

Francis He

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Skills

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

Tools/Libraries: PostgreSQL, SQL, React.js, Node.js, Git/GitLab, Unity, Helm, Terraform, Arduino, Unreal Engine

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

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

Work Experience

University of Toronto

Software Developer

Toronto, ON

Jun 2024 - Current

- Designed robust software allowing the simultaneous operation of up to four PTZ cameras using intelligent voice tracking technology, achieved precise focus adjustments based on speaker location within 0.5 seconds

Replicant Inc.

Software Engineer Intern (TypeScript, GCP)

San Francisco, CA

May 2023 - Aug 2023

- Independently architected a scalable Docker/Kubernetes/Postgres service that enabled the delivery of shortened URLs 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
- Revamped existing internal auditing systems by integrating enhanced query options that reduced average data analysis time by 50% for all staff involved

BluRoot Inc.

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

Toronto, ON

Sept 2022 - Dec 2022

- Developed a secure payment gateway using secure Rust algorithms combined with client-side caching via Redis; focused on attaining efficient processing speeds and a solution that reduced average transaction time from 30 minutes to under 5 minutes
- 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

Full Stack Developer Intern (JavaScript, React, NodeJS)

Toronto, ON

Jan 2022 - May 2022

- Devised a robust transcription framework leveraging Twilio technology that streamlined VOIP messaging processes; achieved zero instances of unanswered stakeholder inquiries during all project phases.
- Initiated weekly touchpoints with clients throughout the product development phases, from inception to the deployment of full front/back-end products, generating substantial positive responses regarding approachability and detailed insights into progress across three simultaneous app developments.

Riff Inc.

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

Toronto, ON

May 2021 - Sept 2021

- Built an advanced Feedback Engine leveraging Python, React, and SQL, resulting in a music player interface that maintained seamless performance for 1,000+ active users, ensuring an uninterrupted user experience
- Implemented cloud functions utilizing Typeform REST API and Google Cloud API for automated data processing for over 100+ users

Projects

First-Person Shooter Aim Assistance

- Pioneered the development of a multi-platform automation system using OpenCV for computer vision, enabling precise hardware control of cursor functions via Arduino; reduced latency in response time by 40%

Education

University of Waterloo

BSc in Psychology, Computer Science

Ontario, Canada

April 2024