

James Huang

Software Engineer

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Experience

Software Engineer – **OSLabs** May 2023 – Present

- Created and co-founded **NextSketch** (Open Source) – Next.js prototyping tool
- Leveraged **React** to build a custom front-end components including, a file system, drag-and-drop elements (**dnd-kit**), a collapsible tree visualizer (**D3.js**) and a code preview window (**Prism.js**), allowing the development of a feature-rich tool
- Constructed an **Express** server for a high-performance **RESTful** application architecture to facilitate directory and file creation using **Node.js** file system module and to export prototyped Next.js project, enabling simple project sharing and distribution
- Launched the application with **Node.js** runtime in **Electron** to leverage Chrome's V8 Engine for seamless Next.js file, component, and page endpoint creation across Windows, macOS, and Linux environments
- Built with **Vite** to enable efficient dependency handling and hot module reloading for faster build and server cold start speeds
- Expanded **TypeScript** coverage by 85% to prevent runtime errors, strengthen compile-time type safety, simplify debugging, improve code quality and readability, and streamline the development process
- Designed with **MaterialUI**'s extensive suite of customizable pre-built components and theming capabilities to optimize the styling process, resulting in faster development cycles and consistent design patterns throughout the application
- Added testing with **Jest** and **React Testing Library** for mocking folder and file creations and validating the precision of drag-and-drop behaviors, providing detailed feedback to improve user experience and retention

Volunteer Software Engineer – **Dev-Overflow** Jan 2024 – Present

- Developed **Python** scripts leveraging **Playwright**'s automation suite to scrape 25+ banking websites for newly published bank circulars, hashing circulars for storage in **DynamoDB** and triggering email notifications for subscribers using **Postmark**
- Automated scraping select banking websites for newly published bank circulars utilizing Python scripts and **AWS Lambda** handler functions, ensuring client notifications within 12 hours of a new circular being published
- Wrote unit testing for individual scrapers and custom utilities using **Python's native unittest framework**, raising value and type exceptions to application layer handler functions to allow for rapid identification of failed scraping attempts

Open Source Contributions & Projects

Alley – Tennis Court Locator

- Integrated **Redux Toolkit** to design a compartmentalized store architecture for managing search filters, cached court data and user preferences, ensuring consistent data access across different containers
- Implemented **React Router** to enable URL-based routing for intuitive navigation of court locations without page reloads

Clearview – Chest Cancer Diagnosis Tool

- Developed a deep learning model in **Python**, leveraging Convolutional Neural Networks and image recognition, to achieve a 90% accuracy rate in detecting and classifying chest cancer types
- Utilized geometric and photometric data augmentation techniques to enhance data quality and model performance, reducing overfitting and bias

Skills

Programming Languages

JavaScript (ES6), TypeScript, HTML5, CSS, Sass, Python, SQL

Libraries & Frameworks

React, Next.js, Node.js, Express, Tailwind, Redux, Jest, Playwright, TensorFlow, Keras

Tools & Platforms

Git, GitHub, Postman, MongoDB, PostgreSQL, webpack, AWS, Docker, Babel, Vercel

Education

Stony Brook University

Bachelor of Arts in Biology & Minor in Health, Medicine, and Society

Speaking Events

Web Security Mechanisms

Bractlet Software Engineering Speaker Series

Publications

Supercharge Prototyping with NextSketch

Interest

Dragon boat racing, lion dancing, cooking, snowboarding, pickleball, running, handball, rock climbing, Teamfight Tactics