Jackson Newman

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Work Experience

Visa **Foster City, CA**
Software Engineer, Java, JPA, Typescript, Python, fastAPI, SQL April 2025 - Present

- Designed and implemented the full stack for an audit viewing feature, cutting audit time by 90%.
- Developed UI pages for image uploads, data selection and saving, and test result display.
- Led cross-team collaboration to deliver auditing feature on schedule, adapting effectively to multiple redesigns.
- Built Java APIs to retrieve, edit, and save organization and user data in the Oracle database.
- Developed a Python FastAPI service to fetch AI workflow data from a PostgreSQL database.
- Developed SQL scripts to manage permissions and workflow configs in Oracle and PostgreSQL databases.
- Architected a RAG pipeline for image categorization with an AI agent, increasing workflow accuracy by 20%.
- Created six domain-specific AI agents via prompt engineering, improving workflow accuracy by 30%.
- Created performance monitoring for AI agents using LangSmith to optimize prompt/model effectiveness.
- Prepared and refined datasets to enable AI workflows and ensure accurate performance evaluation.

AMD **San Jose, CA**
Backend Software Engineer Intern, C++, Python June 2023 - September 2023

- Accelerated Vivado constraint processing by 50% through implementing new C++ pattern matching.
- Reduced total application memory usage by 2% by refactoring code to use Tessil library C++ hash map.
- Developed unit test benchmark 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, decreasing time spent on upkeep of 10+ repos by 80%.

Shellie.us **San Francisco, CA**
Software Engineer Intern, React, JavaScript, NoSQL, JSON June 2022 - September 2022

- Expanded NoSQL database schema with 6 new fields to efficiently store and manage exhibit contact data.
- Developed and integrated 4 RESTful APIs enabling seamless editing, saving, and deletion of data across 40+ exhibits.
- Engineered 6 reusable React components for web page editing, cutting new feature development time by 20%.

Projects

REST API implementation and Database Management | *Java, Javascript, React, PostgreSQL, Spring Boot, Maven, Swagger,*

- Developed CRUD operations in a Java backend for PostgreSQL database, deploying 6 key functions.
- Reduced course search query volume by 60% by implementing search by instructor SQL query.
- Configured Maven backend unit and mutation testing into CI/CD workflow, ensuring 100% uptime.
- Created a comprehensive testing suite to cover 100% of query functionality, including error handling.

Education

University of California Santa Barbara **Santa Barbara, CA**
Bachelor of Science in Computer Engineering September 2020 - June 2024

3.7 GPA, Dean's Honors, Relevant Coursework:
Data Structures, Algorithms, Operating Systems, Machine Learning, AI, Embedded Systems, Web Development

Technical Skills

Programming Languages: C/C++, Java, Python, PostgreSQL, SQL, SQLite, JavaScript, HTML, CSS, JSON, YAML
Frameworks: React, Node.js, Flask, Bootstrap, Material-UI, Storybook, Spring Boot
Developer Tools: Git, Docker, Jira, Google Cloud Platform AWS, GitHub, Confluence, Perforce, NPM, Firebase, GitHub Actions, MongoDB, Jenkins
Libraries: pandas, NumPy, TensorFlow, PyTorch, Keras, Seaborn, matplotlib