Jasmine Tai

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Education

University of California, Santa Cruz — Santa Cruz, CA

B.S. in Computer Science and Applied Mathematics | GPA: 3.98 — *Sept. 2021 – Dec. 2024*

- **Relevant coursework:** Data Structures and Algorithms, Introduction to Analysis of Algorithms, Principles of Computer Systems, Introduction to Software Engineering, Artificial Intelligence, Computer Architecture, Probability and Statistics

Work Experience

Undergraduate Research Assistant — Dec. 2021 – present

University of California, Santa Cruz — *Santa Cruz, CA*

- Applying machine learning and parallel processing concepts to the modeling of large-scale bird species movements to identify key land patches for species conservation efforts
- Contributing to a computational model for efficient analysis of habitat connectivity for birds using Python and PyTorch
- Developing a module for efficiently reading and processing large amounts of geospatial data at fine resolutions
- Building a pipeline that utilizes data from the eBird and IUCN Red List APIs to automate production of model inputs

Software Engineering Intern — June 2023 – Aug. 2023

NASA Jet Propulsion Laboratory — *La Cañada Flintridge, CA*

- Improved on existing automation software that parses Word documents containing mission data to generate sets of configuration files, which are needed for the operation of the Deep Space Network
- Created a full web service that simplifies usage of the automation scripts by providing an intuitive user interface, using HTML, CSS/Bootstrap, and jQuery for the frontend and Python for the backend
- Extended functionality of scripts by accounting for new input cases and implementing extensive input validation in Perl
- Practiced technical writing skills by writing progress reports and maintaining comprehensive software documentation

Web Developer Intern — Sept. 2022 – June 2023

Tech4Good Lab — *Santa Cruz, CA*

- Worked with others in small teams to develop the frontend and backend of Annota, a web application for students and teachers that supports collaborative learning in qualitative analysis through online annotations
- Built highly responsive and user-friendly web components based on Figma prototypes with HTML, SCSS, and TypeScript
- Implemented loading of data from and related user interactions with a Firebase database with RxJS and NgRx

Projects

Quiz Game Web Application | *TypeScript, React, Next.js, Node.js, Express, Git* — Apr. 2023 – June 2023

- Collaborated in a team of six to create Kakaw!, a web platform that facilitates live quiz sessions as an engaging learning and review aid (https://kakaw.190n.dev/)
- Assisted in designs of playful user interfaces for various phases of the game flow in Figma
- Implemented complex frontend views compatible with desktop and mobile devices using React and Next.js
- Utilized agile/scrum practices to ensure effective collaboration, including regular standup meetings and peer reviews

Game Integration Discord Bot | *JavaScript, Node.js, Discord.js, Chart.js, PostgreSQL, Git* — Mar. 2022 – July 2022

- Deployed a bot on the popular social platform Discord that scrapes various player data from a web browser game and responds to users via the Discord API
- Created 20+ unique commands in JavaScript that players can use to simplify and enhance their experiences
- Configured bot to optionally store player account statistics over time for later viewing using a PostgreSQL database
- Introduced capability of creating sleek graph visualizations of temporal player data with the Chart.js library
- Actively hosted and used in multiple servers, with 170+ player accounts currently opted into the statistics-tracking service

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 a robust server implementation

Technical Skills

Languages: JavaScript (ES6), TypeScript, Python, C, C++, Java, Perl, HTML, CSS, SQL, MATLAB
Frameworks/Libaries: React, Next.js, Angular, Puppeteer, Bootstrap, NumPy
Developer Tools: Node.js, PostgreSQL, MongoDB, Jupyter, Unix, Visual Studio Code, Git, Github, Heroku, Figma