

# Ryan Hui

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## TECHNICAL SKILLS

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**Languages:** Python, Java, TypeScript, JavaScript, C, HTML, CSS

**Frameworks:** React, React Native, Next.js, Node.js

**Developer Tools:** Git, Docker, Railway, Swagger/OpenAPI, MongoDB, AWS, Google Cloud Run

**Libraries:** Express.js, Prisma, Jest, Tailwind CSS

## EDUCATION

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### University of Toronto

Toronto, ON

Honors Bachelor of Science in Computer Science (CO-OP), Minor in English

Sep. 2023 – May. 2028

- Courses on Software Engineering, Data Structures and Analysis, Complexity, Software Tools and Systems

## EXPERIENCE

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### Software Developer

Sep. 2025 – Present

Savi Finance

Toronto, ON

- Built a full-stack **invoicing system** on a fin-tech platform, using **TypeScript**, **Go**, and **MongoDB**
- **Migrated** GraphQL backend to Go, improving API performance by 40%, ensuring forward compatibility
- Implemented **RAG pipeline** for AI-concierge features, prompt engineered for product's specification while maintaining prompt safety standards
- Established **CI/CD pipeline** enforcing Bazel builds, unit tests, and formatting checks on every PR, ensuring 100% production-ready code deployment
- Configured cloud deployment pipeline using **Docker** and **AWS EC2**, enabling reproducible builds and remote testing via **ngrok**

### IT Internship

June 2024 – Sep. 2024

Malvern College International

Hong Kong

- Engineered an Arduino-based computer-provisioning system in C++, **eliminating manual setup** steps and significantly accelerating the device onboarding workflow.
- Built a **scheduled** Python XML pipeline to auto-extract and normalize data for 100+ staff, improving reliability.
- Developed a scalable Google Apps Script data pipeline to **fetch**, **clean**, and **aggregate** 4,000+ student records from external APIs, improving data accessibility and reducing administrative overhead.
- Optimized spreadsheet **automation** by rewriting functions, reducing execution time across 1,000+ data rows.

## PROJECTS

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### KushKoin | TypeScript, Next.js, React, Tailwind CSS, Prisma, Google Cloud

Oct. 2025 – Dec. 2025

- Built a **full-stack** loyalty program platform with Next.js frontend and RESTful API backend using Prisma ORM with PostgreSQL deployed on Google Cloud Run
- Implemented JWT-authenticated role-based access control with permission tiers and protected routes
- Created **responsive UI** with dark/light theme support, 3D animated components using React Three Fiber, and real-time form validation
- Designed point transfer and redemption system with transaction history, leaderboard rankings, and promotional campaign engine

### Custom Terminal Shell | C, Unix System Calls, TCP/IP

Jan. 2025 – April 2025

- Engineered a fully functional command-line interface in C, managing process creation via **fork** and **exec** to execute built-in commands and external system binaries
- Implemented advanced process control allowing asynchronous background execution and sequential pipelines using **pipe** and **dup2** for inter-process I/O redirection
- Architected a custom environment variable system utilizing dynamic memory allocation (**malloc/free**) to efficiently store and manipulate user-defined states without memory leaks
- Integrated **TCP/IP** networking using Berkeley sockets to establish client-server communication, enabling remote command execution and robust inter-process data exchange