

# VIVIAN TAO

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## EDUCATION

**Harvey Mudd College**, Claremont, CA  
B.S., Computer Science and Mathematics

Expected May 2025  
4.0 GPA

## RELEVANT COURSEWORK

Linear Algebra; Discrete Mathematics; Single & Multivariable Calculus; Principles & Practice: Computer Science

## SKILLS

**Programming:** HTML5, CSS, Java, Javascript, Python, Racket (basic), MongoDB, Git, GitHub, Heroku

**Libraries:** Bootstrap, React, jQuery, Node.js, Express.js, Cloudinary, PassportJS, Mongoose, Numpy, Pandas, Matplotlib, scikit-learn, p5js, Discord.js, MySQL (basic), PyTorch (basic)

**Languages:** Mandarin (intermediate)

## EXPERIENCE

**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

**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 display interactive user interface with p5.js, HTML, and CSS
- Developed intuitive and user-friendly UI
- Link: <https://hmc-alpaqa.github.io/braitenberg-vehicles/>

**Assistant Music Director**, Summer School for the Performing Arts, Westford, MA July 2021-August 2021

- Taught singing and piano-playing to eleven high schoolers
- Taught flipbook-making and dramaturgy to twenty students from 3rd-11th grade
- Built and disassembled sets

## VOLUNTEERING

**Coding Teacher**, Immigrant Family Services Institute, Boston, MA March 2020-June 2021

- Designed projects, quizzes, and lessons to teach students of immigrant families how to code in Scratch
- Facilitated collaboration among elementary students to create an animation for Haitian Independence Day

## 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](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