# 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, CSS, Git, CI/CD, GitHub Actions, REST API*

- Developed a platform for users to search and visualize four years of stock financial data.
- Designed a custom Trie structure indexing over 5000 stocks by market cap for efficient search results.
- Improved stock information retrieval API time by 90% through optimized workflows.
- Enhanced initial front-end load by prerendering charts, reducing subsequent render times by 40%.

**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.

**Collaborative Full Stack Website** | *Java, Javascript, SQL, Maven, Jest, Git, CI/CD, Jenkins, RESTful API*

- Collaborated in an Agile team to deploy seven front-end and back-end features in a legacy codebase.
- Reduced search query volume by 60% by implementing instructor search filters in the database.
- Implemented local storage for user form metadata, reducing course search time by 30%.

## 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, AI, Machine Learning, Full Stack Web Development, UI/UX Design

## Technical Skills

**Programming Languages**: C++, Java, Python, C, 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, 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 proficient command-line navigation, shell scripting, and utilization of development tools, showcasing a strong grasp of environments and workflows.
- Possess knowledge of Unix, Python, Java, SQL, and JavaScript, with a willingness to learn and adapt to new technologies.