

JASMINE TAI

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EDUCATION

Georgia Institute of Technology

M.S. in Computer Science

Remote

Jan. 2025 - May 2027

University of California, Santa Cruz

B.S. in Computer Science and Applied Mathematics | GPA: 3.99

Santa Cruz, CA

Sept. 2021 - Dec. 2024

Relevant courses: Introduction to Software Development, Operating Systems, Distributed Systems, Artificial Intelligence

WORK EXPERIENCE

Computational Ecology Lab

Undergraduate Research Assistant

Santa Cruz, CA

Dec. 2021 - present

- Contributing to the development of a novel connectivity computation model for bird species using PyTorch and GPU processing, which runs >1,000x faster than existing models, runnable on Google Colab and local environments
- Produced the ecoscape-layers Python package for automating Area of Habitat generation for 1,000+ bird species with GDAL
- Produced the scgt Python package for efficient processing of geospatial data with GDAL, Rasterio, and NumPy

Tech4Good Lab

Lead Web Developer

Santa Cruz, CA

Sept. 2023 - present

- Leading a developer student team of 10+ in collaboratively building software applications used for research initiatives
- Guiding team members in the acquisition of web development skills with a technology stack that includes TypeScript, Angular, RxJS, NgRx, and Firebase by providing regular mentorship and code reviews
- Managing part of the 100+ member lab by evaluating lab applicants and refining long-term project goals

NASA Jet Propulsion Laboratory

Software Engineering Intern

La Cañada Flintridge, CA

June 2024 - Aug. 2024

- Automated the generation of test procedure scripts for Deep Space Network (DSN) emulator machines from human-readable documents in Tcl, reducing time needed to conduct regression tests by >10x
- Rewrote existing software for automatic test execution on one DSN emulator for general use on all DSN emulators, increasing applicability of software to current and future spacecraft missions
- Engineered system design and infrastructure for test automation via a web interface using HTML, Bootstrap, jQuery, and Perl

Software Engineering Intern

June 2023 - Aug. 2023

- Automated processing of and data validation for mission configuration files in Perl, which are used to support 40+ active spacecraft missions relying on telemetry subsystems within the DSN
- Created an intuitive web interface and file browser for the automation software using HTML, Bootstrap, jQuery, and Python

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

Multi-Threaded HTTP Server | C, Git

Jan. 2023 - Mar. 2023

- Developed an HTTP 1.1 server that processes GET and PUT client requests in C, complete with audit log
- Utilized a thread pool design involving the use of worker threads to serve multiple clients concurrently and efficiently while ensuring the atomic and consistent linearization of requests

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

Mar. 2022 - July 2022

- Deployed an actively used bot on the popular social platform Discord that leverages the Discord.js library to process and generate responses for 25+ distinct user commands via the Discord API
- Integrated support for web scraping and storing data for statistical analyses using Axios, Cheerio, and a PostgreSQL database

TECHNICAL SKILLS

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

Frameworks/Libraries: Angular, React, Next.js, Flask, Puppeteer, Bootstrap, NumPy, Matplotlib, Seaborn, GDAL

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