VIVIAN TAO

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EDUCATION

Harvey Mudd College, Claremont, CA   Expected May 2025
B.S., Computer Science and Mathematics   4.0 GPA

RELEVANT COURSEWORK

Linear Algebra; Discrete Mathematics; Single & Multivariable Calculus; Principles & Practice: Computer Science; Engineering Systems; Data Structures/Program Development; Differential Equations

SKILLS

Programming: Full-Stack Web Development, HTML5, CSS, Java, Javascript, Python, Racket (basic), MongoDB, Git
Libraries: Bootstrap, React, jQuery, Node.js, Express.js, Cloudinary, PassportJS, Mongoose, Numpy, Pandas, Matplotlib, scikit-learn, p5js, Discord.js, MySQL (basic), PyTorch (basic)
Other: Mandarin Chinese (intermediate), Spanish (intermediate), music composition, writing, acting, singing

WORK EXPERIENCE

Computer Science Department Grutor, Harvey Mudd College, Claremont, CA   September 2022-Present
- Grade homework assignments for Principles & Practice: Computer Science based on style and correctness
- Tutor students on concepts such as DFAs, circuits, Assembly-like languages, and dynamic programming

ASHMC Webmaster, Harvey Mudd College, Claremont, CA   August 2022-Present
- Manage and update the website for the Associated Students of Harvey Mudd College using WordPress

Student Researcher at AMISTAD Lab, Harvey Mudd College, Claremont, CA   May 2022-Present
- Read and understand current Neural Architecture Search (NAS) methods
- Collaborate with three students and a professor to develop a research question and design experiments
- Utilize Python libraries to empirically categorize NAS methods based on human-defined properties

Music Director, Summer School for the Performing Arts, Westford, MA   August 2022
- Musically shaped an ensemble of eleven actors from ages 8 to 14
- Taught flipbook-making and dramaturgy to twenty students from 3rd-11th grade
- Built and disassembled sets

Research Assistant at ALPAQA Lab, Harvey Mudd College, Claremont, CA   September 2021-May 2022
- Collaborated with three students and a professor to simulate Braitenberg Vehicle motion for the Minds and Machines class at Pitzer College
- Introduced the research team to Kanban project management and serve as primary project manager
- Simulated physics with javascript and displayed interactive user interface with p5.js, HTML, and CSS
- Link: https://hmc-alpaqa.github.io/braitenberg-vehicles/

PERSONAL PROJECTS

Student Simulator - https://v-tao.github.io/studentsim/
- Web Game that simulates the struggle of balancing academics, fun, and health as a high schooler
- Backend simulates this balance through math and Object-Oriented Programming in Javascript
- User Interface implemented with React and CSS

Nobles Theatre Collective Website - https://nobles.edu/ntc
- Website for theatre program of the Noble and Greenough School, with an "edit" mode for students to edit and maintain without coding knowledge
- Implemented using cookies, Node.js, Express.js, Mongoose, Cloudinary, and Bootstrap

Coronavirus Daily Percent Positive Statistical Model - https://github.com/v-tao/covid_project
- Multiple Regression Model that predicts a state's daily percent positive based on factors such as bar capacity and indoor social gathering limit, implemented through scikit-learn
- Collected data through analysis of state government documents
- Processed data with pandas library