

Zachary Flynn

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Portfolio: zachtlyeflynn.github.io/ZacharyFlynnPortfolio/

Final year engineering student specializing in mechatronics, machine learning and project management. Searching for fulfilling opportunities in industry after graduation.

Skills: Python, C/C++, Matlab, SolidWorks, ML, ROS 2, Embedded Software, Circuitry, Fluent in English & French

Education

B. Eng. - Bioengineering

2022 - 2026

McGill University · Montréal, Québec · GPA: 3.81/4.00

- Relevant courses pertaining to control, deep learning, reinforcement learning & robotics.
- Dean's List - 2023-2024, 2024-2025

AI Innovators Fellowship

2023

Inspirit Innovators

- Developed an image classification model for pneumonia in TensorFlow resulting in 34 % greater precision than clinicians.
 - Maximized performance via hyperparameter tuning using TensorBoard.
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Experience

Surgical Performance Enhancement and Robotics Center - Research Assistant

2025 - 2026

McGill University - Capstone Project

- Leading the development of a soft surgical robot for the resection of mouth and neck tumours.
- Deploying custom robotic control software using the Robotics Library, Ruckig and WinSock.
- Improving existing flexural tool design and manufacturing using SolidWorks.
- Creating a digital twin of surgical robot in Unreal Engine 5 for surgeon testing and training.
- Researching a cutting-edge data-driven control model of flexural tools with RL integration.
- Frequent consultations with an ENT surgeon to obtain feedback on clinical validity.

MACRObotics Lab - Research Intern

2025

McGill University - SURE

- Prototyped a robotic bioprinter for the delivery of hydrogels in esophageal surgery.
- Reduced control latency by implementing a custom ROS 2 driver.
- Optimized enclosure designs for low weight and high structural integrity in Fusion 360.
- Developed low-level microcontroller software to actuate bioprinter.

McGill Biomechanics Club - Head of Projects

2024 - 2025

McGill University

- Managed 50+ project members between 6 technical projects to develop a prototype for an exoskeleton to suppress arm and wrist tremors.

Tutoring

2023 - 2025

ENGR Tutoring, Tutorax & Individual

- Improved my communications skills by effectively teaching math to students of all ages.
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