


BRIAN LI

✉ b77li@uwaterloo.ca · 📞 647-523-8026 · 🌐 <https://brianljx.vercel.app/> ·  [Brian Li](#)

SKILLS

Programming Languages: Python, C++, Java, Java FX, HTML, CSS, Tailwind CSS, Javascript, React
Other Tools: Arduino, Adobe Premiere Pro, Audacity, Git, Raspberry Pi, STM32, Figma

RELEVANT EXPERIENCE

Wat.AI

Lead Neural Network Developer

September 2023 - Present

- Led subteam of 3 in designing and prototyping **sparse** and **denoising autoencoders** using **PyTorch** and **Tensorflow** for compression of IoT cybersecurity data (CICIOT 2023); optimized draft autoencoders with practices like **exponential learning rate decays** and **learning curve analysis** 🔄
- Contributed in writing and updating [team substack articles](#) to highlight progress of team project; helped with the testing of **machine learning models** focused on cyberattack detection for IoT devices

Waterloo Formula Electric

Lead Firmware Developer

September 2023 - Present

- Created hardware-in-the-loop (**HIL**) tests using **Python** to validate electric car components and determine expected behavior; utilized tools such as **STM32IDE**, **Virtual Box** and **Vagrant** to find translation between code and firmware input
- Analyzed the Battery Management Unit (**BMU**) by stimulating its state of charge; conducted in-depth examination of **C** firmware code and schematics to identify source variables and functions

St. Augustine Catholic High School

Lead Full Stack Developer

December 2021 - June 2023

- Managed the front and back-end of the [official school app website](#); website reached **300+ audience** monthly and **increased** school app downloads by **26%**
- Utilized **HTML**, **CSS** and **Vue.js** framework to conduct weekly changes to website interface; worked with **Firebase** to handle back-end data and user permissions
- Collaborated within a **Agile workflow** in conducting and deploying weekly/monthly changes

PROJECTS

Data Visualization Software — *Java, JavaFx, CSS* 🔄

- Created a software that visualizes **real-time** data sheets in various graphic forms; datasheets are pulled from OurWorldinData with seamless **processing** of complex data
- Visualizations are **dynamic** and customizable based on user inputs and adjustments

"Are Masks Masking Your Voice?" — *Audacity, Pandas, Figma, Adobe Premiere Pro* 🌐

- Completed a research project that studied the correlation between one's voice output and mask worn; project aimed to foster new solutions amidst the mask mandate. Earned **Gold at the YRSTF** and was selected to represent for Team York at the **CWSF**
- Measured voice output using **Audacity** and edited data sheets using **Pandas**; utilized **Figma** and **Premiere Pro** to design project display and video

"Sumo Car Bot" — *Python, Arduino, Raspberry Pi, HTML, CSS*

- Led a group of 4 in developing a fully operational miniature car capable of **autonomous navigation** and user control via a web server using the **SSH protocol**
- Utilized **Arduino** and **Raspberry Pi** for the implementation of the embedded system; coded car functions within a **virtual machine** using **VIM** and constructed with WHIMIS guidelines
- Car was showcased and selected to compete among other student-built vehicles at high school tournament

AWARDS

Debate Finalists — *EDS Debate Society*

May 2023

Broke as a **top 4** finalist speaker at the UOttawa 2023 Annual Debate Tournament

Hack Attack Winner — *University of Toronto, Nestlé Canada*

October 2022

Led a team to 3rd through preparation of plan to enhance Nestlé's **online market debut**; recognition stems from effective utilization of tools like **AWS**, and strategic **downsizing of product sizes**

EDUCATION

University of Waterloo

Waterloo, ON

Candidate for Bachelor of Applied Science in Computer Engineering

September 2023 - Present