Jackson Newman

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Work Experience

Visa — Foster City, CA *Software Engineer* April 2025 – October 2025

- Designed and implemented a backend feature for audit viewing, reducing audit time by 90%.
- Co-led an AI image analysis project automating branding reviews, reducing turnaround time by 60%.
- Implemented 10+ Java REST APIs to retrieve, edit, and persist organization and user data.
- Developed 2 Python APIs to trigger and monitor AI agent workflows and display responsive progress.
- Wrote 4 SQL scripts to manage permissions and workflow configurations in the DB.
- Created six domain-specific AI agents through prompt engineering, improving workflow accuracy by 30%.
- Prepared and refined datasets to enable AI workflows and ensure accurate performance evaluation.
- Redesigned LangGraph architecture for batched LLM inference, increasing system performance by 80%.

AMD — San Jose, CA *Software Engineer Intern* June 2023 – September 2023

- Accelerated Vivado constraint processing by 50% by implementing optimized C++ pattern matching.
- Reduced total application memory usage by 600MB by refactoring to use the Tessil C++ hash map library.
- Developed and automated unit test benchmarks for pattern matching performance testing across 30 projects.
- Created and automated Vivado memory and encryption tests, decreasing testing time by 50%.
- Automated security key upgrades across 10+ repositories, reducing maintenance time by 80%.

Shellie.us — San Francisco, CA *Software Engineer Intern* June 2022 – September 2022

- Extended NoSQL database schema with 10 new fields to support scalable exhibit contact data management.
- Designed, developed, and deployed 6 RESTful APIs enabling full CRUD operations across 40+ exhibits.
- Integrated and validated backend services with frontend, ensuring reliable end-to-end functionality.

Projects

Historical Stock Information Visualization Website github.com/JNewman-cell/StockProjects

- Built a high-performance Java backend using Spring Boot to expose a RESTful API for stock data retrieval and search.
- Designed and implemented fuzzy search/autocomplete endpoints using full-text trigram indexing (via PostgreSQL + pg trgm) to support similarity-based ticker and company-name lookups.
- Engineered efficient data access with a layered architecture: type-safe queries with Querydsl + DTO projections + strategic database indexing — avoiding N+1 issues and minimizing payload overhead.
- Integrated a multi-tier caching solution combining JPA second-level cache and a distributed cache (Redis via Lettuce) to serve frequent requests with minimal latency.
- Configured and maintained a CI/CD workflow using GitHub Actions to streamline database migrations, environment setup (via .env loader), and automated testing including in-memory DB testing via H2 + integration tests with TestContainers.

Open Source Contributions

Education

University of California, Santa Barbara — Santa Barbara, CA June 2024
Bachelor of Science in Computer Engineering, Cumulative GPA: 3.7
Relevant Coursework: Data Structures, Algorithms, Operating Systems, Machine Learning, Artificial Intelligence

Technical Skills

Programming Languages: C, C++, Java, Python, SQL, JavaScript, Typescript, JSON, YAML, Bash
Frameworks: FastAPI, Spring Boot, JPA, Express.js, JUnit, Node.js
Databases: PostgreSQL, Oracle DB, Firebase, Redis
Developer Tools: Git, Docker, Linux, AWS, GCP, GitHub Actions, Jenkins, Maven
Concepts: REST APIs, CI/CD, Microservices, Unit Testing, Distributed Systems, Performance Optimization