Jiayu Liu

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EDUCATION

New York University
Master of Science in Computer Engineering, GPA 3.7/4.0
Sept. 2022-May 2024
New York City, NY

- **Courses**: Internet Architecture and Protocol, Data Structure and Algorithms, Computer Systems Architecture, Machine Learning, Real Time Embedded Systems, Principle of database systems

Boise State University
Bachelor of Science in Computer Science, GPA 3.7/4.0
Aug. 2018-May 2022
Boise, ID

- **Courses**: Data Structures, Design and Analysis of Algorithms, Agile Development, Operating Systems, Linear Algebra

WORK EXPERIENCE

Ra Labs
Software Engineer Intern
May 2023-Aug. 2023
New York City, NY

- Executed end-to-end development and deployment of ~5 **Solidity** smart contracts with **TypeScript** for user-listing, transactions, and Ethereum payments in a data trading Sass product.
- Designed and built **Nest.js RESTful API** with TypeORM for CRUD operations on off-chain user information stored persistently in a PostgreSQL Docker image.
- Conducted unit tests for smart contracts and the Nest.js backend services with **Jest**, achieving 90% and 87% coverage respectively.
- Integrated **Swagger** documentation accessed over 100+ times in the team for in-browser API testing.
- Implemented React front-end with Redux for state management across 20+ components, improving the overall usability of the UI.
- Deployed the full stack MVP through Render with 99% uptime over a month, with hosted Redis and PostgreSQL instances.

PROJECTS

Multi-user One Room Chat App
GitHub link: https://github.com/jLiucoder/oneRoomChat-remake

- Implemented a multi-user single room real-time chat app using **React** with **Redux**, Tailwind CSS and **WebSocket**.
- Utilized **Spring Boot** with **Spring Data JPA** to ensure efficient server-side operations.
- Implemented **JWT** for secure user authorization.
- Integrated **Redis** as a caching layer to cache messages and used ZSet data structure to count top active users.
- Incorporated **Apache Kafka** as the message queue for asynchronous data processing, to ensure scalability and reliability of the application.
- Integrated **AWS S3** bucket storage to store user profile pictures.

Amusement Park Web App
GitHub link: https://github.com/jLiucoder/amusementpark

- Designed a 10-entity database schema using **Oracle Database Modeler** for an amusement park e-commerce website.
- Built **Django** app with Django's ORM enabling essential functionalities such as CRUD operations, user, and shopping cart management.

New Hire Onboarding Application
Capstone Project with Micron Technology

- Created a new hires' training platform with **Angular** for the frontend, **C#** for the backend and **MongoDB** for the database.
- Employed **Selenium WebDriver** for front end automated testing and **Postman** to test the endpoints.

TECHNICAL SKILLS

- **Languages**: Java, JavaScript/Typescript, Python, SQL
- **Frameworks**: Spring Boot, Nest.js, Django
- **Tools**: Docker, Git, Heroku, Postman, Maven, Jira
- **Miscellaneous**: IntelliJ, VS Code, Rest API, Oracle Data Modeler