Chirani Rajapaksha

Software Engineer

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PROFESSIONAL EXPERIENCE

Software Engineer
Millennium IT Software Pvt Ltd at London Stock Exchange Group

January 2023 to February 2025

Project: Project Foreign Exchange

Key Responsibilities:
- Developed and maintained **C++** backend services, addressing stories related to high load, low-latency exchange system components using algorithmic efficiency, move semantics, branch prediction, function call overhead reduction, compile time computations and memory management.
- Debugged 15+ production issues in **Linux** environment using techniques like **GDB**, resolving critical bugs in order lifecycle management and execution report generation, improving order processing reliability to 99.9%.
- Identified and fixed memory leaks using **Valgrind** to ensure stable and efficient memory usage.
- Implemented **E2E** test cases using **Java and Cucumber** to validate system functionality and integrations.
- Maintained Kafka-based asynchronous systems and implemented post-trade data distribution from the Matching Engine to downstream services.
- Took actions to improve fault tolerance through structured logging, alerting, and error handling, including introducing the configurable logging system for the DSG component.
- Designed and maintained **MySQL** and **Oracle** database schemas based on business requirements.
- Participated in **Agile** Scrum activities, worked with cross-functional teams, and mentored junior developers.

Full Stack Developer Intern
Kaymu Lanka Pvt Ltd
September 2022 to December 2022

Project: Technical Department - Daraz Financial Services

Key Responsibilities:
- Developed scalable web applications with responsive designs for Koko App using **Vue.js**, boosting user engagement.
- Developed backend services and **RESTful APIs** using **Java/Spring Boot** in **microservices** architecture.
- Optimized database queries in **SQL** databases, improving data retrieval speed.
- Participated in code reviews with leads, fostering best practices and team collaboration and utilizing Agile methodologies, increasing project delivery efficiency.

SKILLS

- Programming Languages: C++, C, C#, Java, Python, JavaScript, HTML
- Frameworks: Spring Boot, .NET, React, Vue.js
- Databases: MySQL, Oracle
- Tools: Git, GitLab, AWS, Kafka, Jira, Confluence, Vite

EDUCATION

- University of Westminster, UK - MSc Advanced Software Engineering (Reading)
- University of Moratuwa, Sri Lanka - BSc Engineering (Hons) in Electrical Engineering with Second Upper Division Class
- Sanghamiththa College, Galle, Sri Lanka - G.C.E. Advanced Level in Physical Science, Z-score - 1.9716

PERSONAL PROJECTS

Mini Automated Trading System - C/C++ and Linux
- Designed and implemented a modular trading system (Frontend, Gateway, Matching Engine) simulating real-world electronic trading workflows using C++ and internal frameworks.
- Established a CLI trading frontend using Linux which is responsible for authentication and user input.
- Built multi-threaded communication and callback mechanisms to enable asynchronous order processing.
- Developed business logic inside the matching engine using STL containers for efficient trade execution.
- Implemented business rule validations (tick size, lot size, instrument authorization and trading room privileges) and execution report callbacks across system layers.

Hotel Management System - C#, .NET, Entity Framework and SQL Server
- Designed and implemented a hotel management system with distributed systems Booking Service, Guest Service, and Chatbot Service to improve scalability, resilience, and deployment flexibility.
- Designed microservice architecture with independent databases, API gateways, and RESTful endpoints enabling fault isolation and independent scaling of booking and guest operations.
- Applied repository and DTO design patterns for clean separation between business logic, data persistence, and API communication, ensuring maintainability and testability.
- Implemented User Interface as desktop application with the functions of room booking, price management, billing, and weekly booking reports.

Energy Forecasting Model - PySpark, AWS EMR, Python
- Designed and implemented energy forecasting model using big data analysis on ASHRAE Energy dataset by analyzing energy data, weather data and building data.
- Implemented data preprocessing pipeline, feature engineering from weather and building data, and time-series analysis using regression models using PySpark.
- Preprocessed and analyzed the data on AWS EMR clusters for scalability.
- The results were analyzed and demonstrated graphically using python libraries.

Personal Portfolio - React.js
- Developed responsive personal portfolio website built using React to showcase projects, skills, education background, professional experience and hobbies.
- Established dynamic routing using React Router and hooks.
- Integrated contact forms with emailing features.

References are available on request.