

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, JavaScript/Typescript, Python, SQL
- **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 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

Principles of Database Systems in-class Final project

Jan. 2023-May 2023

New York City, NY

- Lead a three-person team to design 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

- Utilized Angular with bootstrap for the frontend, ASP.NET for the backend, and MongoDB for the database to create a comprehensive, user-friendly new hires' training platform.
- Implemented CRUD functionalities for various training modules and established role-based access control.
- Utilized a test-driven development process with Unit and Integration testing and employed Selenium WebDriver to test the frontend and Postman to test endpoints, with ~85% test coverage.

Bioinformatics BTree Project

Data Structures in-class Final project

May 2021

Boise, ID

- Designed core BTree classes including BTree, BTreeNode, TreeObject in Java.
- Parsed DNA Strings in GenBank files to 2-bit binary numbers for saving memory.
- Implemented functionalities to parse GenBank files, extract DNA sequences, and construct BTrees for different sequence lengths, enabling functionalities like query searches.