Nate Annau

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Undergraduate Math and Computer Science Student

Education

UC Santa Barbara
Bachelor of Science in Computer Science (3.87 GPA)

📅 Sep 2023 — Jun 2026 📍 Santa Barbara, CA

Notable Coursework: Data Structures & Algorithms; Machine Learning; Quantum Computing; Functional Programming

UC Santa Barbara
Bachelor of Science in Mathematics (3.87 GPA)

📅 Sep 2022 — Jun 2026 📍 Santa Barbara, CA

Notable Coursework: Real, Numerical, and Complex Analysis; Linear Algebra; Abstract Algebra; Topology unit Completed a Directed Reading and associated poster presentation, covering Coxeter Groups and Buildings

Cañada College
Dual enrollment through Cañada Middle College (4.0 GPA)

📅 Jun 2020 — May 2022 📍 Redwood City, CA

Experience

Software Engineering Intern
Playlab AI

📅 Jun 2025 — Sep 2025 📍 Remote

- Rigorously compared various document parsing services for RAG by developing a custom benchmarking framework
- Expanded parsing and chunking capabilities significantly in the internal API, adding handling for common data formats
- Used heavy typing features in Python, focusing on maintainability and readability, and greatly expanded unit tests

Software Engineering Intern
HiveTop

📅 Jun 2024 — Aug 2024 📍 Berlin, Germany

- Developed key pages, such as a graph dashboard for device telemetry, of a frontend platform using `Vue` and `Tailwind` with `Primevue` components
- Created REST endpoints in the `Rust` backend to facilitate data transmission from embedded devices
- Architected major elements of our CI / CD setup, using Github actions, `ESLint`, and `mypy`

STEM Center Tutor
Cañada College

📅 Jan 2022 — May 2022 📍 Redwood City, CA

- Assisted students with homework and mastering key concepts in Calculus, Differential Equations, and Newtonian Mechanics
- Created high quality study materials and explanations to address common deficiencies in student understanding

Projects

Ergo

- In collaboration with my friend, developed a `Typst` package for notetaking and assignments for Math, CS, and Physics students
- Wrote over a dozen custom environments, custom color schemes, and over one hundred macros for common symbols
- The package is actively maintained, has 30+ stars on Github, and is being used for a PhD thesis at a French university

Courses Graph

- Scraped the UCSB website with `Python`, queried the UCSB API, and synthesized the data as JSON
- Dynamically displayed course data using a constrained optimization library and `d3`, with `Quasar` components
- Presented working prototype in front of audience of peers and industry judges at the 2023 Coders SB Project Showcase, winning third place out of ~35 projects
- At SBHacks 2025, extended this general concept to a visualization of the dependency graph of Proof Wiki

Open Source Contributions

- Contributor to `weo-reader`, a Python client to read world economic data from the IMF as a `pandas` dataframe
- Authored just under one thousand Wikipedia contributions, and wrote several tools to help automate data collection
- Made corrections and wrote a chapter for a popular online summary textbook of early undergraduate math courses

CTFs

- Won second place out of 300+ participants in the Geo OSINT challenge at DEF CON, the world's largest hacker conference
- As the second highest scoring individual contributor on my CTF team, placed in the top 6% in the PwnMe CTF Qualifier
- As the third highest scoring individual contributor on the UCSB CTF team, placed in the top 15% in the HackTheBox Binary Badlands University CTF

Languages and Tools

Python (numpy, pandas, Flask) ●●●●○

Git ●●●●○

Linux (Ubuntu, Arch, Nix) ●●●●○

TypeScript (Vue.js, Svelte) ●●●○○

Neovim ●●●○○

Rust ●●○○○

C++ ●●○○○