

Yujian (Richie) Zhou

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EDUCATION

University of Wisconsin - Madison

Bachelor of Science in Computer Science + Data Science (GPA: 3.8/4.0)

Madison, WI

Sep. 2020 – Dec. 2023

Relevant Coursework: Data Structure and Algorithms, Machine Organization, Artificial Intelligence, Computer Graphics, Operating Systems, Database, Data Analytic, Software Engineering, Virtual Reality, User Interfaces, Big Data, and Mobile Systems and App.

EXPERIENCE

Software Engineer Intern, Northern Trust

Chicago, IL

June 2023 – August 2023

- Developed and optimized algorithms in **Java and C++** to enhance the computational efficiency of NT's Goals Driven Wealth Management platform, leading to an 8% increase in transaction processing speed.
- Implemented and fine-tuned **RESTful APIs using Spring Boot** for efficient data communication within investment reporting trade model microservices, achieving a 15% enhancement in data processing efficiency.
- Streamlined cloud service deployment with **C++** to automate resource allocation, resulting in a more efficient update cycle and a 12% reduction in deployment time.
- Architected and executed complex **SQL queries and data models in Snowflake**, leveraging advanced data analysis and processing skills to accelerate data extraction for investment reporting by 30%, supporting swift data-driven decisions.

Software Developer Intern, Rockitcoin

Chicago, IL

August 2022 – March 2023

- Revamped Rockitcoin's user authorization interface for mobile and web platforms using **TypeScript with React**, elevating security and usability, resulting in a 20% increase in user retention rate.
- Designed intuitive user interfaces for a user base of over 8,000 using **TypeScript with React**, focusing on user-friendly design and efficient real-time data interaction, leading to a 35% improvement in user satisfaction.
- Improved UI rendering speed by 10% through debouncing in **React**, effectively limiting API requests from text fields.
- Adopted **HashMap** data structures for efficient frontend user data management, achieving a 20% improvement in data retrieval speeds.

Full Stack Developer Intern, UNFCU

New York, NY

May 2022 – August 2022

- Enhanced the dynamic saving rate recommendation page using **JavaScript, HTML, CSS, and PHP**, boosting savings account enrollment by 3%.
- Utilized the **Next.js** framework to architect and deploy intuitive entry pages, streamline navigation, and cohesively convey company culture, culminating in a measurable 30% uplift in customer satisfaction rate.
- Implemented **Python** scripts to automate loan document data extraction, enabling efficient keyword retrieval and streamlining team operations, leading to a 30% faster deployment cycle.
- Maintained **SQL** databases with over 150,000+ entries, creating an infrastructure for real-time reporting of key metrics like customer satisfaction, annual revenues, and sales retention rates, providing valuable insights to stakeholders.

PROJECTS

ACM Algorithm

Fall 2023

- Crafted a **React**-driven interface featuring secure JWT and OAuth user authentication, customizable settings for personalized user experiences, and intuitive features like drag-and-drop code snippets and live syntax checking
- Developed a robust back-end in **Python and Django**, incorporating Django REST Framework for efficient API management and advanced data encryption for enhanced security. Implemented features for real-time user progress tracking and automated code evaluation, ensuring a scalable and responsive platform.
- Developed a real-time algorithm visualization tool using **D3.js and WebSocket in JavaScript**, enabling users to visually track and understand data structures and algorithm flows, significantly improving the coding learning process.

Weather Stream Analytic

Nov. 2023

- Developed a **Kafka-based** system for real-time weather data collection, ensuring data integrity through exactly-once message processing and optimizing for high-throughput and scalable analytics.
- Utilized **Spark Streaming** for efficient data processing from Kafka streams, generating key weather statistics and datasets for predictive modeling.
- Developed and trained a **Decision Tree Classifier using Spark**, focusing on rain prediction. This included managing the end-to-end data pipeline, from feature engineering to model deployment for real-time forecasting.

Five Course Bird Feeder

Spring 2023

- Developed a responsive front-end Interface using **TypeScript with React**, fascinating user interactions through live and recorded video streaming of the user's bird feeder.
- Implemented a versatile backend **Spring Boot API** supporting dynamic bird feeding schedules, user profile management, and real-time streaming of bird feeder cameras, enhancing user engagement and interactive experience.
- Integrated ML and image labeling techniques using **Python (Tensorflow)** to analyze bird visitation patterns, generating insightful statistics on bird species, frequency of visits, and visitation times displayed through interactive graphs and tables.

TECHNICAL SKILLS

Programming Languages: Java, C/C++, Python, R, SQL, JavaScript, TypeScript

Frameworks and Libraries: React, Vue, Spring Boot

Tools and Technologies: HTML, CSS, Cassandra, Kafka, Spark, Snowflake, Firebase, Redis, NodeJS, Docker, Kotlin