

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