

# Benjamin Curis-Friedman

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## EDUCATION

### McGill University

Bachelor of Software Engineering COOP 4.0 GPA

Montreal, QC

Aug. 2024 – May 2028

Awards (6000\$): Alma Mater Entrance Scholarship, Class of Engineering '83 Scholarship

### Stanford Online

Machine Learning Specialization by Andrew Ng. 100% Grade

May 2025 – August 2025

Covering regression, deep-learning, random forests, and ML engineering practices.

## EXPERIENCE

### Artificial Intelligence Intern

May 2025 – Present

iSMART AI Lab

Montreal, QC

- Developed a video synchronization & compression library using FFmpeg and OpenCV to prepare for training.
- Coded a data pre-processing pipeline to clean raw human vital signals for machine learning models.
- Built and programmed a task labeling device using Arduino and C++ to split recording segments appropriately
- Created a high quality multi-modal dataset of over 50 hours of recordings from dozens of study participants.

### Robotics Club - Drone

Sep. 2025 – Present

McGill University

Montreal, QC

- Training a YOLO model to detect targets and drop payloads over.
- Developing software to control an autonomous drone using ROS2.

## PROJECTS

### AI Library From Scratch | Python, NumPy, TensorFlow, Keras, PyGame

June 2025 – July 2025

- Created a NN library complete with mini-batch gradient descent and activation/cost functions.
- Trained a sequential neural network achieving ~96% test accuracy on MNIST dataset.
- Implemented customizable network and layer shapes for enhanced flexibility and scalability.
- Visualized inference with an interactive real-time digit recognition game using PyGame.

### Differential Equation Simulator | Javascript, HTML

September 2024

- Created a web based simulation of harmonic motion.
- Programmed a visualizer and phase diagram to observe the motion of a pendulum.
- Implemented a user friendly way to set the initial conditions by clicking on the phase diagram.

### ArduCar | Arduino, C++

February 2024

- Built a bluetooth remote controlled car using arduino
- Designed the vehicle's body using Fusion360 to prepare for manufacturing
- Developed a motion activated controller for intuitive control using tilt sensors

### WarHacks Hackathon | Arduino, C++

January 2024

- Engineered a fully autonomous vehicle using Arduino.
- Developed a program to follow a designated path in C++.

### Web Chat Application | Firebase, Javascript, Vue.js, HTML/CSS

Oct. 2022 – Sep. 2023

- Developed a full-stack web messaging platform with authentication to message friends.
- Programmed search and adding friends features with Cloud Functions.
- Implemented Firestore security rules to ensure secure communications.
- Hosted live website on a custom domain to make it easily accessible.

## SKILLS

**Languages:** Python, Java, Bash script, C, C++, Typescript, JavaScript, HTML/CSS, R

**Frameworks:** Next.js, React, Node.js, JUnit, Tailwind

**Developer Tools:** Git, Docker, Google Firebase, VS Code, NeoVim, Linux

**Libraries:** NumPy, Matplotlib, OpenCV, pandas, SciPy, Keras, TensorFlow

**Spoken Languages:** English, French