

# Ryan Zhu

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

## SKILLS

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**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, Vibe Coding, Security, System Design, Migration, UI/UX

## EXPERIENCE

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### Software Engineer

Jan. 2026 – Present

*Quantified Health · Virtual Clinic / Telemedicine Services*

*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 data entry by **95%**
- Identified and resolved critical security vulnerabilities and performance bottlenecks in the software infrastructure, reducing response times by **50%**

### Full Stack Developer

May. 2025 – Aug. 2025

*Composer Technologies · Automated Trading Platform*

*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-powered RevOps Platform*

*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

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### MuseLab · Web App / Plugin

- 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 **200+** users
- Led the UI design process, creating a Figma prototype and iterating based on user feedback during beta testing

### TeachAssist App · Educational Management App

- 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%**

## EDUCATION

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### University of Waterloo

Sep. 2023 – Apr. 2028

*B.S. Computer Science - AI Specialization · 3.9/4.0 Major GPA*

*Waterloo, ON*

- **Courses:** Data Structures, Algorithms, Operating Systems, Compilers
- **Activities:** Computer Science Club Webmaster, Climbing Club Co-Director, Climbing Wall Staff
- **Awards:** Nortel Networks Institute Scholarship (\$3500), President's Scholarship of Distinction (\$2000)