

# JASMINE TAI

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## EDUCATION

### University of California, Santa Cruz

B.S. in Computer Science and Applied Mathematics | GPA: 3.98

Santa Cruz, CA

Sept. 2021 – Dec. 2024

## WORK EXPERIENCE

### Web Development Team Lead

Sept. 2023 – present

Tech4Good Lab

Santa Cruz, CA

- Overseeing a student team of 10+ in building ExploreCareers, a web application dedicated to career path exploration
- Guiding team members in acquisition of web development skills with Angular, RxJS, NgRx, and Google Cloud Firestore by delegating tasks and providing continual support
- Assessing code submitted by team members for review to ensure validity and completeness for merging into production
- Managing part of the lab at a higher level by evaluating quarterly lab applicants and refining long-term project objectives

### Undergraduate Research Assistant

Dec. 2021 – present

University of California, Santa Cruz

Santa Cruz, CA

- Contributing to the development of a novel model for computing the functional connectivity of species habitats using Python and PyTorch, which runs >100x faster than existing connectivity models
- Building an online browser for the exploration of species habitats and connectivity using Google Cloud Platform tools
- Produced a Python package that uses various geospatial data to automate production of habitat and terrain raster layers for bird species, eliminating manual work otherwise needed for generating hundreds of layers
- Developed a module for efficiently reading and processing large amounts of geospatial data at fine resolutions
- Aided in data and code archiving through the entire computation pipeline to ensure code reproducibility for publication

### Software Engineering Intern

June 2023 – Aug. 2023

NASA Jet Propulsion Laboratory

La Cañada Flintridge, CA

- Improved on existing automation software that builds configuration files needed for telecommunications with spacecraft
- Extended software functionality to process a more general set of mission data inputs, added thorough input validation and exception handling, and performed extensive testing of software behavior in Perl
- Created an intuitive user interface that connects with the automation software using HTML, CSS, jQuery, and Python
- Practiced technical writing skills by writing progress reports and maintaining comprehensive software documentation

## PROJECTS

### Quiz Game Web Application | TypeScript, React, Next.js, Node.js, Express, Git

Apr. 2023 – June 2023

- Collaborated in a team of six to build Kakaw!, a web platform that facilitates live quiz sessions as a learning and review aid
- Developed playful and engaging user interfaces compatible with both desktop and mobile screens, designed with Figma and implemented with React, Tailwind CSS, and Next.js
- Enforced Agile/SCRUM practices to ensure effective collaboration, including regular standup meetings and peer reviews
- Actively hosted at <https://kakaw.190n.dev>

### Game Integration Discord Bot | JavaScript, Node.js, Discord.js, Chart.js, PostgreSQL, Git

Mar. 2022 – July 2022

- Engineered a bot on the popular social platform Discord that parses various player data from a web browser game to produce responses to user commands via the Discord API
- Devised 20+ unique commands to enhance player experiences, including options to store and analyze player statistics
- Added support for visualizing temporal player data through dynamically generated graphs using the Chart.js library
- Actively hosted and maintained in multiple servers, with 180+ player accounts opted into weekly tracking of statistics

### Multithreaded HTTP Server | C, Git

Jan. 2023 – Mar. 2023

- Completed an implementation of an HTTP 1.1 server that robustly processes GET and PUT client requests in C
- Achieved multithreading support in order to serve multiple clients concurrently, thereby increasing server throughput
- Employed design principles like modularity and abstraction to produce an organized and effective server implementation

## TECHNICAL SKILLS

**Languages:** JavaScript (ES6), TypeScript, Python, C, C++, Java, Perl, HTML, CSS, SQL, MATLAB, Fortran

**Frameworks/Libraries:** React, Next.js, Angular, Puppeteer, Bootstrap, NumPy

**Developer Tools:** Node.js, PostgreSQL, MongoDB, Jupyter, Unix, Visual Studio Code, Git, Github, Heroku, Figma