

Mirza Asdaf Baig

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GitHub — LinkedIn

Technical Skills

Programming Languages & Frameworks: Python, Java, JavaScript, TypeScript, C++, Flask, Node.js, React, Next.js, Express.js, REST APIs

Tools & Databases: Git, GitHub, Docker, MySQL, PostgreSQL, MongoDB, Firebase, AWS, Jenkins

Development Areas: Web Development, Backend Engineering, Software Optimization, Cloud Computing, Systems Design

Technical Work Experience

Backend Developer Horizon Expedition (HEX) — Part Time — Vancouver, BC — Sep. – Dec. 2024

- Developed and optimized REST APIs for player inventory and progression, improving database query efficiency by 40%.
- Implemented scalable server-client synchronization for game mechanics, reducing latency and improving real-time responsiveness.
- Designed and maintained secure backend infrastructure, ensuring data consistency and high availability.

Technical Projects

Travel Companion Web App

React, Node.js, Google Maps API, OpenAI API, Firebase

- Built a full-stack travel companion web application that provides personalized itinerary suggestions using AI-powered recommendations.
- Integrated Google Maps API for location-based suggestions and optimized user route planning.
- Implemented Firebase authentication and real-time database storage for user preferences and trip logs.

RISC-V Emulator

C++, Python, Assembly, Computer Architecture

- Designed and developed an emulator for the RISC-V instruction set to simulate CPU execution behavior.
- Implemented instruction decoding, register operations, and memory management to support a functional CPU simulation.
- Optimized performance by integrating efficient data structures and caching mechanisms.

Automated Stock Market Trading Bot

Python, Pandas, Alpha Vantage API, Machine Learning

- Developed an AI-powered trading bot that analyzes historical stock data and executes trades based on market trends.
- Integrated Alpha Vantage API to fetch real-time stock data and used Pandas for trend analysis.
- Achieved a 12% improvement in trade profitability through optimized decision-making algorithms.

System Performance Optimizer

Python, Shell Scripting, Linux, Performance Tuning

- Developed a system resource monitoring and optimization tool to dynamically adjust system performance settings.
- Utilized shell scripting and Python automation to fine-tune CPU and memory allocation for efficiency.
- Reduced system lag by 25% through adaptive performance tuning based on usage patterns.

Education

Simon Fraser University

Bachelor of Science in Computer Science

Expected Graduation: Jun. 2027