**Reebon Enna**

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**Professional Summary:**

* Over 10 years of experience in **Java, C, C++, and Go**, developing high-performance, scalable software across **financial services, embedded systems, and cloud-native platforms**.
* **Deep understanding** of object-oriented design, data structures, algorithms, and modern engineering best practices for building robust, maintainable, and secure applications.
* Proven expertise in **microservices architecture, distributed systems**, and **RESTful API development**, applying **domain-driven design** and **clean architecture** principles.
* Hands-on with **AWS, Azure**, and **container orchestration** tools (**Docker, Kubernetes**) for deployment, service discovery, observability, and fault tolerance.
* Strong background in **SQL databases** (Oracle, MySQL, PostgreSQL, Sybase) and **NoSQL/time-series DBs** (KDB+) for high-throughput analytics in trading systems.
* Skilled in **CI/CD pipelines**, release automation, and Agile development; experienced with Jenkins, Git, and scripting for streamlined deployments.
* Built WinForms, QT, and MFC applications for financial systems.
* Specialized in **real-time trading platforms, market data systems, and pricing engines** with deep knowledge of **POSIX multithreading, STL, Boost, socket programming, and IPC** on Unix/Linux.
* Experienced with **ARM/x86 platforms**, cross-compilation, kernel-level programming, Linux device driver development, and Qualcomm Snapdragon-based systems.
* Proficient in **Python, Shell/Bash scripting** for automation, diagnostics, and performance profiling; familiar with JSON, XML, gRPC, Drools, and Ansible.
* Strong debugging and profiling skills using **GDB, DBX, Coverity, and CppCheck** to ensure code quality and performance optimization.
* Adept at collaborating with stakeholders to deliver **custom, scalable, and secure solutions** aligned with business goals in **hedge fund and equity derivative systems**.
* Recognized for quickly adapting to new technologies and maintaining a focus on **engineering excellence and competitive advantage**.

**Technical Skills:**

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| **Languages** | C++, C, Embedded C, Java, RESTful, Go, XML and JSON |
| **Operating Systems** | Linux, RHEL, Unix, Ubuntu, and Windows 10/7 |
| **Scripting** | Unix Shell/Perl Scripting and Python |
| **Databases** | Oracle, PL/SQL, Microsoft SQL Server, and MongoDB |
| **OOAD** | UML and Design Patterns |
| **Configuration Management Tools** | CVS, SVN, and Git/GitHub |
| **Debugging Tools** | GDB, Valgrind |
| **Build Tools** | Make |
| **Bug Tracking Tools** | Bugzilla and Jira |
| **Protocols** | TCP/IP, I2C, SPI, UART, RS232, Bluetooth, and Wi-Fi |
| **Libraries and Frameworks** | STL, MFC, IPC, Multithreading, Qt QML, Sockets, Signals/Event Handling, Google Test, and Google Mock |

