

Jiayu Liu

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EDUCATION

New York University

Master of Science in Computer Engineering, GPA 3.6/4.0

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

- Created and deployed ~5 smart contracts using **Solidity/TypeScript** enabling key feature including user-listing, transactions and real-time Ethereum payments.
- 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 of smart contracts and the Nest.js backend services with **Jest**, achieving 90% and 87% coverage respectively. Integrated **Swagger** docs 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.
- Deployed the full stack QA app through Render with 99% uptime over a month, with hosted Redis and PostgreSQL instances.

Boise State University

Undergraduate Research Assistant

Jan. 2021-Jan. 2022

Boise, ID

- Classified over 500 nanostructure images taken from atomic force microscopy.

PROJECTS

Multi-user One Room Chat App

Personal Project

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

Amusement Park Web App

Principles of Database Systems in-class Final project

- 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** to test the frontend 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