Jasmine Tai

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Education

University of California, Santa Cruz — Santa Cruz, CA

B.S. in Computer Science, B.S. in 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

Software Engineering Intern — June 2023 – present

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

- Improving on existing automation software written in Perl that parses Word documents containing mission data to generate mission-specific sets of configuration files, which are needed for the operation of the Deep Space Network
- Creating a webservice that simplifies usage of the automation software by providing an intuitive and convenient interface for inputting mission data and generating output files
- Expanding the capabilities of the automation software to account for a greater variety of mission inputs
- Ensuring valid user inputs with extensive input format checks and the compilation of informative errors for invalid inputs

Undergraduate Research Assistant — Dec. 2021 – present

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

- Applying machine learning and parallel processing concepts to the study of bird species connectivity to supplement conservation and preservation efforts for a multitude of bird species
- Processing large amounts of geospatial data at fine resolutions with Python and Rasterio to model bird repopulation
- Constructing a pipeline that utilizes the eBird and IUCN Red List APIs to automate production of necessary model inputs

Web Developer Intern — Sept. 2022 – June 2023

Tech4Good Lab — *Santa Cruz, CA*

- Collaborated with others in teams to develop the frontend and backend of Annota, a web application that supports collaborative learning in qualitative analysis
- Built responsive and user-friendly web components from existing Figma prototypes with HTML, SCSS, and TypeScript
- Implemented loading of data and user interactions with data from a Firebase database with RxJS and NgRx

Projects

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

- Worked in a team of 6 developers to create Kakaw!, a web application for creating quizzes, hosting live quiz sessions, and playing in existing quiz sessions as an engaging learning/review activity
- Assisted in design of playful user interfaces for various phases of the game flow for both game hosts and players in Figma
- Implemented responsive frontend views with React and Next.js, letting players join on both computer and mobile devices
- Added a quiz editor that allows users to build quizzes from scratch for downloading or immediate use in a quiz session
- Utilized scrum practices to ensure effective collaboration, including regular standup meetings and required 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 producing sleek graph visualizations of temporal player data with the Chart.js library
- Currently hosted and used in multiple servers, with 100+ player accounts 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
- Practiced design principles like modularity and abstraction to create a successful 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