

SAMUEL CHEN

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📍 Davis, CA — U.S. Citizen

Summary

Mathematics & Scientific Computation undergraduate who has drafted [AI policy](#), contributed to [open-source mathematical software](#), and published [an analysis of AI industry fragility](#) and [a short paper on maximizing expected turn score in a dice game](#).

Education

University of California, Davis

Expected June 2027

B.S. Mathematics and Scientific Computation

Davis, CA

- **Coursework:** Linear Programming, Linear Algebra, Differential Equations, Probability & Statistics, Real Analysis, Economics.

Technical Skills

Python: NumPy, cvxpy, mpy, pytest

Tools: Git, Linux/Unix, SSH, uv, L^AT_EX

Experience

UC Davis Department of Mathematics |  | 

Mar 2026 – Jun 2026

Davis Math Lab project — Polyhedral Geometry and Optimization in passagemath

Davis, CA

- Fixed plot display in notebooks that do not run Sage’s kernel: 2D and 3D plots now render in Google Colab instead of printing as text, so students can use `passagemath` in a browser without installing it.
- Fixed a configure-time crash that broke installation on rolling-release Linux distributions (Arch, Gentoo, Void) after a `setuptools` release removed the module the build check relied on.
- Wrote the project’s contributor onboarding documentation, a guided exercise on fixing a recurring bug, and a list of starter issues at graduated difficulty; mentored a teammate through his first merged pull request.

City of Berkeley — Councilmember Igor Tregub

Jul 2025 – Sep 2025

Legislative Intern

Berkeley, CA

- Drafted proposed amendments to The Berkeley Rule, a municipal AI policy framework adopted by Berkeley City Council (Mar 2026); the adopted text carries the risk-tier framework classifying AI systems by their impact on residents, annual review and decommissioning plans for the highest-risk systems, and a right to human review of enforcement decisions.
- Served as the office’s subject matter expert on AI: delivered a presentation on current capabilities and risks to inform team strategy, and advocated for balancing public safety with city service improvement goals.
- Produced public-facing materials: drafted a letter endorsing SB-53 (Transparency in Frontier AI Act), wrote a plain-language legislative summary for constituents, and independently created a [video explainer](#) on governance incentives (OpenAI PBC shift).

City of Berkeley — Councilmember Ben Bartlett

Jun 2024 – Aug 2024

Legislative Intern

Berkeley, CA

- Led drafting and sending letters supporting SB 1047 (Frontier AI Models Act) to 114 state legislators while engaging with constituents and conducting policy analysis.

Prospect Technical AI Safety Research Hub

Jun 2022 – Aug 2022

Project Manager

Berkeley, CA

- Owned operations for a 2-month residential research hub (30 residents; 15 daily visitors), coordinating scheduling, vendor logistics, access control, and incident response.

Projects

Trading Exchange / Limit Order Book Simulator | *Python, Async TCP, mypy, pytest, PyPy* | 

- Built a trading exchange simulator where clients submit buy/sell orders; the engine maintains a limit order book and matches orders using price-time priority.
- Designed a 3-layer architecture (network server, request/interface layer, matching engine) to keep networking separate from core market logic; translated JSON requests into typed commands and structured responses.
- Implemented settlement bookkeeping (funds locking, fills, audit trail) with validation checks; benchmarked order ingestion and book updates at 2.9M orders/sec avg on PyPy (local microbenchmark).

deborgen / Shared Compute for Small Groups | *Python* | 

- Designed a job system that pools idle personal machines from a small trusted group: workers pull jobs rather than being assigned them, join voluntarily, and can restrict availability to agreed hours, so participation stays opt-in on hardware people already own.
- Scoped v0 to a minimal end-to-end loop: submit a job, claim it, execute, capture logs, store artifacts, record history. Each job records who submitted it, where it ran, and what it produced.