice,SQLDeveloper,WebServices-REST,Eclipse,Selenium,Test NG, Java 1.8, JSON,XML*.*

**Scheduling Systems, Framingham, MA Aug 2019 – Feb 2020**

**Software Engineer Developer**

**Responsibilities**

* Responsible for the design, development and implementation of front-end and back-end engineering activities using C/C++ on Linux using QT.
* Work collaboratively with various backend systems retrieving Airline data and supplying data for several functionalities to make useful for customer using C++ STL and container class design.
* Worked on Database Optimization techniques to fetch American Airline data from the IBM Message Queue and display on the UI for analysis purpose.
* Developed multithreaded cache offline program in C++ to support various UIs to deliver/process data for a scalable, high throughput, low latency.
* Designed and Implemented TCP/IP communication code to send Airline diagnostic data, information and records.
* Used STL containers, algorithms, various data structures and design patterns in software design like Singleton for database.
* Used various data structures and design patterns in applications like Singleton, Observer, Factory methods etc.
* Experience of working with Business user to gather the requirements analyzing requirement and prepare design doc, implementation and testing.
* Worked with line of business, vendors and technical teams on requirement gathering, user acceptance testing and post software release certification.
* Monitor the tickets in Remedy, investigate them based upon priority, fix and install in production.
* Troubleshooting the application and database issues in Production and resolving them well below the SLA timelines

**Environment:** C, C++, Linux, Design Patterns, Oracle, SQL, Bash, QT/QML, POSIX Threads, GitHub, BOOST libraries, gdb, JIRA, Message Queue, XML, JIRA, AWS, Web services, JSON, REST APIs.

**Bank of America, Charlotte, NC Jan 2019 – Jun 2019**

**C++ Application Developer  
  
Responsibilities**

* Analysis of the Functional Specifications and Business Requirements for secured online payment gateways and digital signature verification for POS transactions using open SSL.
* Developed Digital Signature algorithm to process each POS transaction using C++ STL and openSSL standards to generate client certificates for authentication.
* Designed state machine-based C++ program to handle multiple event processing.
* Worked with line of business, vendors and technical teams on requirement gathering, user acceptance testing and post software release certification.
* Translate designs and style guides into functional user interfaces, ensuring cross-browser compatibility and performance. Knowledge of monitoring, logging and cost management tools that integrate with AWS.
* Work collaboratively with various backend systems retrieving and supplying data for several functionalities.
* Knowledge of monitoring, logging and cost management tools that integrate with AWS.
* Developed Tools to Convert Regulated Messaging in line Applications Data to Standard EGIF Format and Validated Data.
* Implemented Security key generation related enhancement to provide support under different networks in C++.
* Created SQL queries, Functions for the Database layer by studying the required business objects and validating them with Stored Procedures.
* Used git/GitHub for source code control. Followed Agile and Scrum Methodologies

**Environment:** C, C++, Linux, Boost Libraries, Java, JMS, Oracle, openSSL, SQL, Shell, POSIX Threads, Visual Studio, Eclipse, Git, gdb, REST APIs, AWS cloud services, PL/SQL, JIRA.

**Schlumberger, Houston, Texas Apr 2018 – Nov 2018**

**Cloud IOT Embedded Software Developer   
  
Responsibilities**

* Understanding of systems engineering concepts
* Implemented advanced strategies for gathering, reviewing and analyzing data requirements.
* Experience of working with Business user to gather the requirements.
* Use requirements to drive the design or review of test cases, process change requests, and manage a project's scope.
* Translating and simplifying requirements, including technical writing skills.
* Business case development and knowledge in designing and developing webpages using HTML, CSS, Java Script, JQuery and work on MVC architecture.
* developed LTE stack/ management layer software for a Small cells product, participating in design reviews and bug scrubs
* Worked on small single -board Computers like Raspberry PI.
* Modeling techniques and methods.
* Requirements management and communication and having full exposure of Micro services.
* Preparation/review of test plans/strategy and developed reports using Pro\*C in PDF and text format.
* Preparation/review of test cases.
* Execution of tests. (Regression testing, functional testing - white-box/black-box, performance testing)
* Reporting of defects.
* Preparation of test reports and Developed XML and SOAP and Restful API web services on UNIX and Linux platforms. Worked Primarily on Various Serial Protocols Such as RS-485/CanBus and GPIO.

**Environment:** C, C++, Linux, Java, JMS, Oracle, SQL, Shell, POSIX Threads, Visual Studio, Eclipse, Git, BOOST libraries, gdb, JIRA, TOAD, Cassandra.