**Professional Experience:**

**Client:** **Capital One, Dublin, OH Jan 2022 – Present**

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

**Responsibilities:**

* Developed and maintained high-performance **Java, C, C++, and Go** applications across Windows, Unix, and Linux platforms, utilizing STL, Boost, modern OOP principles, and **data structures/algorithms** to deliver scalable, maintainable solutions.
* Designed, implemented, and optimized **microservices** and complex data query/analysis systems, supporting **distributed trading and risk management platforms**.
* Collaborated with product managers and cross-functional teams to analyze business and technical requirements, create design documents, and implement new features following **Agile methodologies**.
* Handled Linux and Unix server deployment issues independently; implemented features such as firewall integration, command-line support, heartbeat mechanisms, and product optimizations.
* Designed, developed, and debugged **Linux kernel modules and device drivers** for embedded systems, ensuring seamless hardware integration and optimized performance.
* Worked extensively on **custom equity derivatives trading platforms**, enabling trade lifecycle management, real-time pricing, risk analytics, and PnL reporting, aligned with Sophis functionality.
* Integrated external pricing models and risk engines into internal platforms for structured equity products and derivatives; participated in system migration and testing efforts.
* Developed and optimized **low-latency infrastructure** supporting equity and derivatives order flow, incorporating HFT strategies, FIX protocol, and exchange APIs (CME, Eurex, NYSE, Nasdaq).
* Contributed to **real-time and post-trade risk management systems**, improving accuracy, latency, and compliance reporting in fixed income and high-frequency trading environments.
* Designed and deployed **scalable cloud-native microservices** using AWS (EC2, S3, Lambda) and Azure, leveraging **Docker, Kubernetes**, and Infrastructure-as-Code (Terraform).
* Enhanced **cloud infrastructure monitoring** (AWS CloudWatch, Azure Monitor) and **security** (IAM policies, VPC configurations) to ensure system reliability and data protection.
* Migrated legacy financial applications to **Azure Kubernetes Service (AKS)**, improving deployment agility and scalability across multi-cloud environments.
* Developed and maintained **SOA-based distributed systems** with REST, SOAP, and message queues, utilizing **Java 8 features** (Lambdas, Streams) for scalable integration across financial platforms.
* Automated **CI/CD pipelines** (Jenkins, GitHub Actions) integrating code quality/security tools (SonarQube, Checkmarx), reducing integration/testing time by 30% and improving release consistency.
* Applied advanced expertise in **KDB+** for time-series data management, query optimization, and real-time data processing in high-frequency trading systems.
* Engineered **ultra-low latency trading systems** with deterministic execution using advanced C++ and network programming, including kernel bypass technologies (DPDK, Solarflare).
* Designed and implemented **order execution algorithms**, market data handlers, and risk checks to maintain compliance and operational reliability in real-time trading environments.
* Collaborated with quantitative analysts and strategy teams to deploy, backtest, and optimize HFT trading models in live and simulated environments.
* Debugged and troubleshot kernel modules using dmesg, gdb, and kmemleak on Unix/Linux systems; optimized multi-threaded applications with gdb, Valgrind, and perf for concurrency and performance issues.
* Wrote and optimized SQL and PL/SQL queries for **Oracle, MySQL, PostgreSQL, and Sybase** databases to support financial data analysis and reporting; performed code reviews across Java, C++, Python, and Shell scripting.
* Utilized AIX APIs and development/debugging tools to optimize C++ applications on AIX platforms.

**Technologies:** C/C++, Boost, STL, Golang, Linux, Windows Server, Kernel Module Development, KDB+, Unix, FIX Protocol, Docker, Kubernetes, AWS (EC2, S3, Lambda, CloudWatch), Azure (AKS, Monitor), Terraform, Jenkins, GitHub Actions, REST, SOAP, MQ, SQL, PL/SQL, Perl, Shell Scripting, FPGA (Vivado), gdb, Valgrind, Perf, Jira, SVN, CA Workload Automation, OpenGrok

