Ian Lai

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Education

University of Waterloo
4A - Bachelor of Computer Science, Economics Minor

Skills

Programming
* C++
* C#
* C
* Python 3
* Typescript
* Angular
* NodeJS
* HTML5 / CSS3 / ES6
* BASH
* Java
* SQL

Development Tools
* Mercurial
* Git
* IntelliJ Idea
* Sublime Text
* Vim
* Linux
* Docker

Interests


Dragonboat


Taekwondo


Musicals


Chess


Trombone


Piano

Employment

Google, Software Developer Intern — January 2020 to Present
* Contributed to an internal tool that correlates events to changes in production metrics
* Changed architecture to be streaming based to avoid being blocked by slow dependencies
* Developed in C++ and Angular
* Closely collaborated with multiple points of contact to maintain project velocity

D2L, Software Developer Intern — September 2019 to December 2019
* Worked with C#, Polymer 3, and SQL on a SIS Integrations platform
* Implemented a telemetry service to aggregate and monitor usage metrics
* Collected telemetry data per job and sent results to S3 to be queried by Amazon Athena
* Investigated and resolved several legacy issues

Amazon, SDE Intern — May 2019 to August 2019
* Worked with Java on the Payment Products team
* Created a templating tool to replace legacy architecture by using AWS to host workflow orchestration services
* Shortened initial infrastructure creation time from weeks to hours
* Projected yearly infrastructure cost savings of over 90%

Visier, Software Developer Co-op — September 2017 to April 2018
* Added the ability for an admin user to upload their company's logo and display it throughout the application
* Implemented a toggleable high contrast mode to aid with visibility on projectors
* Rigorously wrote unit tests with Jasmine for components and services created
* Gained extensive experience with Mercurial, Angular, RxJS, and NodeJS

Projects

UWaterloo People Counter — 2018
* A service to estimate the number of people in each building on campus using UWaterloo public API based on the assumption that each person has a device connected to that building's wireless access point
* Frontend written in Angular and hosted on Github Pages
* Backend written in Python, using Psycopg2 to interact with a PostgreSQL database on Heroku

Not Cards Against Humanity — 2018
* An in browser, mobile friendly Cards Against Humanity clone
* Created with Angular and NodeJS, hosted on Heroku
* Leverages Socket.io to support multiple concurrent games through joinable room codes

OS/161 Kernel — 2018
* A small toy kernel built in C, developed on top of Harvard's OS/161 for the MIPS architecture
* Implemented crucial kernel components such as synchronization primitives, system calls, support for multiple processes, TLBs, and page tables
* Learned about low level programming and computer architecture, as well as contributing to existing systems