Darwin Smith

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EDUCATION

University of California, San Diego   San Diego, CA
B.S. in Math/Computer Science   *Expected June 2026*

TECHNICAL SKILLS

Languages: Python, Java, C/C++, JavaScript (ES6+), C#, ARM Assembly, HTML/CSS, SQL, Bash
AI & Data Engineering: RAG Pipelines, Model Cascading, Prompt Engineering, Scikit-Learn, Pandas, BioPython, NumPy, Seaborn
Backend & Cloud: FastAPI, REST APIS, AWS, Azure, GitHub Actions
Tools & Testing: Git, Jupyter Notebooks, Playwright, Jest, JUnit, Vim, Bash Scripting

PROJECTS

Clinical Evidence Synthesis Engine | *Python, FastAPI, OpenAI API, BioPython*   Nov 2025 – Present
- Architected a real-time RAG pipeline using FastAPI to aggregate PubMed verified live clinical trials, replacing rigid heuristic filtering with a semantic curation layer that ranks 30+ studies by nuanced 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 automates 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   Nov 2023 – Present
SiteHive   *San Diego, CA*
- Manage US-based Quality Assurance and final validation for hardware deployments, serving as the key technical liaison for an Australian IoT firm supporting major enterprise clients.
- Execute firmware updates and connectivity troubleshooting on Hexanode devices using TeraTerm and STM32CubeProgrammer to resolve network faults prior to delivery.
- Facilitate the domestic supply chain by receiving international technical shipments, diagnosing hardware defects, and qualifying units for final distribution to US customers.

Commercial Shuttle Driver   Oct 2023 – Present
UCSD   *La Jolla, CA*
- Maintained 20+ hour work weeks with full-time studies, ensuring safe transit on fixed routes.