Sam Liu

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EDUCATION

- **University of Waterloo** *2021 - 2026*
Candidate for Bachelor of Computer Science 95% math faculty average

EXPERIENCE

- **Super.com (Prev. Snapcommerce)** *Jan 2024 - Present*
Full Stack Developer Intern Toronto, ON
  – Built a feature that auto-scrolls users down to key parts of the site, bringing **$1 million in annualized revenue** and causing **6% more users to complete their hotel booking**
  – Developed and AB-tested React features such as recommending cheaper hotels to the user, a pop-up modal suggesting hotel room upgrades, and various UI improvements
  – Contributed autocomplete functionality and styling variants to the company design system
  – Added validations, logs, and tests to key API endpoints, using DataDog to analyze and address errors
  – **Technologies used**: React, TypeScript, Express, Flask, DataDog, Jest

- **Huawei** *May - Aug 2023*
Software Developer Intern (C++) Markham, ON
  – **Redesigned a C++ library for Huawei's FPGAs** by decoupling it into a self-sufficient module, cleaning up the client-facing API, and clarifying memory ownership using smart pointers
  – Refactored a crucial **24-byte class into an 8-byte integer** to reduce memory usage of subsystem by 50%
  – Improved runtime of matching and merging algorithms by over **70%** using **multithreading** and **C++ Standard Library** data structures
  – Built features for in-house scripting engine, including support for logging and combining specification files

- **CareGuide** *Sep - Dec 2022*
Full Stack Developer Intern Toronto, ON
  – Co-led a project that brought the website from North America to **1000+ users in the UK**; created the new onboarding flow, implemented free trial features, and launched the project
  – Refactored the phone number API to **enable international phone calls for 200+ users**
  – Optimized the loading time of various big-data pages by **10x** using Elasticsearch
  – Built components for in-house design system and modernized the homepage footer and directory
  – **Technologies used**: Ruby on Rails, React, TypeScript, GraphQL, MySQL, Elasticsearch, Kubernetes

- **New York Theological Education Centre** *Jun - Aug 2021*
Software Developer Markham, ON
  – Developed a React website and app used by **50+ NYTEC members** to access church resources
  – Engineered an email and app-based notification system using Firebase for instant access to church news

PERSONAL PROJECTS

- **Chess AI**
  – An ML-powered chess bot rated at **1200 elo** trained using board evaluations from the Lichess dataset
  – Engineered a pair of complementary deep CNNs that evaluate the best square to move out of and into

TECHNICAL SKILLS

Languages: JavaScript (TypeScript), Python, C++, Ruby, SQL, GraphQL, Java, Bash, Swift
Web: React, Flask, Rails, Django, Express, PostgreSQL, MySQL, AWS, Firebase, Kubernetes, Elasticsearch
Machine Learning: TensorFlow, PyTorch, Scikit-learn, NumPy, Pandas, Matplotlib
Competitive Programming: Leetcode (99% precentile), Codeforces (98% percentile)