**IRIS Energy, New Brunswick, New Jersey Apr 2016 – Mar 2018**

**Embedded C/C++ (IoT) Developer**

**Responsibilities:**

* Designed and implementation of Assets tracking solutions ported on to AWS cloud platform.
* Developing the IoT applications by utilizing node JS, Embedded C, Object-Oriented C++, STL, Exception Handling, information encryption and decryption using open SSL.
* Authored application using ZigBee, Bluetooth Low Energy (BLE) / Wi-Fi modules with Cloud interfacing.
* Designed and Implemented SSL/TLS cryptographic protocols to send information and records to cloud.
* Understanding of enterprise LAN and WAN technologies and related protocols (IEEE 802.11/802.3) protocols. Experience with Schematic Capture, USB, I2C, SPI, CANBUS.
* Improved existing software by analyzing, fixing the defects, and enhancing current features based on the requirements.
* Created Protocol test scenarios ( UMTS+LTE) across all the procedure that comply to 3GPP and Carrier requirements
* Enabled and added new scenarios to the device such as VoIP, video and three way audio to existing Win CE Designs.
* Identification of VoLTE issues like lack of dynamic QCI-1 activation, VoLTE required features not activated, SRVCC issues etc
* Involved in Engineering & Technical Support of IMS/VoLTE/VoWiFi mobility system integration, validation call flow, problem analysis testing traversing mobility/legacy based core element functions, & logical referenced air interfaces.
* Research of automatic recognition mechanisms for Human Computer Interaction devices including BLE and ZigBee.
* Developed feature dynamic configuration change in the cluster using Python scripting and got experience in the Installation and management. Clustering, HA, and backend support.
* Designed and Implemented TCP/IP communication code to send put away Vehicle diagnostic data, information and records to the cloud.
* Installing, configuring JBoss 4.3 on Linux, Linux servers, integrating it with Apache server.
* Environment: Ubuntu Linux, Cassandra, C/C++, Python, OpenStack, Shell Scripting, Git, Jenkins, Node Js.
* Working with NoSQL database and making enhancements to send data in JSON format.
* Conducted code reviews according to C++ Coding Standards and Conventions.
* Data integration and migration specialist with over 5 years of extensive experience in leading the conversion of multiple legacy data systems from different sources into Oracle databases.
* Involved in code check-ins and code-checkout using GitHub repository and performs code reviews at regular intervals.
* Implemented code in Python to retrieve and manipulate data. Used Python scripts for maintenance tasks.
* Experience working on a wide range of microcontrollers/microprocessors such as x86, ARM on Embedded devices.
* Worked with the Windows CE 6.0 BSPs for OMAP and X86 (atom) as well as developing control panel applets for the project
* Software development of a confidential class one medical device for a major medical company. Implemented new BSP functionality and drivers in C and C++ on top of a Freescale BSP and processor running windows CE 6.0
* Assist TI customers with application development for Windows Embedded Compact 7.0 running on the next generation OMAP processor
* Expertise in development on Real Time Operating System (RTOS) with concepts like multithreading and Socket programming, IPC mechanism and synchronization methods.

**Environment:** C, C++, OOAD, STL, SSL/TLS, QT/QML, Integrated Development Environment and Debug Tools, QNX, Ubuntu Linux, POSIX Threads, Intel IoT platform, MQTT, MongoDB, AWS , Visual studio.

**North pointe Bank - Indianapolis, IN May 2015 – Mar 2016**

**Senior C++ Developer**

**Responsibilities:**

* Part of a development team to implement Wealth Management services from UI and C++ on Linux platforms.
* Developed multithreaded cache offline program in C++ to support various UIs to deliver/process data for a scalable, high throughput, low latency applications.
* Worked on Technologies: QT, QML, UML, JavaScript and JSON
* Wrote C++ programs for end of day operations (EOD) to close or roll the orders.
* 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.
* Used various data structures and design patterns in applications like Singleton, Observer, Factory methods etc.
* Used visual studio 13 for documenting and creating applications
* Handled corporate action events to reflect the order price and currently implementing the tick size changes.
* Developed/enhanced Visual C++ GUI applications that gather and generate statistics on investments and loans.
* 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 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, forex rate effect and other data manipulation.
* Used Python scripts to generate various reports like OATS, P&L, transaction history, user privileges, limit rules and commission schedule reports.
* Used SVN and git /GitHub for source code control.
* Followed Agile and Scrum Methodologies

**Environment:** C, C++, Design Patterns, SQL, Python, QNX, bash, Linux, QT/QML, POSIX Threads, SVN, git, GitHub, BOOST libraries, gdb, pdb, dbx, OpenGrok, Jira.

**Valve Labs, Hyderabad, India Jun 2012 - Dec 2013**

**C/ C++ Developer**

**Responsibilities:**

* Developed scripts in C on UNIX platform to contribute to the software project, which automated customized design process.
* Wrote a program in C, which converted programmer's interface between two different types of database.
* Supported the integration of the core technology libraries into other user-friendly front-end applications
* Wrote SQL statements in conjunction with embedded database library to use SYBASE relational database.
* Used Visual studio 2012 for designing web pages
* Wrote a program in C, which parses computer logs and then displays the summary in automatically generated HTML files.
* Strong understanding of systems architecture and pattern concepts. C/C++, OOP, STL, Multithreading, High Availability, and Shell scripting, all on a UNIX platform.
* Tuned database SQL statements and procedures by monitoring run times and system statistics. Inserted hints and rewrote code as required.
* Using Teradata SQL Assistant and Oracle SQL Developer for Database Activities.
* Peer reviews of the Design and Source Code (C, C++).
* 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.
* Installation, configuration and administration of UNIX server, maintains and manages various services running in UNIX system
* Wrote a script in Perl, which in conjunction with version control system built a particular version of application.
* Contributed to make file project, which standardized all UNIX make files on the project.
* Verified the Inbound and Outbound 834 generated for CHIP, Medicaid, APTC and QHP flavors scenarios.
* Experience in enrolling with commercial managed care coverage are excluded from enrollment in Medicaid MCOs, while TPL for other enrollees with private health insurance or Medicare coverage.
* Worked on various Active Template Libraries(ATL) in various codes optimization techniques.
* I was trained on the job in agile software practices and I am familiar with fundamental ideas of agile practice.
* Support System Testing, Acceptance (UAT) Testing and Production changes.

**Environment:** Oracle, SQL Server, UNIX shell scripting, Java, HTML, UNIX, Quality Center, UNIX, C Programming, EDI, Claims, XML

**EDUCATION:**

* Bachelor of Engineering, computer science, JNTU University, India -2012
* Master’s in computer information systems, California University of Management & Science-2017