

DEVON TAO

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EDUCATION

Harvey Mudd College

B.S. in Computer Science and Mathematics
Concentration in Chinese
Overall GPA: 4.0

Expected May 2025

RESEARCH EXPERIENCE

MIT Lincoln Laboratory, Group 41 AI Software Architectures & Algorithms

Student Research Intern

May 2024 - Present

Lexington, MA

- Conduct self-directed literature review of traditional and deep learning outlier detection methods.
- Create a benchmark of outlier detection algorithms on FAA vehicle traffic data.
- Write report on outlier detection algorithms, design considerations, libraries, and benchmark results for internal use.
- **Security Clearance:** Secret

Harvey Mudd College, Computer Science Department

Human Computer Interaction Student Researcher

September 2021-May 2022, December 2023 - Present

Claremont, CA

- **Advisor:** Lucas Bang
- Used p5.js to create simulator of philosophy book *Vehicles: Experiments in Synthetic Psychology* by Valentino Braitenberg for use in an educational setting. Link: <https://hmc-alpaqa.github.io/braitenberg-vehicles/>.
- Designed and administered survey assessing educational efficacy and enjoyment of simulator.
- Performed quantitative and qualitative analysis of survey results and drafted an academic manuscript.

Harvey Mudd College, Computer Science Department

Machine Learning Student Researcher

May 2022-May 2024

Claremont, CA

- **Advisors:** George Montañez, Lucas Bang.
- Read about Neural Architecture Search (NAS) algorithms and search spaces.
- Applied concepts from evolutionary biology to an analysis of a popular NAS search space.
- Analyzed results, visualized data using Matplotlib, and drafted an academic manuscript.

WORK EXPERIENCE

Harvey Mudd College, Computer Science Department

Grader/Tutor

September 2022 - Present

Claremont, CA

- **Classes:** Intro Computer Science, Data Structures, Information Theory, Machine Learning, Programming Languages
- Communicate concepts from a variety of computer science disciplines to students of varying backgrounds.
- Read both code and proofs for correctness and clarity.
- Coordinate with instructor to organize other graders/tutors for the course.
- Run grader/tutor training at the beginning of every semester.

Allstate Protection Plans, MINT Team

Engineering Intern

June 2023 - August 2023

Remote

- Used Angular and Spring Boot to create a dynamically generated form UI based on JSON Schema, replacing the need to write boilerplate code.

- Automated the warranty registration system, replacing manual data entry.

Harvey Mudd College, Computer Science Department
CS Student Ambassador

September 2022-Present
Claremont, CA

- Organize social events for the computer science department and run computer science department social media.

MANUSCRIPTS

Under Review

Devon Tao and Lucas Bang. "Fitness Landscape Analysis of a Cell-based Neural Architecture Search Space."

In Progress

Devon Tao and Lucas Bang. "Braitenberg Vehicle Simulator: Visualizing the Classic Thought Experiment."

AWARDS AND HONORS

Honorable Mention, COMAP's Interdisciplinary Contest in Modeling

May 2023

For the submission "Light Pollution: A Glaring Problem."

Harvey Mudd College First-Year Platt Prize

September 2022

Awarded to one first-year student who demonstrates excellence in academics and community.

SKILLS

Programming Languages

Python, R, Javascript, Java, C++, Haskell, HTML, CSS

Libraries & Frameworks

NumPy, Pandas, Matplotlib, scikit-learn, p5.js, React, Angular, Node.js, Spring Boot

Databases

MongoDB, PostgreSQL

Languages

Mandarin (advanced), Spanish (intermediate)

EXTRACURRICULAR ACTIVITIES

CS Professor of Fun

December 2023 - Present

- YouTube channel aimed at making fun and clear explanations of undergraduate level computer science concepts.
- Link: <https://www.youtube.com/@CSProfessorofFun/>

Ace and Aro Space

March 2022 - Present

Co-founder and co-president

- Co-founded an affinity group for asexual and aromantic individuals at the Claremont Colleges with 50+ members.
- Host weekly dinners and group socials, and do educational outreach to broader Claremont Colleges community.

Class President

August 2023-May 2024

- Organized events for Harvey Mudd College Class of 2025 and represented Class of 2025 in student government.

REFERENCES

Lucas Bang

Associate Professor of Computer Science

Harvey Mudd College

Email: bang@cs.hmc.edu