

# ALYSSA SAWYER

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## EDUCATION

### Harvey Mudd College

August 2022 - May 2026

*Bachelor of Science in Computer Science and Math, Major GPA: 3.8, Dean's List*

- **Relevant Coursework:** Computability and Logic, Mathematical Analysis, Probability and Statistics, User Research and Evaluation (TA), Data Structures/Program Development, Principles of Computer Science, Discrete Mathematics.
- **Activities:** Wellness Director, Inclusive Campus Mentor, Mechanical Keyboard Club President, Society of Women Engineers.

### 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.

## EXPERIENCE

### Machine Learning Researcher

January 2024 - Present

*Harvey Mudd College, advised by Professor David Nembhard*

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

### Machine Learning Researcher

May 2023 - January 2024

*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.

### Software Engineer Intern

January 2023 - May 2023

*Samba TV*

- Created a synthetic data set by naturally integrating generating 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.

### Computer Science Researcher

September 2022 - May 2023

*Harvey Mudd College, advised by Professor Lucas Bang*

- Developed a wearable device that vibrates northward for a sensory augmentation experiment using Arduino.
- Integrated the device into a Pitzer College philosophy class to improve student learning with an interactive element.

## PROJECTS

### Front-End Web Developer

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 Manager

September 2022 - Present

*P-ai Claremont Colleges Club*

- P-recipe: Managing a team of 4, fully designed a computer vision with transfer learning using ResNet with PyTorch.
- P-okemon: Used black box optimization with fmin in Javascript and Pokemon API to reverse engineer information in a battle.

## 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+.

**300+ Volunteer Hours** | At 30+ organizations through the National Charity League. Received Presidential Bronze Volunteer Award.

**Nonprofit Founder** | Founded and ran 2-week debate camp nonprofit for 200+ underprivileged debaters during COVID-19 for three years.

## SKILLS AND INTERESTS

**Skills:** Python, Java, C++, Javascript, HTML, CSS, R, *L<sup>A</sup>T<sub>E</sub>X*, Hugo, WordPress, Matplotlib, Pytorch, Arduino, Microsoft Office.

**Interests:** Building mechanical keyboards, running, photography, debate coaching.