

# Ishan Leung

(604) 499 - 0211 | [ishan.leung@outlook.com](mailto:ishan.leung@outlook.com) | [linkedin.com/in/ishan-leung](https://linkedin.com/in/ishan-leung) | [github.com/ishan211](https://github.com/ishan211) | [bit.ly/ishanleung](https://bit.ly/ishanleung)

## SUMMARY OF SKILLS

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**Languages:** HTML, CSS, JavaScript, Bootstrap, TypeScript, Python, C++, R

**Frameworks & Libraries:** React, Node.js, Flask, Pandas, NumPy, SciPy, Matplotlib, Tensorflow, OpenCV, RShiny

**Developer Tools:** Git, Github, Firebase, Visual Studio Code, PyCharm, CLion, Linux, Nano, Jupyter Notebooks, Figma

**Technologies:** Solidworks, KiCAD, Autodesk Fusion360, Blender, SketchUp, TinkerCAD, AutoDesk EAGLE Arduino, ESP32

## EXPERIENCE

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### The Visual Thinking Company — UI/UX Co-Op

Jan. 2025 – Apr. 2025

*Visual Design, BigQuery, MySQL, R, Shiny*

*Vancouver, BC*

- Designed and built the Visual Thinking Company's personal website
- Used BigQuery and MySQL to manage databases and organize data for easy presentation
- Designed user friendly dashboards to help present school data to prospective students and parents

### Ontario Engineering Competition — Junior Engineering Team Lead

Nov. 2024 – Jan. 2025

*Design, Iteration, Mechanical Principles*

*Waterloo, ON*

- Used fundamental iterative Engineering principles to solve real world problems through design challenges.
- Led my team to win the Waterloo Engineering Competition to qualify for the Ontario Engineering Competition by designing and iterating until we were able to develop the best bridge
- Led my team at the Ontario Engineering Competition where we designed a boat that could travel a length before being loaded with various weights. To prevent capsizing, we designed a weight distribution system and used adhesive materials to lock our cargo in place.

### UW Formula Electric — Electric, Traction Team Member

Sept. 2024 – Dec. 2024

*KiCAD, Solidworks, CAD Design and Modeling, Testing and Iteration, CFD*

*Waterloo, ON*

- Designed Multi-Layer PCBs in KiCAD 8.0 for car's brake lights
- Designed and Milled Rear Motor Mounts in Solidworks 2025 and produced using a CNC Milling Machine

### Waterloo Rocketry — Propulsion, Air Frame, Controls Team Member

Sept. 2024 – Dec. 2024

*KiCAD, Solidworks, CAD Design and Modeling, Milling, ANSYS CFD*

*Waterloo, ON*

- Helped design a oxidizer level gauge using a floating magnetic indicator and Hall effect sensors
- Aided in design of Rao Parabolic Nozzle by testing the phase-changing cooling with ANSYS CFD
- Helped test various composites to reduce the overall rocket weight
- Developed firmware to read data from IMU and control mechanical airbrakes through the use of a servo with a rotating cam

### SPAMUN — Under-Secretary General of IT

Sept. 2022 – Sept. 2023

*HTML, CSS, JS, Networking, IT and Systems Management*

*Tsawwassen, BC*

- Designed and performed full stack web development in HTML, CSS, and JavaScript for the conference's web site
- Constructed an in-house WiFi network for use by the delegation staff and conference delegates for over **200 users**
- Created digital forms such as delegate registration, committee / delegation assignments, & the country matrix using JotForm, Google Forms, and Google Sheets

### SHAD McMaster University — Team Lead

July 2022

*CAD, Blender, Figma, Financial Analysis, Leadership, Soft/Interpersonal Skills*

*Hamilton, ON*

- Competed in a highly selective STEM-based entrepreneurship program to create an innovative solution to address the problem statement of "improving one's well being"
- Designed an inclusive playground for mobility-impaired and non-impaired children alike using CAD (Blender, Fusion360) software
- Drafted a comprehensive financial report and pitched idea to a panel of judges, where I was awarded **Best Financial Report**

## VOLUNTEERING

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### Robotics Club — Founder and Club President

Sept. 2022 – Aug. 2024

*Teaching, PCB and Circuit Design, Python, JS, C++, 3D CAD, Mechanical Design*

*Southpointe Academy, BC*

- **Founded** the robotics club at my high school out of a need for STEM-based learning outside of the classroom
- **Taught** elementary, middle, and high school students to build robots (Lego Mindstorms, VEX Robotics, and from scratch) and how to program in languages such as block programming, Python, and JavaScript to integrate into their robot builds
- Hosted the inaugural Southpointe Robotics Competition and Hackathon to **improve STEM outreach** and promote in-club camaraderie

### Science Fair Club — Club Executive (2022-2024)

2019 – 2024

*Python, NumPy, SciPy, Tensorflow, CNNs, CV, Embedded Systems Programming, Circuitry, C++*

*Delta, BC*

- **Mentored student's science fair projects** through providing feedback on lab reports, assisting in developing a testable hypothesis, and facilitated mock judging sessions to improve their projects
- Developed a **Convolutional Neural Network** that can accept MRI scans from various acquisition angles (e.g. Sagittal, Coronal, and Axial) to accurately predict if there is a tumor with **92.8% Accuracy** and to provide tumor sub-classification to aid physicians in performing a more accurate diagnosis sooner using **Python and Tensorflow**
- Developed a video game aimed for children with Autism Spectrum Disorder (ASD) to improve their bilateral coordination by incorporating various exercises given to them by a pediatric physical therapist resulting in a **32.5% increase in coordination** in subjects aged 7-12 with an ASD

## EDUCATION

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### The University of Waterloo

Waterloo, ON

*Bachelor of Applied Science (BASc) in Computer Engineering*

*Sept. 2024 – April 2029*