

✉ j2662li@uwaterloo.ca
☎ 647-282-5895
📧 jeffreylie0312
🌐 jeffreylie0312
🔗 jeffreylie0312.github.io

JEFFREY LI

WORK EXPERIENCE

The Regional Municipality of York

Data, Analytics and Solutions (GIS) Analyst | Jan - April, Sep - Dec 2024, May - Aug 2025

- Engineered end-to-end development of a Data Depot website using **ReactJS**, **Python**, **SQL**, **VertiGIS Studio**, and **FME**, efficiently managing **2000+ Spatial Data Warehouse** items and **80+ LDAP users**, integrating flawless site security and client data delivery
- Streamlined **3000+** map layer metadata updates, monitored **50** project statuses, and **300+** user inactivity detection by deploying and automating **7 Python** scripts using the **ArcGIS API**
- Devised a real-time **Google Analytics dashboard** integrating **ArcGIS** reports and **Python IP analysis** to visualize logins, locations, and item views, driving insights and decision-making.

Day5 Analytics Inc.

Robotic Process Automation Analyst | Sep 2022 - Dec 2022

- Programmed **Python** scripts that optimized internal Visual Basic for Applications (**VBA**) apps by automating Excel cell validation using pattern matching, **increasing efficiency by 300%**
- Designed **4 user interfaces** using the KNIME Analytics Software that were able to view, edit, log, and update all database tables by executing **SQL Queries** with **recursive validation**
- Developed a relational **Snowflake Cloud Database** by creating over 150 dimension and fact tables, as well as audit logging, views, and metadata with primary and foreign keys

Waterloo Aerial Robotics Group (WARG)

Computer Vision Software Developer | Jan 2022 - April 2022

- Worked within a **Computer Vision** team to develop a remotely controlled aircraft using **Python**, **multiprocessing**, **NumPy**, thoroughly tested with **integration** and **unit tests**
- Engineered tracking geography using the **Maps JavaScript API** that detected and composed an intruder path from a stream of location data using the **OpenCV** computer vision library
- Assisted in the development of the Ground Control Station for drone communication by ingesting byte array message payloads, encoding and decoding them to/from hexadecimal into formatted messages of ASCII code, created with **C++** and **Qt GUI framework**

TECHNICAL PROJECTS

React Personal Portfolio Website 🌐 | May - June 2023

- Designed and developed a **responsive** Personal Portfolio Website using **React**, **JavaScript**, **HTML/CSS**, and **Bootstrap**, ensuring compatibility across various devices and screen sizes
- Improved user interaction by implementing modular React **Components**, **Router**, **Hooks**, and interactive **animations**, enhancing navigation and simplifying code maintenance
- Utilized **JavaScript** to construct a **contact form** incorporating form **validation** and error handling, enabling users to send direct emails for inquiries, feedback, and communication

Medi-Scanner | October 2022

- Developed a **Flask REST API** that detected medical burns by integrating a **machine learning model** with computer vision OpenCV to determine first, second, third, or no degree of burns with results of over **80% accuracy** rate using **Python TensorFlow**
- Constructed a frontend **GUI website** prompting users with image file selection or camera activation options using **HTML** and **JavaScript**

SKILLS/TOOLS

- Python
- C/C++
- Java
- OpenCV
- MongoDB
- SQL/MQL
- JavaScript
- React
- HTML/CSS
- Bootstrap
- FME
- Microsoft Office
- VertiGIS Studio
- ArcGIS Enterprise

EDUCATION

University of Waterloo
Bachelor of Applied
Science, Mechatronics
Engineering -
Graduating April 2026

Relevant Courseware:

- Data Structures and Algorithms (C++)
- Computer Structures and Real-Time Systems (C)
- Computational Intelligence

INTERESTS

- Table Tennis
- Sneaker Collecting
- Fitness
- Painting
- Sewing