Andrew Liu

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Skills

Languages: JavaScript, TypeScript, C++, C, Python, HTML**5**, CSS
Tools/Technologies: React.js, MongoDB, Git, LaTeX, Excel, VSCode
Design: Figma, Photoshop, Lightroom

Experience

Software Developer   **Waterloo, ON**
Waterloo Hyperloop Team   Dec 2019 - Present
- Built responsive and engaging page components using **React.js** and **TypeScript** for Waterloop's client facing website
- Redesigned and wire framed new website pages using **Figma**
- Worked on the embedded team to implement new motor control system in **C++** for Linear Induction Motors by outputting a PWN signal to achieve maximum efficiency
- Displayed the data received from sensors on the pod dashboard by connecting to serial ports

Subsystems Developer   **Markham, ON**
First Robotics Team 4001   Sep 2017 - Jun 2018
- Used Java to program the drive train for the robot to use during competition
- Implemented the usage of **PID** (proportional-integral-derivative) controllers to monitor and correct robot movement
- Collaborated with a team of 10 programmers to reduce bugs during trials

Front-End Developer   **Markham, ON**
Markham Getting Together   Oct 2017 - Jun 2018
- Developed the landing page for the website of a youth council focused on social justice
- Designed and programmed a modern UI using **HTML**, **CSS**, and **JavaScript**

Swim Instructor   **Richmond Hill, ON**
Richmond Hill Swimming Dragons   Jan 2016 - Jun 2019
- Worked with a team of instructors to provide swimming instruction to children of varied ages
- Communicated effectively with parents and children concerning lessons and progress, and successfully passed over 200 swimmers

Projects

Re:Action | *React.js, Python, MongoDB*   ⬡ Re:Action
- Developed a web app at Hack the Valley that allows users to query keywords and visualize any relevant tweets according to their geographical locations around the world
- Used **React.js**, **TypeScript**, and a custom library to create a seamless and intuitive front-end
- Used the Tweepy **Python** library to access **Twitter API** and scrape for relevant tweets
- Stored relevant tweets using **MongoDB Atlas** to be used later in data visualization

MuseFlare | *C++*   ⬡ MuseFlare
- Developed a reactive LED lamp that uses a sound sensor connected to an Arduino to monitor the sound level in the surrounding environment
- Used FastLED library to detect and analyze analog signals which then manipulated RGB values and calculated how many lights were to be activated

Awards

Hack the North 2019 Bloomberg Challenge   **Bloomberg L.P.** | Sep 2019
This award was given to the first team to successfully complete a series of cryptography challenges involving strong code breaking, logic, and computation skills.

WatPD Engineering Scholarship   **University of Waterloo** | Sep 2018
This scholarship was awarded to students who demonstrated academic excellence and potential to thrive in a professional skill environment as assessed through the Admission Information Form.

Education

University of Waterloo   **Waterloo, ON**
B.ASc in Computer Engineering, Expected Graduation 2024   Sep 2018 - Present