

Summary of Skills

- Python, C, Arduino/ESP32, Git, Tensorflow, Matlab, Simulink, Linux Systems, Assembly and ROS.
- Solidworks, Fusion360, LTSpice, oscilloscope, soldering, and Cura.

Education

- **Queen's University** Kingston, ON
Mechatronics and Robotics Engineering, BASc; GPA: 3.650/4.30 Sept. 2021 - 2025
 - **Awards:** Queen's University Excellence Scholarship — 1st & 2nd Year - Dean's Scholar

Technical Projects

- **Code Vulnerability Detection:** Worked with a team to develop a language model AI which could read PHP code and detect outdated algorithms that could cause security issues upon implementation. I specialized in data processing and parsed the SARD dataset using Python to pull the necessary information and restructure them into a Pandas dataframe. I also assisted in designing the model, which used transformers to detect code that follows the structure of the example 'bad' code.
- **Autonomous CO2 Monitoring System:** Worked with a team to develop an autonomous mobile robot which detected the CO2 levels in a room for air quality safety purposes. I specialized in using ROS to connect the Raspberry Pi with the Arduino and sensors and the navigation algorithm based on the LiDAR data.
- **Worksheet Generator:** Automated the process of making worksheets using a Python script and LaTeX to generate word problems with variable parameters and a solution sheet. I used this software when I worked as a teacher to generate worksheets and reduced the time it took to make worksheets from an hour to a minute.
- **Ambient Lighting:** Created a Python script that would sample the median colour on a desktop computer and send the hexadecimal colour codes over an API to LED strips to make the room fit the theme of the monitor.

Experience

- **QMIND (Disruptive Technology Organization)** Kingston, ON
Innovation Design Team Member Sept 2022 - Apr 2023
 - **SciKit-Learn:** Used SKLearn to tokenize the code files, build, train, and implement Naive Bayes and Transformer models.
 - **Data Parsing:** Built programs in Python which parsed a dataset of over 250,000 code files. The output included the file path, unique ID and tag for the training set.
 - **Debugging:** Fixed problems regarding data fitting, model issues, and supervised training using strategies such as modular functions, collaborative efforts, and reading documentation.
 - **Communication and Teamwork:** Coordinated tasks with group members to work effectively and distribute the workload in a way that played to the strengths of each member.

Physioactive Orthopaedic and Sports Medicine Clinic

Thornhill, Ontario

Office Administrator

Summer 2019 and 2020

- **Duties:** Processed insurance details/payments, kept daily bookkeeping records, and ensured efficient scheduling of patients.

Informal Experience

- **Home Automation:** Used open-source technologies (HASS.io) to set up a home server using Linux and Docker, which manages, maintains, and automates smart devices and systems within my home WiFi Network.
- **Custom PC Builds:** Assembled and configured custom PC builds for over 100 clients with varying difficulty and complexity, ensuring clean wire management, efficient cooling systems and an aesthetic look. Oftentimes, this process involves troubleshooting hardware components using pre-os tools and adjusting BIOS settings.
- **Computer Repair:** 6+ years of experience in computer repair, ranging from hardware replacements, OS repair, remote support, BIOS repair, virus removal, and data recovery. (These repairs were supervised by Computer & Electronic Toy Store.)