Ashley Kim

askim@hmc.edu | (908) 255-7732 | https://ashleykim8.github.io/ **LinkedIn:** linkedin.com/in/ashleykim8

EDUCATION

Harvey Mudd College | Claremont, CA Expected May 2026

B.S. in Joint Computer Science and Mathematics, Cumulative GPA: 3.83

- Relevant Coursework: Algorithms, Data Structures, Object-Oriented Programming, Computability/Logic, Deep Learning, Combinatorial Optimization, Differential Equations, Probability and Statistics, Systems Engineering, Engineering Design

SKILLS

- Python, Java, C++, JavaScript, React, Git, D3.js, R, TensorFlow, PyTorch, scikit-learn, Pandas, PyQt, NumPy, D3.js

WORK EXPERIENCE

Software Engineering Intern | USDA & Auburn University | Website June 2025 - August 2025

- Built and expanded Python/PyQt GUI for electropenetrograph (EPG) signal analysis, integrating live recording visualization, waveform editing tools, autosave and backups, and rendering of large datasets (20+ hours) with 20x faster performance
- Trained ML models (Random Forests, UNet) on sharpshooter insect feeding data, boosting classification accuracy to 80%
- Customized software features with entomology research objectives, leading to deployment across two research centers

Software Engineering Research Intern | Polymath Jr REU | Website June 2024 - September 2024

- Created math educational games in PlayCanvas/JavaScript with Not A Bot for elementary-aged students
- Designed planet-themed gameplay featuring interactive physics, dynamic object movement, and procedural level generation
- Iterated on reusable scripts for collision, object spawning, and game logic, improving engagement through playtesting

Web Development Research Intern | Harvey Mudd College (HMC) | Website May 2023 - December 2023

- Developed five multi-page JavaScript/D3.js applets with dynamic visuals to facilitate user-driven exploration of physics
- Implemented advanced interactive features, including sliders, dynamic graphs, and real-time animations, that were intuitive
- Integrated applets into HMC's Theoretical Mechanics course (Fall '23, '24), supporting 50+ students, improving comprehension based on feedback and faculty evaluations, and adopted as standard course materials

PROJECTS

TableSnap | Website | Table Detection for Document Images May 2025

- Improved table detection accuracy by 13.7% via fine-tuned YOLOv5 for layout recognition in scanned documents
- Built full data pipeline for preprocessing, training, and evaluation on the General Table Detection dataset, tackling challenges in noisy data and advancing accurate table localization toward the future goal of table scan digitization

APy Interactive | Website | Interactive Google Calendar Tool August 2024

- Led development of terminal calendar manager using Google Calendar API for event management without browser access
- Designed core architecture, implemented OAuth 2.0 auth, and built robust logic for event handling and data querying
- Managed team scope, prioritized key features, and delivered fully functional tool with polished CLI UX and documentation

ACTIVITIES

CS Grader and Tutor, Harvey Mudd College January 2024 - Present

- Lead weekly tutoring sessions on time complexity and data structures, supporting comprehension for 200+ students
- Deliver detailed, personalized feedback to help students debug logic, grasp edge cases, and build programming fluency

Secretary, Applied Math Club August 2023 - Present

- Coordinated guest speaker event with L.A. Dodgers analyst, attracting 40+ students and expanding career awareness
- Facilitated hands-on workshops teaching data science tools like R to analyze and model COVID-19 spread

Co-President, Mudders Making a Difference (MMAD) August 2022 - Present

- Oversee coordination of nine service projects with local organizations, optimizing resource allocation and community impact
- Spearheaded initiatives that earned MMAD the 2023 Harvey Mudd Outstanding Student Organization Award