Sam Liu

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Technical Skills

Languages: JavaScript (TypeScript), C++, Python, Ruby, SQL, GraphQL, Java, Bash, Swift

Frameworks: React, Flask, Rails, Django, NextJS, Express, PostgreSQL, AWS, Firebase, Elasticsearch **Competitive Programming:** Leetcode (2560 Elo, 99% percentile), Codeforces (2170 Elo, 98% percentile)

Work Experience

Full Stack Developer Intern

Super.com

Jan - Apr 2024

- Built a feature that auto-scrolls users to key parts of the site, driving \$1M in annualized revenue and a 6% relative increase in successful hotel bookings
- Developed and AB-tested various React features including recommending cheaper hotels and suggesting alternative payment methods, retaining **30,000** additional users annualized
- Resolved multiple bugs within payment, hotel search, and booking emails using **DataDog** and **Amplitude**
- Contributed autocomplete functionality and several styling variants to internal design system
- <u>Technologies used</u>: React, TypeScript, NextJS, Express, Flask, DataDog, Amplitude, Jest, Snowflake

Software Developer Intern

Huawei

May - Aug 2023

- Redesigned C++ library for Huawei's FPGAs: decoupled into self-sufficient module, refined API, and clarified memory ownership using smart pointers, facilitating seamless integration with rest of product
- 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
- Technologies used: C++, CMake, Google Test

Full Stack Developer Intern

CareGuide

Sep - Dec 2022

- Co-led expansion project, bringing website to 1000+ users in the UK; devised new onboarding flow, implemented free trial features, and executed successful launch
- 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
- Technologies used: Ruby on Rails, React, TypeScript, GraphQL, MySQL, Elasticsearch, Kubernetes

Software Developer Intern

NYTEC

Jan - Aug 2021

- Developed a React <u>website</u> and <u>app</u> 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
- Technologies used: React, React Native, Firebase, Flask

Projects

- Chess AI | Github a 1200 Elo chess bot, trained on the Lichess dataset. Designed complementary CNNs to determine optimal move squares
- Guitar Songsheet Creator | Github a website that allows users to create and share song sheets

Education

3B Computer Science

University of Waterloo

- **Expected Grad: Apr 2026**
- 94% CS average, \$18k Ronald G. Dunkley National Scholarship
- Coursework: Operating Systems, Algorithms, Databases, Networks, Data Security, Intro to AI