

# Aarya Patel

Sunnyvale, CA | [aarya.niraj007@gmail.com](mailto:aarya.niraj007@gmail.com) | [aaryapatel.site](http://aaryapatel.site) | [github.com/aaryapatel09](https://github.com/aaryapatel09) | [linkedin.com/in/aaryapatel1](https://linkedin.com/in/aaryapatel1)

## HONORS & AWARDS

---

**USACO Platinum** — Top <1% of participants  
**USAPHO Qualifier** — Top ~400 nationally out of 6,000+ competitors  
**1st Place, FBLA States** — Computer Problem Solving; #1 CA (prev. #1 Bay Sections)  
**Scholastic Art & Writing Awards** — 2× Silver Key in Poetry (330,000+ submissions)

## EDUCATION

---

**Homestead High School** Sunnyvale, CA  
*Relevant Coursework: Advanced Mathematics, Computer Science, Physics, Engineering Design* Aug. 2023 – Jun. 2027

## EXPERIENCE

---

**Vytus** Feb. 2026 – Present  
*Co-Founder & CEO | [vytus.health](http://vytus.health)* Sunnyvale, CA

- Architected a multimodal ML inference system in Rust — user-specific LoRA adapters across daily/weekly/monthly horizons — producing individual-level risk predictions from wearables, labs, vitals, nutrition, and behavioral signals.
- Built a counterfactual prediction engine (*/what-if*) for causal outcome estimates under hypothetical input perturbations, applying causal ML and decision theory to a production system.
- Designed a Temporal-orchestrated nightly personalization pipeline: per-user feature extraction, model inference, and intervention generation — not population averages.
- Scaled to 300+ person waitlist; incorporated as a Delaware C-Corp with HIPAA-compliant Postgres/Redis infrastructure from day one.

**Finance & Investments (FAI)** Oct. 2024 – Present  
*State President (prev. State Vice President)* California

- Lead 6,000+ members across 126+ chapters in 30+ states and 4 countries delivering financial literacy and investment education.
- \$50,000+ fundraised with Chipotle and Intertwined; Stock Market Competition awarding scholarships to 50+ participants; 3+ guest lectures from industry leaders incl. Wells Fargo VP.

**Code4Cause** May 2025 – Present  
*Co-Founder & Chief Operations Officer*

- Co-founded student-led nonprofit; grew program to serve 20+ middle schoolers across 4 weeks of structured ML curriculum.
- Designed GreenSight: guided students from 0 coding experience through a full ML pipeline — Python fundamentals to predictive modeling to civic advocacy; students built a model identifying 15+ Bay Area high-CO<sub>2</sub> locations submitted to Sunnyvale city government; in talks with Mercury News for a feature.

**Natalie Brunell (500K+ subscriber Fintech YouTuber)** May 2025 – Present  
*Data Analytics Intern | Independent Contractor*

- Built analytics platform integrating YouTube & Twitter (X) APIs, monitoring 10+ channel metrics and competitor benchmarks in real time.
- Created 5+ interactive Streamlit/Plotly dashboards; integrated Google Gemini AI for natural language querying, reducing manual reporting by ~60%.

**Automotive Restoration & Resale** Jun. – Aug. 2025  
*Founder — Self-Employed*

- Bought, restored, and resold 10+ damaged vehicles and motorcycles; engine rebuilds, electrical troubleshooting, bodywork, and welding. Generated \$10K revenue in 3 months.

## PROJECTS

---

**sigint** | *Python, Claude API, DuckDB, Open Source*

- Quant pipeline extracting timestamped trading signals from SEC filings (10-K, 10-Q, 8-K) via LLMs — grounded in Cohen, Malloy & Nguyen (2020); 4 engines: supply chain graph, risk factor diff, M&A detector, tone tracker; outputs to Parquet/DuckDB with FastAPI + webhook support.

**neurosim** | *Python, JAX, Open Source*

- Differentiable physics library (classical mechanics, FDTD EM, quantum, statistical mechanics) — fully differentiable end-to-end; enables inverse problem solving via autodiff.

## TECHNICAL SKILLS

---

**Languages:** Python, Rust, Java, C++, TypeScript, JavaScript, MATLAB  
**ML:** Multimodal inference, LoRA fine-tuning, causal modeling, GPU systems, CNNs, LSTMs, computer vision  
**Infrastructure:** AWS, GCP, Docker, Temporal, Postgres, Redis, HIPAA pipelines, Prometheus, Grafana  
**Leadership:** Founded & scaled 2 orgs, led 6,000+ member national org, curriculum design, technical mentorship, public speaking, C-Corp incorporation