

Darwin Smith

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EDUCATION

University of California, San Diego

B.S. in Math/Computer Science

San Diego, CA

Expected June 2026

TECHNICAL SKILLS

Languages: Python, Java, C/C++, SQL, JavaScript (ES6+), Bash, C#

Backend & APIs: FastAPI, REST APIs

Databases & Storage: SQL, IndexedDB

Cloud & DevOps: AWS, Azure, GitHub Actions

Testing & Tooling: Git, JUnit, Jest, Playwright

AI & Data: RAG Pipelines, Model Cascading, Scikit-Learn, Pandas, NumPy, BioPython

PROJECTS

Clinical Evidence Retrieval & Synthesis Platform | *Python, FastAPI, OpenAI API* Nov 2025 – Present

- Architected a full-stack web application using FastAPI to implement a real-time RAG pipeline that aggregates live PubMed clinical trials and ranks 30+ studies by semantic relevance to user demographics and goals.
- Engineered a cost-efficient "Lazy Evaluation" workflow, utilizing a lightweight LLM (gpt-4o-mini) for initial noise filtration and selectively processing full text with a high-reasoning model (gpt-4o), optimizing token usage and latency.
- Implemented hallucination-resistant synthesis with strict zero-shot constraints, ensuring all generated claims are grounded in specific study IDs with automated bibliographic mapping.

Club Triton (Collection Strategy Game) | *JavaScript, IndexedDB, GitHub Actions* Apr 2025 – June 2025

- Architected a CI/CD pipeline (GitHub Actions) to automate builds, enforce ESLint standards, and run Playwright regression tests on every push.
- Engineered the core game loop and turn-based battle mechanics, implementing a deck-building system that allows users to collect cards and select decks.
- Built a persistent inventory system using IndexedDB to store user data, card collection, and game state across sessions without server overhead.
- Led Agile sprints and code reviews, coordinating cross-team integration to resolve blocking issues between the game engine and UI components.

Global Conflict & Defense Stock Analysis | *Python, Pandas, Seaborn, Git* Sep 2025 – Dec 2025

- Engineered a data pipeline to harmonize daily stock vs. annual conflict datasets, solving granularity mismatches through statistical aggregation and cleaning of 20+ years of data.
- Developed a composite "Defense Index" of top 5 US contractors to mitigate individual volatility, utilizing modularized Python scripts to decouple processing logic from analysis.
- Conducted multivariate EDA using Seaborn, identifying a strong positive correlation ($r = 0.67$) between conflict deaths and defense valuation, isolating confounders like the 2008 recession.

WORK EXPERIENCE

Test Engineer

SiteHive Nov 2023 – Present
San Diego, CA

- Manage US-based Quality Assurance and final validation for IoT hardware deployments, serving as the key technical liaison for major enterprise clients.
- Diagnose firmware and network connectivity issues on embedded devices using TeraTerm and STM32CubeProgrammer, systematically isolating and resolving pre-deployment faults.
- Improve deployment reliability by identifying recurring hardware defects, streamlining validation procedures, and qualifying units for distribution to U.S. customers.

Commercial Shuttle Driver

UCSD Oct 2023 – Present
La Jolla, CA

- Maintained 20+ hour work weeks with full-time studies, ensuring safe transit on fixed routes.