Ashley Kim

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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, Computing Practices, Computability and 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 June 2025 - August 2025

- Rebuilt and expanded Python/PyQt GUI for electropenetrograph (EPG) signal analysis, enabling live recording, autosave, annotations, and enhanced research workflows
- Retrained ML models (Random Forests, UNet) on sharpshooter insect data, boosting classification accuracy to 80%
- Collaborated with three liaisons to tailor features to research objectives and commercialization plans for wider deployment

Game Development Research Intern, Polymath Jr REU June 2024 - September 2024

- Partnered with Not A Bot to create educational games using PlayCanvas and JavaScript, teaching mathematical multiples to elementary students
- Designed planet-themed gameplay system with dynamic movement, procedural level generation, and interactive physics, increasing user engagement and replayability

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

- Developed five interactive applets with dynamic visuals for hands-on learning of mechanics through user-driven exploration
- Integrated JavaScript/D3.js applets into HMC's Theoretical Mechanics course (Fall '23, '24), supporting 50+ students and improving comprehension based on course feedback and faculty evaluations

PROJECTS

TableSnap, Table Detection for Document Images May 2025

- Improved table detection in scanned documents by 13.7% (mAP@0.5), fine-tuning a YOLOv5 deep learning model for high-precision layout recognition
- Built end-to-end data pipeline for preprocessing, training, and evaluation on the General Table Detection dataset, advancing accurate table localization toward the future goal of digitization

PrepTime, Flashcard Study App August 2024

- Designed and implemented a Quizlet-inspired website using React and Node.js, optimizing study experience with interactive flashcards
- Led front-end development, implementing multi-page navigation and responsive UI components

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