

Ethan Liu

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EDUCATION

California State University Long Beach

Long Beach, CA

Bachelor of Science in Computer Science

Aug. 2021 – May 2025

- Courses: Object Oriented Application Development, Data Structures, and Algorithms

EXPERIENCE

Application Developer Intern

June 2023 – Present

Siemens Digital Industries Software

Costa Mesa, CA

- Converted OpenRoad and Perl user scripts from Ingress to PostgreSQL syntax for the PostgreSQL migration.
- Developed and integrated a Java SpringBoot REST API to enhance website functionality and user experience.
- Collaborated in the development and refinement of the website using Vue.js and Bootstrap, significantly improving usability and user interface design.
- Revamped critical Perl and Python scripts, enhancing connections to the Ingress database and AWS, resulting in a noticeable 10% speed optimization
- Contributed to the integration of GPT technology for a user-assistance bot, enhancing website interactivity and providing comprehensive user documentation for improved user experience.

PROJECTS

Twitter Price Bot | *Python, Tweepy, Heroku*

- Developed a Twitter bot that automatically tweets real-time stock price updates and percentage changes from a personalized watchlist
- Ensured 24/7 bot functionality by deploying it on Heroku, leveraging its cloud platform capabilities.
- Integrated TD Ameritrade API and Yahoo Finance API with the Tweepy library for efficient data acquisition and bot execution.

Listen2Gether | *Git, React, Django, SQL, Spotify API*

- Engineered a robust full-stack web application leveraging React for front-end and Django for back-end.
- Integrated Spotify API to enable synchronized music listening experiences for users.
- Designed and managed a SQL database to efficiently track user interactions, including feedback and music play/pause actions.
- Successfully deployed and maintained the web application, attracting an average of 300 unique daily visitors.

Image Scraper | *Python, Docker, Selenium*

- Engineered a Python script for efficient extraction of .jpeg files from network communications associated with the website, streamlining data retrieval and analysis processes.
- Implemented authentication for Pixiv to access and scrape user-saved posts.
- Configured Docker Compose for seamless deployment and execution on headless systems.
- Incorporated multi-threading and asynchronous tasks, significantly boosting the scraping process's speed and efficiency.

OptionsTracker Website | *Sveltekit, NodeJS, Tailwind, Zod, SQLite*

- Leveraged REST API to fetch real-time stock market data, integrating it seamlessly into the application.
- Utilized SvelteKit for dynamic front-end development, incorporating server-side rendering and Tailwind CSS for an enhanced user interface.
- Developed a robust NodeJS backend to manage account creation and handle complex queries to the SQLite database.
- Implemented Zod for robust data validation and schema definition, ensuring data integrity and security.
- Optimized data storage and retrieval using SQLite, achieving efficient database management and query execution.

TECHNICAL SKILLS

Languages: Java, Python, SQL (Postgres), JavaScript, HTML/CSS, C++, TypeScript

Frameworks: React, SvelteKit, Django, VueJS, Node.js, Express.js, Bootstrap, Tailwind CSS

Developer Tools: Git, Docker, Firebase, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse, JIRA, Jenkins, AWS, Heroku