

# Jackson Newman

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## Work Experience

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- 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 MVP 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.
  - 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 tested backend services with the frontend, ensuring reliable end-to-end functionality.

## Projects

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- Historical Stock Information Visualization Website** [github.com/JNewman-cell/StockProjects](https://github.com/JNewman-cell/StockProjects)
- Built a high-performance Java backend to expose 5+ RESTful APIs for stock data retrieval and search.
  - Developed and optimized a SQL-based ticker/company name auto-complete API, cutting latency by 60%.
  - Engineered an 8-field, filterable, sortable ticker summary API with Querydsl and DB design.
  - Integrated multi-tier caching with JPA and Redis to serve frequent requests with 60% less latency.
  - Configured and maintained a 4+ CI/CD workflows using GitHub Actions to collect, store, and update tables.
- AI Stock Price Action Explanation Agent** [github.com/JNewman-cell/StockInformationWebsiteAIBackend](https://github.com/JNewman-cell/StockInformationWebsiteAIBackend)
- Built a Python backend to expose 2 authenticated APIs for LLM stock news analysis and progress using state.
  - Reduced LangGraph execution time by 50%, using intelligent async batching and saving of LLM requests.
  - Designed and implemented an efficient ETL pipeline to ingest, normalize, and persist news and market data.
- Open Source Contributions** [github.com/JNewman-cell/yahooquery](https://github.com/JNewman-cell/yahooquery)  
[github.com/JNewman-cell/Improved-US-Stock-Symbols](https://github.com/JNewman-cell/Improved-US-Stock-Symbols) [github.com/JNewman-cell/sec-company-lookup](https://github.com/JNewman-cell/sec-company-lookup)
- Enhanced YahooQuery Python package by fixing 15+ API error structures and adding 3 API endpoints.
  - Enhanced NASDAQ stock screener by resolving 3 critical bugs, ensuring accurate and complete stock datasets.
  - Developed Python package for batched, cached company CIK lookups via SEC API, reducing lookup time 60%.

## Education

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- 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

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- Programming Languages:** C, C++, Java, Python, SQL, JavaScript, Typescript, JSON, YAML, Bash
- Frameworks:** FastAPI, Spring Boot, JPA, Express.js, JUnit, Node.js, LangChain, LangGraph
- 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