

# ANDREW LIU

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## SKILLS

**Languages:** JavaScript, TypeScript, C++, C, Python, HTML5, CSS

**Tools/Technologies:** React.js, MongoDB, Git, L<sup>A</sup>T<sub>E</sub>X, Excel, VSCode

**Design:** Figma, Photoshop, Lightroom

## EXPERIENCE

### Software Developer

Waterloo Hyperloop Team

Waterloo, ON

Dec 2019 - Present

- Built responsive and engaging page components using **React.js** and **TypeScript** for Waterloo'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

### Assistant Software Engineer

Crystal Claire Cosmetics Inc

Toronto, ON

May 2020 - Aug 2020

- Designed and developed robotic solutions with vision systems using **PC/PLC** control
- Lead the programming of robotic arms to reduce operational costs and increase manufacturing output
- Involved in full development life cycle to build applications used for robotics and mapping
- Worked with the engineering & maintenance teams to physically install, setup, and troubleshoot automatic equipment

### Front-End Developer

Markham Getting Together

Markham, ON

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**

## 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

### Avarosa Bot | Python

 Avarosa Bot

- Programmed a web scraping Discord bot in **Python** to collect player statistics for League of Legends
- Used the **BeautifulSoup** library to parse and analyze **HTML** data from the statistics site op.gg
- Displays players' seasonal ranked statistics in the form of a Discord embed

### 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

## EDUCATION

### University of Waterloo

B.ASc in Computer Engineering, Expected Graduation 2024

Waterloo, ON

Sep 2018 - Present

## INTERESTS

Photography

Keyboards

Music

Esports

Basketball