

# 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

## TECHNICAL SKILLS

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

## 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.
- Built a **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

Cybersecurity Analyst Intern

Oct. 2021-May 2022

Boise, ID

- Monitored client networks and computer systems to prevent, detect, and investigate security breaches using Stellar Cyber.

## PROJECTS

### Real-time One Room Chat App

Personal Project

Dec. 2023

New York City, NY

- Implemented one 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, and **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

Jan. 2023-May 2023

New York City, NY

- Designed a 20-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.
- Implemented authentication and authorization mechanisms leveraging Django's security features.

### New Hire Onboarding Application

Capstone Project with Micron Technology

Jan. 2022-May 2022

Boise, ID

- Created a new hires' training platform with **Angular** for the frontend, **C#** for the backend and **MongoDB** for the database.
- Utilized a test-driven development process, employed **Selenium WebDriver** to test the frontend and Postman to test the endpoints.