

Ian Lai

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Education

University of Waterloo
*Candidate for Bachelor of
Computer Science*

Skills

Programming

HTML5 / CSS3
Javascript ES6
Typescript
Angular 4
RxJS
C++
C
Python
Racket

Development Tools

Mercurial
Git
IntelliJ Idea
Sublime Text
Vi
Linux
BASH

Interests

Dragonboat

*Coached UWDBC
Recreational team in 2017
and 2018*

Taekwondo

*Earned a first dan black
belt, recognized by the
World Taekwondo
Federation*

Musicals

*My favourites include Les
Misérables, Dear Evan
Hansen, and Hamilton*

Trombone

Piano

Employment

Software Developer Co-op *Visier*

Sept. 2017 to April 2018

- Developed methods to consume information and present it in a meaningful manner
- Implemented an application wide high contrast mode to aid with visibility on projectors for Sales demonstrations
- Assisted with a complete visual overhaul of the entire application for HR Tech 2017
- Gained extensive experience with Angular 4, RxJS, and CSS

Mathematics Learning Support *Humber Institute of Technology*

Jan. 2017 to April 2017

- Supported post-secondary students with their Math and Computer Programming courses
- Learned to efficiently absorb and teach concepts to students
- Organized and executed events for the Math Centre
- Assisted in the migration of the Math Centre's Headstart program from an OpenEducation platform to Learn

Lead Instructor in Training *Byte Camp Education Society*

May 2016 to Aug. 2016

- Taught children aged 9 - 14 how to build games with Scratch, Javascript, and PhaserJS
- Gained a deep understanding of core game design principles
- Ensured general safety of the students throughout the week
- Strengthened leadership, communication, and interpersonal skills

Projects

OS/161 Kernel

2018

- 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, 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

GraphHax

2017

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

WLP4 Compiler

2017

- Built entirely 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

- Used C++ and X11 to create a Tetris style command line based game
- Featured customizable block shapes and an expandable playing field as game options
- Gained a strong understanding of object oriented programming and various data structures