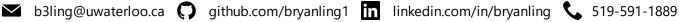
Bryan Ling



SKILLS

- Technologies: React/Redux, Node.js, Firebase, OpenCV, Socket.io, Express, Flask, Git, Material UI, Tensorflow
- Languages: JavaScript, Typescript, Python, CSS, HTML

WORK EXPERIENCE

Cognitive Systems - Software Engineering Co-op

May 2020 - August 2020

- Deployed an interactive web-app to display long-term changes in quiet WiFi-motion data through matrix manipulation, streamlining the data visualization process from 15+ minutes to under 60 seconds
- Integrated a Flask-app backend handling Wifi-motion related API and data vault calls to automate the task of identifying quiet samples within a period of time
- Designed the responsive front-end interface, allowing the user to select a snapshot of data to be displayed in graph format using React, Material UI, and ChartJS
- Documented hypothesis testing regarding channel respone data in a WiFi network hierarchy to determine the effects of device movement with Matplotlib

Ontario League of Associated Esports - Full Stack Developer

February 2019 - August 2019

- Developed and deployed the <u>customer-facing website</u> for creating user accounts, statistics, and a real-time matchmaking system for over 300 active users with React/Redux and Firebase
- Integrated Node.js backend to work with Riot Games' API to deliver matchmaking statistics used to identify topperforming competitors
- Automated social media content generation using image and video processing libraries PIL and Moviepy in Python
- Implemented an admin dashboard used to control lobby status in real-time with Scoket.io
- Wireframed and implemented UI following responsive design requirements with Material UI and Adobe XD

LCR Research - Software Engineering Intern

June 2018 - September 2018

- Rebuilt the customer-facing desktop application by developing a GUI in Python using Tkinter, contributing to the company's migration from C# to Python
- Integrated product requirements including customizable settings and CSV data logging

PROJECTS

Pokemon Go Walker • Pokemon Go Computer Vision Script

- Trained a convolutional neural network in TensorFlow to detect the game's current menu
- Composed a script in OpenCV and Python to automate image generation and file sorting for Tensorflow training
- Implemented TensorFlow's object detection API to detect in-game objects in real-time with OpenCV

Unity Wear • 3D Garment Design Visualizer web-app

- Developed a PNG to SVG image converter using OpenCV contour hierarchy tree to determine relationships between positive and negative space contours of the same color
- Integrated an interactive 3D garment design interface with React and ThreeJS for t-shirt previews

Crambarry.com • Online Gamified Classroom Web App

- Developed a roulette rewards system, player customizability, multi-user flashcard generator, discussion/question forums, and chat rooms using React/Redux and Firebase
- Application approved by Waterloo Region District School Board for student use

EDUCATION