Bufan Wang

3A Computer Engineer

bfwang@edu.uwaterloo.ca │ 1-613-716-9070 │ github.com/boowangoo │ bfwang.me

Skills

Languages

C, C++, Java, Typescript, Javascript, Python, SQL, MATLAB, LaTeX, VHDL

Tools/Frameworks

Android SDK, Angular5, AngularJS, React, Spring, Webpack, Socket.io, OpenCV, Tensorflow, Git, Bash, Vim

Experience

Evertz Microsystems — Project Engineer   Sep - Dec 2018

- Assisted with deploying the Mediator media asset management/playout automation system for broadcasters
- Deployed an **Ubuntu** lab system on VMWare which transfers GBs of materials using an **FTP** intermediary
- Improved system redundancies by changing the playout engines' redundancy model from **n+m** to **1+1**
- Reduced deployment time by **50%** using **Python** scripts allowing automation of asset transfer configurations

Varian Medical Systems — Full Stack Developer   Jan - May 2017

- Worked on over **40** stories/bugs related to the Clinical Decision Support infrastructure for oncologists
- Improved guideline-authoring efficiency by **30%** by introducing multi-window functionality in **AngularJS** app
- Improved interoperability by migrating legacy features from **AngularJS** to **Angular5**
- Bridged new features of the decision engine to frontend by creating REST-API endpoints in **Spring Data REST**
- Followed **TDD** practices, providing full code coverage with extensive unit tests in **Mockito** and **Jasmine**

Bronte College — Software Developer   May - Aug 2018

- Worked on in-house administrative applications while maintaining an extensive **MySQL** database
- Restored functionality of the **JSP** tuition evaluator by refactoring **5000+** lines of **Java** code
- Automated assignment/maintenance of **200+** rooms by introducing student-housing features in **AngularJS**

Projects

SudokuSnap (Java)

- **Android** application which can detect and solve Sudoku puzzles captured by the camera
- Processes heavily distorted images by developing grid-detecting solutions using **OpenCV**
- Created an **OCR** for sudoku digits by using a **neural network** and a training set created from 30+ puzzles

Let's Practice Econ (Java)

- **Android** flashcard application for Econ 101/102 study, using data parsed from Word documents
- Randomized question order and tracked question coverage in order to encourage effective review
- Allowed questions and user configurations to be saved using a **Realm** database

Peddlers of Catan (Typescript)

- A multiplayer board game inspired by the popular "Settlers of Catan", developed using **Typescript** and **Node.js**
- Allows for player interaction with game rooms and messaging functionality using **WebSockets**
- Designed and implemented an **SVG-based**, randomly generated game board

Webcam Creep Detector (Python)

- **OpenCV** application that hides opened windows when strangers are looking at your screen
- Detects and saves images of human faces using a trained **Haar cascade**