Benjamin Curis-Friedman

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Education

McGill University — Montreal, QC
Bachelor of Software Engineering COOP 4.0 GPA — *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 supervised learning, deep learning, unsupervised-learning, 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.
- 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 autonomously.

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* — June 2025 – July 2025
- 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 – October 2023
- 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* — October 2022 – October 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.

Technical Skills

Languages: Python, Java, Bash script, C, Typescript, JavaScript, HTML/CSS, R
Frameworks: Next.js, React, Node.js, JUnit, Tailwind
Developer Tools: Git, Docker, Google Firebase, VS Code, NeoVim
Libraries: NumPy, Matplotlib, OpenCV, pandas, SciPy, Keras, TensorFlow