Jiayu Liu

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EDUCATION

New York University   *Sept. 2022-May 2024*
Master of Science in Computer Engineering, GPA 3.6/4.0   *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   *Aug. 2018-May 2022*
Bachelor of Science in Computer Science, GPA 3.7/4.0   *Boise, ID*

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

TECHNICAL SKILLS

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

WORK EXPERIENCE

Ra Labs   *May 2023-Aug. 2023*
Software Engineer Intern   *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% percent 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.

PROJECTS

Amusement Park Web App   *Jan. 2023-May 2023*
Principles of Database Systems in-class Final project   *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.

Employee Management System API   *Aug. 2022-Sept. 2022*
Personal Project   *New York City, NY*

- Utilized **Spring Boot** with **Mybatis** for MySQL database interactions.
- Implemented **JWT** Authorization for access control.
- Added file upload functionality to **AWS S3**.
- Incorporated pagination, transaction control and AOP concepts for logging operation execution time.

New Hire Onboarding Application   *Jan. 2022-May 2022*
Capstone Project with Micron Technology   *Boise, ID*

- Created a new hires' training platform with **Angular** for the frontend, **C#** for the backend and **MongoDB** for the database.
- Implemented CRUD functionalities for training modules and established role-based access control.
- Utilized a test-driven development process, employed **Selenium WebDriver** to test the frontend and Postman to test the endpoints, with ~85% test coverage.

Bioinformatics BTree Project   *May 2021*
Data Structures Project   *Boise, ID*

- Developed functionalities to parse GenBank files, extract DNA sequences, and construct BTrees for different sequence lengths, enabling functionalities like query searches.