

Alden Bernstein

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EDUCATION

University of California, San Diego

La Jolla, CA | Jun 2026 (expected)

- B.S. in Cog Sci - Machine/Neural with Minor in Computer Science; GPA 3.5
- Courses Include: Introduction to Python, Advanced Java, Linear Algebra, Research Methods, Discrete Mathematics, Eng Computation: Prgrm in C, Basic Data Struct & OO Design, AP Computer Science

EXPERIENCE

CCHDO | Data Management Assistant

La Jolla, CA | Oct 2024 - Current

- Currently developing JavaScript and python code for web form data validation by analyzing requirements, debugging code, designing workflows, and training/deploying large language models for the University of California San Diego oceanographic data management team.

Crunch Digital | Applications Intern

Los Angeles, CA | Aug 2024 - Oct 2024

- Involved with development and testing of API integrations for communication between client and server music research applications.
- Utilized a reporting API for detailed music usage for clients.

Python Educational-Development Tutor

La Jolla | Jan 2024 - June 2024

- Served as a educational tutor for students in the Computer Science and Engineering (CSE) department, developing their Python programming skills through personalized instruction.
- Assisted students with fundamental concepts and gaining confidence in their introductory programming capabilities, supporting over 10 students to pass their introductory courses.

PROJECTS

Protocol Pilot AI

In Development

- Multi-RAG application that leverages custom graphs with Chroma, LangChain, and Pytorch to compare industry handbooks and standards with documents under review, automating manual compliance reviews.

CCHDO - Submission Validator

Nov 2024

- Built a JavaScript CSV validation tool with real-time error detection and feedback dialogs, ensuring compliance with data structure and format requirements for oceanographic datasets.
- Tool: (<https://cchdo.github.io/submission-validator/>). CCHDO Website: (<https://cchdo.ucsd.edu/>)

RAG-Powered Semantic Indexing

August 2024

- Developed a Retrieval-Augmented Generation (RAG) system to convert large databases into semantically queryable vector stores, allowing users to analyze their data. Additionally, integrated a custom multi-session chat archive to preserve open-ended LLM conversations locally.

SKILLS

Languages (Intermediate): Python • Java • JavaScript • HTML • CSS

Development Tools & Libraries : Docker • GitHub Pages • pandas • numpy • langchain • Huggingface • Chroma

Ollama • TensorFlow • Pytorch