Ryan Yunchang Zhu

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Full-Stack Software Engineer · Blending creativity and innovation with results-driven engineering

Skills

Languages: JavaScript, TypeScript, Python, Java, C, C++, SQL, Bash, R, HTML/CSS, Racket, Clojure
Technologies: Linux, Node.js, React.js, Next.js, AWS, GCP, Flask, React Native, WordPress, Flutter, PostgreSQL, GraphQL
Subjects: Automation, LLMs, Cloud Computing, Data Science, Agentic Coding, Security, System Design, Migration, UI/UX

Education

University of Waterloo Sep. 2023 – Apr. 2028
B.S. Computer Science - AI Specialization · 4.0 GPA *Waterloo, ON*

- **Courses**: Algorithms, Operating Systems, Compilers, Machine Learning
- **Activities**: Computer Science Club - Webmaster, Climbing Club - Director, Climbing Wall - Lead Routesetter
- **Awards**: Nortel Networks Institute Scholarship ($3500), President's Scholarship of Distinction ($2000)

Experience

Software Engineer Sept. 2026 – Present
Aven · Asset-backed Credit Card Provider *Campbell, CA*

Full-Stack Engineer Jan. 2026 – Apr. 2026
Quantified Health · Virtual Healthcare Startup *Toronto, ON*

- Spearheaded a complete data migration of **100,000+** patient records from a third-party provider to our own PostgreSQL database, ensuring seamless data integrity and accuracy
- Engineered an **automated OCR pipeline** using Python and Gemini to ingest and analyze incoming medical faxes, accelerating operations and eliminating manual work by **95%**
- Identified and resolved critical security vulnerabilities, performance bottlenecks, architectural flaws, and data inconsistency in the software infrastructure, reducing response times by **50%**
- Integrated analytics tracking and reworked user flows, boosting conversion rates by **20%**

Full-Stack Developer May. 2025 – Aug. 2025
Composer Technologies · Automated Trading Platform Startup *Remote*

- Designed and developed core **REST APIs** to serve Composer's investment platform and clients using authentication, caching, and error-handling to ensure security, efficiency, stability, and consistency across web and mobile platforms
- Developed and enhanced key onboarding and trading flow components to improve user experience and retention, including a dynamic profit/loss chart for options contracts
- Leveraged **GitHub Actions** with **OpenAPI** to overhaul the server API specification with modern UI and automated updates to serve company partners and clients

Software Developer Aug. 2024 – Dec. 2024
LavaReach Inc. · AI RevOps Startup *Toronto, ON*

- Migrated ORMs from Prisma to Drizzle to improve database performance by **40%** and reduce query time by **70%**
- Implemented streaming and **WebSockets** to increase real-time data updates and reduce latency by **60%**
- Innovated a UI/UX overhaul using **Figma** and iterating over client feedback to promote a modern and clean design

Projects

MuseLab · *Music Engraving Web App / Plugin* 2023

- Collaborated with a team of 3 to develop a **Spring Boot** plugin enabling real-time remote collaboration in the leading music notation software **MuseScore**
- Single-handedly developed the **React.js** online user dashboard, allowing users to manage their projects and collaborate with others gathering **1200+** users
- Led the UI design process, creating a Figma prototype and iterating based on user feedback during beta testing

TeachAssist App · *Educational Management App* 2022

- Led a team of 3 to develop a **React Native** app that enables high-school students to track their grades and assignments and book guidance appointments reaching **10,000+** users
- Optimized and refactored the codebase to improve readability and reduce app size by **30%**
- Migrated the web scraper API from Flask to Node.js to reduce latency by **75%** and increase data accuracy by **20%**