Jackson Newman

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Work Experience

AMD **San Jose, CA**
Software Engineer Intern, Internal Development Tooling June 2023 - September 2023

- Accelerated Vivado constraint processing by 50% with a new C++ pattern matching function.
- Developed unit tests achieving 100% coverage to ensure performance and accuracy for Wildcard Matching.
- Reduced Vivado memory usage by 2% by refactoring code to utilize Tessil C++ Hash map package.
- Decreased testing time by 80% through automation of memory and encryption performance tests.
- Cut Vivado project update time by 50% by automating encryption key upgrades for custom IP.

Shellie.us **San Francisco, CA**
Full Stack Software Engineer Intern, MERN Stack June 2022 - September 2022

- Created an edit page for online exhibits, allowing 50+ admins to update marketing and authorized users.
- Enhanced user experience, eliminating 100% of 30+ monthly inquiries about exhibit updates.
- Streamlined new exhibit page launches, reducing time by 60% (from 5 days to 2 days).

Projects

Historical Stock Information Visualization Website | *Flask, Javascript, SQLite, Git, CI/CD, GitHub Actions, REST API*

- Developed a custom Trie structure indexing over 5000 stocks by market cap, optimizing search efficiency.
- Automated testing for the Trie structure, achieving 100% coverage of all possible tickers.
- Improved stock information retrieval API time by 90% through optimized workflows.
- Created custom GitHub Actions to automate 100% of the stock database management processes.

REST API implementation and Database Management | *HTTP, PostgreSQL, Java, Springboot, Swagger, React*

- Developed CRUD operations in a Java back-end for PostgreSQL database, deploying six key functions.
- Created a comprehensive testing suite to cover 100% of query functionality, including error handling.
- Integrated testing into the CI/CD workflow, ensuring near 100% up time in production.

Website for Daily Commute Information | *React, Javascript, CSS, Bootstrap, Google Auth, GCP, Firebase, Git*

- Designed and developed a user-friendly commute planning website, providing 100% current traffic info.
- Configured Firebase for secure user authentication and data storage, optimized for thousands of users.
- Utilized Google Cloud Functions for server-less computing, sending emails with optimal routes daily.

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, Applied Machine Learning and AI, Embedded Systems

Technical Skills

Programming Languages: C++, Java, Python, C, SQL (Postgres), JavaScript, HTML/CSS
Frameworks: React, Node.js, Flask, Bootstrap, Material-UI, Storybook
Developer Tools: Git, Docker, Jira, Google Cloud Platform, Confluence, Perforce, NPM, Firebase, GitHub Actions
Libraries: pandas, NumPy, TensorFlow, PyTorch, Keras, Seaborn, matplotlib

- Demonstrated adeptness in Linux development at AMD through proficient command-line navigation, shell scripting, and utilization of development tools, showcasing a strong grasp of environments and workflows.
- Proficient in crafting optimized and high-performance code rigorously tested for resilience among various conditions.
- Skilled in refactoring legacy codebases to enhance efficiency and optimize performance.