# 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 6000 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 management for 3 unique databases.
- Developed custom caching system, reducing time spent on database updating by up to 60%.

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

- Developed CRUD operations in a Java backend for PostgreSQL database, deploying 6 key functions.
- Created a comprehensive testing suite to cover 100% of query functionality, including error handling.
- Integrated frontend and backend testing into the CI/CD workflow, ensuring 100% up time in production.

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

- Designed and developed a user-friendly commute reminder website, providing 100% current traffic info.
- Configured Firebase for secure user authentication and data storage, optimized for over 1000 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, 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, Azure, AWS, GitHub, Confluence, Perforce, NPM, Firebase, GitHub Actions, MongoDB, Jenkins, Kubernetes
**Libraries**: pandas, NumPy, TensorFlow, PyTorch, Keras, Seaborn, matplotlib

- Demonstrated adeptness in Linux development at AMD through bash scripting and utilization of development tools, showcasing a strong grasp of environments and workflows.
- Experience in Agile/SCRUM development with Kanban, stand-ups, and Retrospectives.
- Skilled in refactoring legacy codebases to enhance efficiency and optimize performance.
- Experience automating and scripting testing and workflows using CI/CD tools.