Jiayu Liu

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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
- **Scholarships and awards**: Yearly Merit Scholarship for two consecutive years starting from Fall 2022

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
- **Scholarships and awards**: Dean's List with Honors: Spring 2020, Fall 2020, Spring 2021, Fall 2021
  Yearly GEM Scholarship for four consecutive years starting from Fall 2018

TECHNICAL SKILLS

- **Languages:** Java, JavaScript/Typescript, Python, C, SQL
- **Frameworks**: Nest.js, Django
- **Tools**: Docker, Git, Heroku, Postman
- **Miscellaneous**: IntelliJ, VS Code, Rest API, Linux

WORK EXPERIENCE

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

- Designed and implemented smart contracts and its associated connectivity for a data marketplace platform using Solidity and TypeScript.
- Conducted unit tests of smart contracts using ether.js and the Hardhat testing framework; conducted integration tests and E2E tests for the Nest.js backend and React.js frontend services.
- Leveraged TypeORM and Nest.js to incorporate CRUD operations for non-on-chain data, such as user profiles, and persistently stored them within a PostgreSQL Docker image, added Swagger for easy in-browser endpoint testing.
- Implemented some user interfaces components using React with Redux for state management, improving the overall usability of the platform.

PROJECT/RESEARCH

Amusement Park Web App *Jan. 2023-May 2023*
Principles of Database Systems in-class Final project *New York City, NY*

- Collaborated with a team of three to analyze product requirements and design a scalable database system using Oracle Database Modeler.
- Implemented the designed database system into a web application using Django, enabling essential functionalities such as CRUD operations, user sign-in/sign-up, and shopping cart management.
- Utilized Django's ORM to ensure efficient data management and retrieval, optimizing the performance of the web application.
- Implemented secure authentication and authorization mechanisms for user management, leveraging Django's built-in authentication system.

New Hire Onboarding Application *Jan. 2022-May 2022*
Sponsored Capstone Project with Micron Technology *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 for different users, ensuring that users had access only to the modules assigned to them.
- Utilized a test-driven development process with Unit and Integration testing and employed Selenium WebDriver to test the frontend and Postman to test endpoints.
- Demonstrated experience with Agile Development and managed the team's GitHub repository, including creating and assigning tasks, reviewing pull requests, squashing commits, and resolving merge conflicts.

Joint Research Project between Boise State University & University of Wisconsin-Madison *Jan.2021-Jan.2022*
Undergraduate Research Technician of Informatics Skunkworks *Boise, ID*

- Improved image classification accuracy from 90% to 97% and reduced classification time by 20%.
- Classified over 500 nanostructure images taken from atomic force microscopy.
- Using built-in MATLAB functionalities to replicate the experiment in papers in microscopic image detection.
- Attended the progress workshop and presented semester-long progress slides to BSU and UW-Madison researching teams.