

Francis He

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Skills

Languages: Python, TypeScript/JavaScript, Rust, HTML/CSS, C, C++, R

Tools/Libraries: PostgreSQL, SQL, React.js, Node.js, Git/GitLab, Unity(C#), Helm, Terraform, Arduino

Services/Platforms: Google Cloud Platform (GCP), Kubernetes, Docker, Heroku, AWS

Non-Technical: Clarinet, Piano, Violin, Ultimate Frisbee, Soccer, Ski/Snowboard, Hockey, Badminton

Work Experience

University of Toronto

IT Developer

Toronto, ON

June 2024 – Current

- Building software for the automatic control of PTZ cameras using microphones to locate speakers

Replicant Inc.

San Francisco, CA

Software Engineer Intern (TypeScript, GCP)

May 2023 – Aug 2023

- Independently architected and developed a scalable Docker/Kubernetes/Postgres service that allowed for shortened URLs to be delivered via SMS and for important data statistics to be tracked from 3000+ customers per month
- Integrated LLM-based chat-bots within the user journey, increasing successful user interactions by 25% through the improvement of conversational flows
- Redesigned internal auditing tools to allow for additional query methods greatly reducing time spent on analytics

BluRoot Inc.

Toronto, ON

Software Engineer Intern (Rust, React, NodeJS, TypeScript, GCP)

Sept 2022–Dec 2022

- Single-handedly launched a payment portal featuring Rust hashing and client-side caching with Redis for increased speed, scalability, and security of the transaction process
- Reduced Rust codebase compilation times by 20% through the implementation of custom serialization/deserialization algorithms and optimized data structures with *serde-rs*

Canada Startup Company

Toronto, ON

Full Stack Developer Intern (JavaScript, React, NodeJS)

Jan 2022–May 2022

- Constructed a transcription pipeline with Twilio to create customized VOIP phone voicemails to ensure non-stop seamless communications for stakeholders
- Managed 4 end-to-end app developments, from inception to the deployment of full front/back-end products, collaborating with design and other teams
- Conducted regular client calls providing updates and discussion concerning the product development cycle, receiving immense positive feedback on clarity and personalized approaches

Riff Inc.

Toronto, ON

Full Stack/ML Engineer Intern (JavaScript, Python, GCP)

May 2021 –Sept 2021

- Developed a Feedback Engine comprising of Python, JavaScript, React, and SQL to form a music player interface, featuring a live comment/discussion board that supported large quantities of concurrently active users
- Implemented cloud functions utilizing Typeform REST API and GCP API for automated data processing for over 100+ users

Projects

First-Person Shooter Aim Assistance

- Developed a cross-platform system featuring software implementing computer vision (OpenCV) for automation of hardware control of cursor (Arduino), bypassing Riot Game's Vanguard anti-cheat system

Education

University of Waterloo

BSc in Psychology, Computer Science

Ontario, Canada

April 2024