

# 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 Present

- \* Currently developing with Java and Spring on the Payment Products team
- \* Working with AWS, S3, and AWS Lambda to create services

### 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, and was exposed to Docker and Scala

### 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- \* Assisted in the migration of the Headstart program from an outdated platform to D2L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
- \* Supported multiple concurrent games through joinable room codes
- \* Hosted on Heroku

### 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

### GraphHax

2017

- \* An in browser graph visualization tool, accessible through a toolbox interface
- \* Built using Javascript, Canvas, and JQuery

### 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