Ryan Hui

+1 (403) 325-6129 | ryanhuichun0201@gmail.com | linkedin.com/in/ryanc-hui | github.com/ryanchui2

Technical Skills

Languages: Python, Java, C, Bash, TypeScript, JavaScript, SQL, HTML, CSS
Frameworks: React, React Native, Next.js, Express.js, Node.js, FastAPI
Developer Tools: Git, Docker, AWS, Google Cloud, PostgreSQL, MongoDB
Libraries: Tailwind CSS, Jest, Prisma ORM, PyTorch

Education

University of Toronto Toronto, ON
Honours Bachelor of Science in Computer Science (CO-OP), Minor in English *Sep. 2023 – May. 2028*

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

Experience

Software Developer Sep. 2025 – Dec. 2025
Savi Finance *Remote*

- Built a full-stack **invoicing system** for a fin-tech platform using **Go**, **TypeScript**, and **MongoDB**.
- **Migrated** a GraphQL backend to Go, improving API response times by **40%** while preserving compatibility with existing service integrations.
- Implemented a **RAG pipeline** for AI concierge features, grounding responses in product data while maintaining prompt safety standards.
- Built a **CI/CD pipeline** with automated Bazel builds, tests, and linting across pull requests, reducing deployment errors and standardizing releases.
- Architected **containerized cloud deployment** workflows with **Docker** and **AWS EC2**, enabling reproducible builds and remote testing.

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.
- Developed **automated Python data pipeline** with scheduled execution to extract, normalize, and validate records for 100+ staff, eliminating manual intervention and improving data 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

yosemite | *Rust, Python, TypeScript, Next.js, PostgreSQL, PyTorch, scikit-learn* Mar. 2026 – Present

- Architected a **compliance intelligence platform** using **Rust/Axum**, a **Python/FastAPI** ML sidecar, and Next.js, delivering **sub-1 second** risk analysis and **natural-language compliance reports**.
- Designed a **multi-agent AI pipeline** for fraud detection, coordinating **7 parallel specialist agents**, including **GCN**, **BiLSTM**, Isolation Forest, Benford's Law, and graph heuristics, with **deterministic fallback**.
- Engineered a **3-tier triage** system in Rust that resolved **80%+** of transactions without AI, escalating only ambiguous cases to an LLM and reducing inference costs.
- Integrated **sanctions screening** with **OpenSanctions**, **Uppsala Conflict Data**, and geopolitical risk mapping to flag vendors in conflict zones and high-risk jurisdictions.

Custom Unix Shell | *C, Linux System Calls, Bash, TCP/IP* Jan. 2025 – April 2025

- Engineered a **Unix shell** in C supporting **process management** via fork/exec, built-in commands, and external binary execution.
- 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.