Alyssa Sawyer

asawyer@hmc.edu (650) 395-7429 @alysawyer alysawyer.com

Education

Harvey Mudd College August 2022 - May 2026

*Bachelor of Science in **Computer Science and Math**, Dean's List*

- **Relevant Coursework:** Data Structures/Program Development, Mathematical Analysis, Discrete Mathematics, Computability and Logic, Probability and Statistics, User Experience Research and Evaluation (TA), Principles of Computer Science.

Sequoia High School August 2018 - June 2022

International Baccalaureate Diploma, GPA: 4.45/4.0, CA Scholarship Federation Life Member, Honor Roll

College of San Mateo, Cañada College, Skyline College, and Foothill College August 2019 - June 2022

Dual Enrollment Program

- **Relevant Coursework:** Java Programming Methods, Python Programming, JavaScript for Programmers, Intro to Object-Oriented Program Design, Introduction to Web Design, Ethical Hacking, Linear Algebra, Differential Equations, Calculus III.

Professional Experience

Incoming Software Engineer Intern May 2024

NVIDIA

- Ignite program.

Software Engineer Intern January 2023 - May 2023

Samba TV

- Developed a synthetic data set by naturally integrating ads in scenes to create 500k+ images using the COCO API.
- Generated logo placement using Python in Blender. These pictures are intended to be released as an open source database.

Research Experience

Artificial Intelligence Researcher January 2024 - Present

Harvey Mudd College, advised by Professor David Nembhard

- Creating a model that analyzes biometric EEG data to predict drone operator errors when identifying infrastructure faults.

Machine Learning Researcher May 2023 - Present

Claremont McKenna College, advised by Professor Mike Izbicki

- First author of paper at the 29th ACM SIGKDD Conference on Knowledge Discovery and Data Mining's Data Science Day.
- Finetuning large language models on high quality textbook data to improve performance by 25% on low resource languages.
- Decreased OpenAI API usage cost by 70x in the pipeline to compare baseline model performance to our modified models. Done through developing a program to calculate the lowest perplexity option of multiple choice quiz questions.

Computer Science Researcher September 2022 - May 2023

Harvey Mudd College, advised by Professor Lucas Bang

- Created a wearable device for a sensory augmentation experiment using Arduino. Led software and hardware development.
- Integrated the project into a Pitzer College philosophy class to improve student learning with an interactive element.

Projects

Data Analyst January 2023 - Present

Claremont Graduate University

- Programming an interactive data visualization website for the CGU Cultural Property Disputes Resource using D3.js.
- Providing a resource for lawyers, journalists, and scholars to track information regarding 400+ cases of stolen artifacts.

Machine Learning Project Lead September 2022 - January 2023

P-ai Claremont Colleges Club

- Managing a team of 4, fully designed a computer vision project with transfer learning using ResNet with PyTorch.

Awards

Harvey S. Mudd Scholar | *Received merit award due to being identified as in the top 2% of the applicant pool.*
Top 4 Debater in the Country | *Placed in the top 4 at Nationals for Lincoln-Douglas debate, after qualifying out of 20,000+.*

Skills and Interests

Skills: Python, Java, C++, JavaScript, HTML, CSS, R, LaTeX, JSON, Linux, Git, Natural Language Processing, Excel.
Libraries: NumPy, Matplotlib, PyTorch, Pandas, Beautiful Soup, OpenCV, Selenium, Gradio.
Interests: Building mechanical keyboards, running, photography, debate coaching.