Yujian (Richie) Zhou

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EDUCATION

University of Wisconsin - Madison *Madison, WI*
Bachelor of Science in Computer Science + Data Science *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 – Aug. 2023
- Enhanced NT's Goals Driven Wealth Management platform by implementing algorithms for risk assessment and portfolio optimization in **Java & C++**, resulting in 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 using **C++**, creating dynamic resource allocation scripts, reducing deployment time by 12%, and improving system scalability.
- Architected and executed complex **SQL** queries and data models in **Snowflake**, accelerating data extraction for investment reporting by 18%, supporting swift data-driven decisions.

Software Developer Intern, Rockitcoin *Chicago, IL*
Aug. 2022 – March 2023
- Revamped user authorization interface with **TypeScript and React**, improving security and usability, leading to an 11% increase in user satisfaction.
- Designed intuitive user interfaces for 8,000+ users with **TypeScript with React**, enhancing real-time data interaction and increasing user retention by 24%.
- 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, boosting data retrieval speeds by 15%.

Full Stack Developer Intern, UNFCU *New York, NY*
May 2022 – Aug. 2022
- Improved dynamic saving rate recommendation page with **JavaScript with React**, increasing savings account enrollment by 3%.
- Architected and deployed intuitive entry pages with **JavaScript with React**, streamlining navigation and conveying company culture, leading to a 13% increase in user satisfaction.
- Automated loan document data extraction with **Python** scripts, boosting operational efficiency and cutting document processing time by 80%.
- Maintained **SQL** databases with over 150,000+ entries, creating an infrastructure for real-time reporting of key metrics, 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