Ishan Leung

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Summary of Skills

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

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 containing data from thousands of schools and organize the data for easy presentation
- Designed user friendly dashboards to present school data, including administrator, facility, and student information, such as test scores and available course programs 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 Competiton 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
- Designed a weight distribution system to prevent capsizing by using 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 the 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*

- Designed an oxidizer level gauge using a floating magnetic indicator and Hall Effect sensors
- Designed a Rao Parabolic nozzle by testing the phase-changing cooling with **ANSYS CFD**
- Tested 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

Volunteering

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 age 12 and under with ASD

Education

The University of Waterloo — Waterloo, ON

Bachelor of Applied Science (BASc) in Computer Engineering — *Sept. 2024 – April 2029*