Christopher Fong

Full-stack Software Engineer
Vancouver, BC, Canada

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Technical Skills

Languages:	JavaScript/TypeScript, Python, C/C++, Rust, HTML/CSS, C#, Java/Kotlin, SQL/NoSQL, Bash
Technologies:	React/NextJS, ExpressJS/NodeJS, Docker, AWS, GCP, Azure, Git, Linux
Databases/Libraries:	PostgreSQL, MySQL, SQLite, MongoDB, Firebase (Firestore)

Experiences

Full-Stack Web Developer Co-op - Insurance Corporation of British Columbia   May 2024 - April 2025

- **Implemented web applications** and **microsites** in **NextJS** with **Contentful CMS** for content authoring
- **Spearheaded** the integration of on-premise services with external consumers through an **IBM API-Connect gateway**. Implemented secure API requests using **OAuth2** and **Vercel Secure Compute** environments
- **Reduced memory usage by ~40%** through optimizing data caching in **Vercel** and **NextJS (Typescript)**
- **Ensured data integrity** by implementing compile and run-time type-safety with **Typescript**, and **Zod**
- **Enhanced customer retention** by redesigning customer-facing **Java** web form applications, optimizing **SEO**

Full-Stack Web Developer Co-op - BGC Engineering   Jan 2022 - August 2022

- **Achieved a 20% reduction in total API calls and RTT** by developing and optimizing **sorting, filtering, and pagination features** for a safety-critical geohazard management system, using **C#, .NET Core, EF Core**
- **Reduced front-end development maintenance costs** by designing and implementing a **no-code** form design and rendering engine for the client using **TypeScript**
- **Reduced application latency and database transactions** by optimizing **SQL views** and **LinQ** queries

Director of Logistics & Technology - SFU Surge   August 2023 - Present

- **Co-directed a team of 6 organizers** to envision, coordinate, and execute **Stormhacks 2023**, an in-person student hackathon with over **220** total participants
- **Co-led a team of five developers and designers** to build **Hacker Portal** — an all-in-one web application for managing applications and event interactions. **Architected** the system using **NextJS**, **DrizzleORM,** and **Neon PostgreSQL** hosted on **Vercel** to handle hundreds of concurrent users
- **Met funding goals**, raising over **$30,000 in sponsorship funding.** Negotiated and secured **venues, planned and devised** various workshops and events, garnered **volunteer support** from various **organizations, industry professionals, university alumni,** and **stakeholders**

Projects

Hope Health Action - Haiti Hospital

- **Reduced data collection, processing, and analysis times by 200%** by **architecting and implementing** a monthly data report collection system for a non-profit hospital in Haiti, with automated data dashboards.
- Reduced software defect rate by ~**32%** through implementing an **end-to-end testing and telemetry pipeline** on **Github Actions** using **CypressJS** and **Fluentbit**
- **Significantly Increased data visibility by 30%** through implementing **sorting, filtering, and visualization**

Home Automation Network

- **Optimized compute, deployment, and storage costs** by repurposing legacy hardware to build a fault-tolerant, high-availability **Proxmox multi-node compute cluster**. Utilized **Linux Containers** to virtualize services
- **Reduced network vulnerabilities** by implementing **OPNsense** firewall inbound/outbound rules. Deployed a **PiHole DNS/DHCP** server with services routed through an **NGINX** reverse proxy.

Education

Simon Fraser University & Zhejiang University   *Expected Graduation: 2025*
SFU B.Sc Computer Science (2019-2025)