Nathaniel Annau

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Education

UC Santa Barbara September 2022–June 2026
Bachelor of Science in Pure Mathematics *Santa Barbara, CA*

- **Notable Coursework:** Real Analysis, Linear Algebra, Introductory Mechanics and Electromagnetism, Numerical Analysis, Complex Analysis

UC Santa Barbara September 2023–June 2026
Bachelor of Science in Computer Science

- **Notable Coursework:** Intro Data Structures (C++), Intro Computational Science (Python)

Cañada College June 2020–May 2022
Dual enrollment through Cañada Middle College *Redwood City, CA*

- **Notable Coursework:** Ordinary Differential Equations - Honors, Modern Physics, Computer Architecture & Assembly Language, Intro to Object Oriented Programming: C++

Experience

HiveTop June 2021–Aug 2021
Software Engineer Intern *Berlin, Germany*

- Developed key pages of our frontend platform using Vue and Tailwind with Primevue components
- Created REST endpoints in our Rust backend to facilitate data transmission from embedded devices
- Architected major elements of our CI / CD, linting, and other tooling setups

Cañada College Jan 2022–May 2022
STEM Center Tutor *Redwood City, California*

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

Projects

Courses Graph | *BeautifulSoup, Vue.js, d3, Quasar, Jest*

- Scraped the UCSB website with Python, queried the UCSB API, and created JSON data structures to encode relevant data
- 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 and $250

linalgeuc | *Python, numpy*

- Implemented a custom unit-tested linear algebra library from scratch, including affine transformation handling
- Built a basic rendering engine utilizing perspective and orthographic projections to view Platonic solids in 3D

Open Source Contributions | *Python, LaTeX*

- Important contributor to `weo-reader`, a client to read world economic data from the IMF as a `pandas` dataframe
- Authored approximately 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 undergrad math courses

Technical Skills

Languages: Python, TypeScript, C++, Rust, C, HTML/CSS, LaTeX, Swift
Technologies: Numpy, Matplotlib, Scipy, Pandas, Plotly, BeautifulSoup, OpenCV, Vue.js, d3, Flask, Bootstrap, Flask, Node.js