Ian Lai

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Education

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

Skills

Programming
* C++
* C
* Python 3
* Typescript
* Angular 7
* NodeJS
* HTML5 / CSS3 / ES6
* BASH
* Java
* SQL

Development Tools
* Mercurial
* Git
* IntelliJ Idea
* Sublime Text
* Vi
* Linux
* Jasmine

Interests


Dragonboat


Taekwondo


Musicals


Chess


Trombone


Piano

Employment

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 — 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

Humber Institute of Technology, Math Learning Support — January 2017 to April 2017
* Supported students with their Math and Computer Programming courses
* Created a web application to organize and provide auditory reminders of class visits
* Conducted an internal analysis on the Math Centre's attendance and return rates
* Assisted in the migration of the Headstart program from an outdated platform to D2L

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 online, mobile friendly Cards Against Humanity clone created with Angular and NodeJS, hosted on Heroku
* Supported multiple concurrent games through joinable room codes

OS/161 Kernel — 2018
* A small toy kernel built in C, implementing crucial kernel components such as synchronization primitives, system calls, support for multiple processes, TLBs, and page tables
* Developed on top of Harvard's OS/161 for the MIPS architecture

Juggle — 2017
* A clone of the Facebook Messenger soccer juggling game, applying a physics engine implemented in Javascript, featuring a game speed slider to modify difficulty
* Leveraged CSS to minimize Javascript usage and achieve a smooth playing experience

Quadris — 2016
* A turn based Tetris command line game created with C++, featuring customizable block shapes, multiple levels, and an expandable playing field as game options