Xinrong Han

hanxinro@usc.edu | xinronghan.github.io | LinkedIn | (213) 551-3083 |Los Angeles, CA 90012

SUMMARY

Seeking an entry-level, full-time software engineer position starting from **May 2024**.
Computer Science graduate skilled in developing user-centered, data-rich web applications using **React, Typescript, Golang, Java backend**, and **Python**. Proficient in deploying applications with **Docker**. Possess a robust understanding of **distributed systems** and a technical proficiency that combines with **Agile** methodologies for efficient, goal-oriented project execution.

EDUCATION

University of Southern California (USC) — Los Angeles, USA
Master of Science in Computer Science | **GPA: 3.8 / 4.0** — Jan. 2022 - May 2024 (exp.)

University of Nottingham, Ningbo, China — Ningbo, China
Bachelor of Engineering (Honors) Product Design and Manufacture — Sept. 2017 - July 2021
First Class Honours | Awarded Provost's Scholarship (top 1.5%) and Provincial Scholarship | **GPA: 3.95 / 4.0**

EXPERIENCE

Splunk Inc. — Seattle, USA
Software Engineer Intern | *Related skills: React, Typescript, Go, PostgreSQL, Docker, CI/CD, DevOps* — May 2023 - Aug. 2023

- Developed 'splcorehub', a web app providing real-time build status visualization. Enhanced data filtering and pagination and revamped the backend **RESTful APIs** using Golang OpenAPI, resulting in a 30% uplift in information tracing efficiency.
- Optimized data integrity using **PostgreSQL** and **GORM** enhancing ORM capabilities for robust **data mapping** and efficient handling of GitLab webhook payloads.
- Championed frontend design with **React**, utilizing **hooks** for state management and the **Context API** for streamlined data flow, coupled with **Kubernetes**-driven hosting scalability, achieving a 23% faster release cycle.
- Integrated automated package signing in GitLab **CI/CD** pipelines to enhance security and confirm release authenticity.

HaRVI lab: Haptics Robotics and Virtual Interaction — Los Angeles, USA
Software Development Research Assistant | *Related tools: React, Typescript, Electron JS* — Sept. 2022 - May 2023

- Collaborated with the UX team to develop the Electron JS-based signal editor app's UI using **HTML, CSS, and JavaScript**.
- Realized resizable and draggable signal blocks using **React** and **Typescript**, used React Hooks for block state updates, converted and stored the state as JSON object data.
- Integrated a **Node.js** backend with **Express** for handling API requests, enabling data manipulation and storage operations, which facilitated real-time signal editing and improved app responsiveness.
- Developed and maintained a **JSON schema** for UI configuration, translating design specifications into reusable front-end components and establishing a **structured data exchange** format between the front-end and backend systems.
- Optimized the interface and leveraged Agile Scrum methodologies and **Git** for version control, collaboratively enhancing user experience and reducing development time by 53%.

PROJECTS

EDFS Web APP (Distributed System) — Sept. 2022 - Dec.2022

- Pioneered a **React**-based web app, employing data visualization for analyzing intricate data relations in a distributed system.
- Executed data crawling from Yelp API, streamlined **ETL** (Extract, Transform, Load) processes to cleanse and integrate data into a hybrid **Firebase-SQL** storage system.
- Constructed a **Python**-based file system API for efficient distributed data interaction, utilizing **Flask** for enhanced backend capabilities.
- Created an Emulated Distributed File System (EDFS), enhancing scalability and performance of data tasks across multiple nodes.
- Showcased the system's applicability via a partition-based **MapReduce** framework on EDFS.

Campgrounds Management Platform Web APP (Full stack development) — Summer 2022

- Implemented **JWT**-based user authentication for tailored access to location editing and image file management.
- Used **Bootstrap** and EJS for a responsive front-end, with **Node.js** and **MongoDB** powering the backend/database.
- Integrated Mapbox API for dynamic cluster mapping and precise location pinpointing.
- Hosted on **Heroku** with **CI/CD** integration, ensuring scalable and seamless user access.

Operating System Kernel Implementation — Spring 2023

- Collaboratively developed Weenix OS kernel using C, running extensive tests on QEMU and employing **GDB** for debugging.
- Implemented key operating system components including processes and thread management.
- Developed mutex, signal,and interrupt handlers to improve system responsiveness.
- Created a virtual memory management system with page table and page fault handling.

SKILLS

- **Programming**: Java, Python, Golang, C/C++, SQL, Matlab, HTML/CSS (With Bootstrap)
- **Web**: JavaScript, TypeScript, React, Node.js, AngularJS, Hadoop HDFS, Spark
- **Tools & Platforms**: Git, Docker, AWS, GCP, MySQL, NoSQL (MongoDB, DynamoDB, Firebase), VScode