

Ian Lai

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Education

University of Waterloo
Bachelor of Computer
Science - 3B Term

Skills

Programming

- HTML5 / CSS3
- Javascript ES6
- Typescript
- Angular 7
- NodeJS
- C++
- C
- Python
- Racket

Development Tools

- Mercurial
- Git
- IntelliJ Idea
- Sublime Text
- Vi
- Linux
- BASH

Interests

🏹 Dragonboat

🥋 Taekwondo

🎵 Musicals

♟ Chess

🎺 Trombone

🎹 Piano

Employment

Visier, Software Developer

September 2017 to April 2018

- Developed methods to consume information and present it in a meaningful manner
- 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
- Assisted with a complete visual overhaul of the entire application for HR Tech 2017
- Gained extensive experience with Angular 4, RxJS, and NodeJS

Humber Institute of Technology, Math Learning Support

January 2017 to April 2017

- Supported students with their Math and Computer Programming courses
- Displayed the ability to quickly learn new concepts and teach them to students
- 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- Assisted in the migration of the Headstart program from an outdated platform to D2L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

Not Cards Against Humanity

2018

- An online Cards Against Humanity clone created with Angular 7 and NodeJS
- Supports running multiple games simultaneously
- Featured intuitive controls optimized for mobile play

OS/161 Kernel

2018

- A small toy kernel developed in C
- Built 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

Juggle

2017

- Implemented a basic physics engine to emulate the Facebook Messenger soccer juggling game
- Leveraged CSS to minimize Javascript usage and achieve a smooth playing experience
- Featured a game speed slider to modify difficulty

GraphHax

2017

- An in-browser graph theory visualization tool
- Developed a toolbox interface to access manipulation functions
- Learned to use version control systems to develop alongside others

WLP4 Compiler

2017

- Built from scratch in C++
- Compiled C like language WLP4 to MIPS machine code
- Featured types, pointers, a stack, and functions
- Implemented lexing, parsing, semantic analysis, type checking, and assembling

Quadris

2016

- A Tetris command line based game created with C++
- Featured customizable block shapes, multiple levels, and an expandable playing field as game options
- Gained a strong understanding of object oriented programming and various data structures