

# Yujian (Richie) Zhou

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## EDUCATION

### University of Wisconsin - Madison

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

Madison, WI

Sep. 2020 – Dec. 2023

**Relevant Coursework:** Data Structure and Algorithms, Machine Organization, Discrete Math, Artificial Intelligence, Computer Graphics, Operating Systems, Database Management Systems, Data Science Programming, Data Modeling, 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 system responsiveness.
- Conducted quantitative analysis and applied statistical techniques in **C++** to optimize cloud-based services, resulting in improved system reliability and a 12% increase in uptime.
- 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

### 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.

### Online Shop

Summer 2022

- Developed an intuitive online shopping platform using **Spring Boot**, enhancing the shopping experience for users.
- Utilized the **Redis** in-memory data structure to facilitate real-time product search and optimize shopping cart functionality.
- Modified the **JavaScript API** to streamline communication between buyers and sellers, improving transaction processing.

## 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