

Jiayu Pu

Los Angeles, CA

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EDUCATION

University of Southern California

Jan 2022 - May 2024

Master of Science in Computer Science, GPA: 3.4 / 4.0

Los Angeles, CA

Relevant Courses: Data Structure, Algorithm, Object-oriented Design, Database System, Web/Mobile Development, Machine Learning, Operating System, Game Design, Computer Network

The Ohio State University

Aug 2017 - May 2021

Bachelor of Science in Electrical and Computer Engineering, GPA: 3.6 / 4.0

Columbus, OH

TECHNICAL SKILLS

Programming Languages: Java, Python, C/C++, Golang, Ruby, JavaScript, MATLAB, SQL, C#, R

Web/Mobile Development: Java Servlet, Spring, Hibernate, Ruby on Rails, Ant Design, Elasticsearch, React.js, Vue.js, Retrofit

Tools: Git, Datadog, Linux, AWS, GCP, MySQL, PostgreSQL, Docker, Maven, Tomcat, Postman, Android Studio, Unity

WORK EXPERIENCE

COINBASE, INC.

May 2023 - Present

Software Engineer Intern

Los Angeles, CA

- Developed an SQL script runner as a gRPC endpoint using **Ruby and Golang**, enhancing script execution efficiency
- Implemented a robust permissions and approvals system and token-based authentication for the SQL script runner, reducing unauthorized script execution incidents by 22%, as observed through internal security logs
- Integrated advanced features like syntax checks, dry-run, and rollback options into the SQL script runner, decreasing rollback events by 40%, and significantly improving the reliability of script execution, as measured through system logs and Datadog reports

PLANET CENTS, INC.

Sep 2021 - Dec 2021

Tech Team Lead | Software Engineer Intern

Clearlake, CA

- Led an Agile team of 5 to develop and maintain the e-commerce website with **Shopify**, set and tracked agendas of all activities
- Created a functional product search page for the website by using **Vue.js** with Shopify's predictive search APIs, improving users' search experience and increasing target audience engagement by 13% measured by Shopify analytics
- Translated 10+ UI/UX designs to Shopify theme implementations, resulting in customized elements layout of the website

PROJECTS

Operating System Kernel Development | C, QEMU, GDB

Jan 2023 - May 2023

- Developed a high-performance kernel for the Weenix Operating System using **C**, **QEMU** for testing, and **GDB** for debugging
- Designed and implemented critical features, including process and thread management, CPU scheduling algorithms, mutexes, signal and interruption handlers, path name resolution, virtual file systems, and system calls (e.g., open, read, write, close)
- Optimized virtual memory management by implementing a page table, page fault handling routine, and system calls (e.g., fork, mmap), resulting in a significant improvement in system performance

Doordash Online Ordering System | Spring, Hibernate

Feb 2023 - Apr 2023

- Built **RESTful APIs** via **Spring MVC**, including registration, menu searching and ordering, checkout etc., increasing the modularity of the web application, and promoting the separation of concerns
- Utilized **Hibernate** to access and operate the data storage (menu, restaurants etc.), effectively addressing data mismatch issues between the object-oriented classes of the application and the relational database, thus increasing data integrity and consistency
- Implemented authentication and authorization via **Spring Security with JWT**, protecting the application from malicious attacks
- Constructed the client side with **React.js** and **Ant Design**, allowing users to add items to the shopping cart and place orders, improving user experience and potentially increasing conversion rates

Guinguin Stay Booking | React, Spring Boot

Jan 2023 - Feb 2023

- Delivered a dynamic single-page stay rental web application using **React**, utilized **Ant Design** for rapid component development, streamlining development process and reducing the time-to-market
- Implemented robust and efficient backend services using **Spring Boot**, empowering seamless stay upload, delete, search, and reserve functionality, resulting in improved user experience and enhanced system performance
- Established Geo Indexing with **Elasticsearch**, enabling geo-based stay searches and enhancing user experience by providing personalized results, increasing user engagement and potentially contributing to higher retention rates
- Instituted server-side user authentication using token-based **Spring Security** framework, fortifying platform security and reducing unauthorized access, enhancing overall user confidence and satisfaction

Guinguin News - Tinder-like News App | Android

Aug 2022 - Sep 2022

- Designed a Tinder-like news app based on Google Component Architectural **MVVM** pattern, realizing the decoupling of the code
- Implemented the bottom bar & page navigation using **Jetpack's Navigation** component, enabling and handling deep linking
- Utilized the 3rd party **CardStackView (RecyclerView)** to support swipe gestures for liking/disliking the news, integrating animations for adding, updating and removing items, reducing user waiting time and offering smoother interactions
- Built the **ROOM** Database with LiveData & ViewModel to support local cache and offline mode, streamlining database migration paths and thus ensuring a reliable and seamless user experience, even in conditions of poor or absent internet connectivity