# 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 Experience 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

**Artificial Intelligence 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 model 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*
- Developed 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*
- 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

**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 a 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, $\LaTeX$, 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.