**Verizon, Tampa, FL Mar 2019– DEC 2021**

**Sr. C++ Application Developer**

**Responsibilities:**

* Conducted research and developed Proof of Concepts (POCs) using C++, Golang, and Python across multiple teams to validate optimal data structures, algorithms, concurrency models, and third-party libraries for distributed systems and microservices.
* Designed, developed, and maintained multithreaded C++ and Golang applications on Windows and Linux using MFC, goroutines, channels, and select-based concurrency for high-performance trading and embedded systems.
* Developed firmware and microservices for real-time operating systems (RTOS) and embedded Linux platforms, focusing on low-level device I/O, hardware communication, and system-level optimization using C, Go, and Shell scripting.
* Integrated and customized third-party Linux device drivers in kernel space; contributed to custom kernel module development, enhancing hardware compatibility and overall platform stability.
* Customized Android Open-Source Project (AOSP) frameworks and system-level components for embedded Android-based real-time applications; implemented Android kernel enhancements and SELinux policy adjustments to meet strict security compliance.
* Developed and deployed real-time financial microservices in Golang and Java, integrating REST and MQ-based APIs to support low-latency trade order processing and inter-service communication.
* Collaborated closely with traders, analysts, and backend teams to build execution engines, risk management tools, and bond pricing systems, leveraging SQL, Oracle, and time-series databases to process large-scale datasets.
* Tuned Linux kernel parameters (CPU affinity, memory limits, I/O scheduling) and implemented performance counters and profiling techniques to optimize embedded and cloud-based service performance.
* Containerized network and backend services using Docker and Kubernetes; developed Kubernetes manifests, Helm charts, and rollout strategies for resilient, self-healing deployments.
* Provisioned and managed infrastructure using Terraform for both AWS and Azure; monitored microservices and infrastructure using AWS CloudWatch, Prometheus, Grafana, and Azure Monitor.
* Developed service-oriented and microservice-based architectures using Golang and Java, building resilient RESTful services, SOAP integrations, and asynchronous messaging via RabbitMQ and Kafka.
* Automated large-scale network device configurations using Ansible, Netconf/YANG, and shell scripting; reduced manual setup by up to 75% and improved repeatability across development and QA environments.
* Presented at the Network Automation Conference on leveraging Ansible, Netconf, and microservices for scalable, cloud-agnostic network management.
* Improved system reliability and code quality by debugging multithreaded applications and embedded systems with GDB, kernel logs, perf, and Valgrind; used static analysis tools like SonarQube and Coverity.
* Developed firmware and microservices for serial communication devices (RS232, RS485) with production-grade logging, health-checks, and retry mechanisms built in Go.
* Enhanced CI/CD workflows using Jenkins, GitHub Actions, and GitLab CI; integrated Docker builds, vulnerability scanners, and automated tests for secure and fast delivery cycles.
* Created internal DevOps tooling in Bash and Go to automate developer operations including version syncing, error simulation, environment preparation, and log capture.
* Adopted Agile/Scrum methodologies with Jira for sprint planning, requirement refinement, and delivery tracking with cross-functional teams and stakeholders.
* Leveraged Spotfire and SQL for transforming raw operational and financial data into actionable business insights, improving executive decision-making through automated dashboards.
* Implemented automated unit testing and fault injection mechanisms to detect bugs early in the pipeline; contributed to improved system reliability and faster QA cycles.
* Analyzed and improved MFC application's performance by identifying bottlenecks, refactoring algorithms, and tuning resource usage for responsiveness.
* Optimized SQL queries and stored procedures using MySQL Profiler and Performance Monitor; wrote complex Oracle PL/SQL to compute metrics such as realized/unrealized gains, forex effects, and historical trends.
* Supported continuous customer engagement through Agile development cycles, incorporating feedback and evolving feature requirements to meet stakeholder needs.

**Environment:** C, C++, MFC, Windows, Linux, RTOS, Boost, Oracle,Golang SQL, PL/SQL, Shell scripting, Visual Studio, Eclipse, Git, gdb, REST APIs, SOAP, Docker, Kubernetes, Jenkins, Terraform, AWS, Azure, Netconf/YANG, Ansible, SELinux, Kernel APIs, Device Drivers, MQ systems, Jira, Spotfire.

**Client: UHG, India Sep 2015 – Feb 2019**

**Role: Embedded C/C++ Developer**

**Responsibilities:**

* Worked as C/C++ developer with Test Driven environment and embedded software applications deployed for marine terminals.
* Responsible for coding the various components using C, C++ and Python Scripting.
* Port Optimizer is cloud-based software that enhances supply chain performance and predictability by delivering real time data-driven insights.
* Major role as an embedded software developer for scheduling, planning and tracking the containers using IoT based solutions using x86 platform.
* Implemented firmware for x86 microcontrollers of real-time operating systems (RTOS), including FreeRTOS, Linux.
* Developed and maintained Linux device drivers for various hardware components in embedded systems, ensuring robust communication between hardware and software layers.
* Created loadable kernel modules (LKMs) to extend Linux kernel functionality, debugging with tools such as gdb and dmesg for troubleshooting and optimization.
* Optimized I/O operations and developed custom device drivers for peripherals like sensors, communication interfaces, and storage devices, improving overall system performance and reliability.
* Designed and developed real-time systems for embedded applications, utilizing microcontrollers and custom protocols like SPI, I2C, and UART, directly related to processing financial transaction data and real-time market updates in high-stakes environments.
* Configured and fine-tuned SELinux policies on embedded Linux systems to balance security and functionality, preventing unauthorized access while ensuring the system operated smoothly.
* Wrote automation scripts to enforce SELinux policy updates and maintain security compliance on the embedded systems used in the IoT-based solutions and marine terminal applications.
* Developed embedded systems utilizing Qualcomm Snapdragon processors for IoT applications, optimizing device performance, connectivity, and battery life.
* Leveraged Qualcomm’s wireless solutions (Wi-Fi, Bluetooth) to ensure stable and high-performance connectivity for embedded IoT devices.
* Successfully ported Linux kernel to new hardware platforms (x86, ARM), integrating custom drivers and peripheral modules to ensure stable and efficient performance in embedded systems used in IoT applications.
* Integrated Linux with embedded systems platforms, optimized kernel configurations for real-time performance, and reduced power consumption. Performed troubleshooting and kernel-level debugging to resolve complex system issues in the development of marine terminal automation solutions.
* Collaborated with teams to integrate Android-based solutions with embedded Linux systems, optimizing kernel parameters and device drivers for enhanced performance on Android platforms used in IoT devices.
* Preparing Maintenance Manual, System Description Document and other technical and function documents.
* Automation done for generating various kinds of reports by using Perl/Shell scripts.
* Developed applications using an openSSL API which can work as an encryption interface (API) between client/server.
* Enhanced risk management and portfolio management tools, integrating real-time systems with the capabilities of financial systems, especially in fixed income products like bonds.
* Contributed to database solutions for financial data management, focusing on the development and analysis of fixed income data.
* Involved in writing optimization techniques performance tuning in Oracle SQL, PL/SQL.
* Involved as part of the integration team, which analyzed the builds and used Jenkins for integration.
* Involved in making the Test Plans and Procedures, which drives the Strategies and tools identification, Managing Test design over cross-functional teams. Also, well created Test Summary Reports.
* Familiar with containerization using Docker and tested Kubernetes deployments locally with Minikube to streamline development and testing workflows.
* Explored cloud fundamentals on AWS and Azure, focusing on scalable application deployment and resource management.
* Contributed to automation and CI/CD improvements by extending Jenkins jobs and writing shell scripts for build, test, and deployment tasks.
* Developed automation scripts for embedded Linux builds and testing procedures, improving the reliability of deployments in embedded environments.
* Integrated code scanning and testing tools into the Jenkins pipeline, ensuring robust embedded software quality control.
* Development and Testing, certifying the programs developed on client production platforms for fixing the portability issues, Maintenance.
* Use git repository for development activities and team collaboration.
* Unit testing the programs for correctness against the requirements.

**Environment:** C++, STL, Wind River Linux, Multi-threading, QT/QML, Jenkins, JIRA, Bash, POSIX Threads, Git, BOOST libraries, OOAD, XML/JSON, Shell/Perl Scripting, NoSQL, JavaScript, IoT gateways

**Quanted solutions (Hyderabad, INDIA) Jan 2014 - AUG 2015**

**C++ Developer**

**Responsibilities:**

* Involved in every step of SDLC process like requirement analysis, designing, coding, unit testing, releasing and providing product maintenance, and documentation at each stage.
* Worked as a product team developer on the operations and maintenance of Confidential application development using C++.
* Developing new features using C++/ STL/Boost APIs.
* Wrote code to parse, generate and encrypt XML configuration data for radios.
* C++ and Python tools / utility development for auto generating source code.
* Re-design the classes and methods to improve the code coverage by reducing duplication of code.
* Developed asynchronous event model for processing call-back events.
* Implemented features in C++ to enable a Linux-based network planning application to configure programmable radios into an integrated mobile network.
* Involved in unit, integration, and base label testing.
* Design and develop server-side applications on Linux platform in a Scrum/Agile environment.
* Developed a Unit Test framework to unit test all the incoming and outgoing XML messages.
* Enhancing and writing new tools and utilities in C++ to be used by deployment team.

**Environment:** C, C++, Linux, STL/Boost APIs, XML, STL, Python, GitHub, BOOST libraries, gdb, Shell scripting, Multithreading.

**Educational Details:**

**Bachelor’s degree JUNE 2013, Hyderabad, TG**

**JNTU University Computer science**