Henry Lefebvre

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EDUCATION

McGill University, *Montreal, QC* Sep. 2022 - June 2026
B.Sc., Honours Computer Science
GPA: 3.95 / 4.00
Coursework:

- Intro to Computer Science, Software Systems, Computer Systems, Functional Programming, Discrete Math, Linear Algebra, Probability, Calculus I-III
- *In Progress:* Algorithms & Data Structures, Operating Systems, Software Design, Statistics, Introduction to C++

PROJECTS

LangSonic - MAIS 202 Bootcamp Project Oct. 2023 - Nov. 2023

- Designed, trained, and deployed a **Convolutional Neural Network** (CNN) for spoken language identification from scratch using **TensorFlow**
- Developed a robust **data processing** pipeline to transform 450,000 audio files from the Mozilla Common Voice dataset into normalized Mel spectrograms

ApartMatch - **1st Place Hack** at MAIS Hacks 2023 Oct. 2023

- Won MAIS Hacks 2023 with a **Flask** web app designed to streamline apartment hunting using **machine learning**
- Consumed a **web API** to get up-to-date apartment listings, then used an AI **image captioning** model to analyze listing photos and identify top apartments

stockbro.ai - **Best Newbie Hack** at McHacks 10 Jan. 2023

- Designed, implemented, and pitched an AI-driven **Flask** website to discern and analyze correlations between stock prices and keyword search volume
- Employed **OpenAI**'s GPT-3.5 API to analyze the relevance of statistical relationships between volumes of search terms and stock prices

EXPERIENCE

Software Developer - AUV Vision Team Dec. 2023 - Present
McGill Robotics

- Developed and deployed **computer vision** solutions for an autonomous underwater vehicle (AUV) running ROS with Python
- Transformed live camera feed into a navigable map of labeled objects in global coordinate space using linear algebra and object-detection algorithms

Software Developer - AI Startup Incubator Dec. 2023 - Present
MAIS Kernel - McGill AI Society

- Used **AWS** and **Docker** to build an AI document analysis web app in **Django**

Data Science & Machine Learning Intern March 2023 - Sep. 2023
Tech Bytes Foundation

- Completed weekly projects on Data Analysis and Visualization in **Python**

SKILLS

Languages: Python, Java, Kotlin, C/C++, JavaScript, HTML, CSS, BASH, OCaml
Frameworks/Libraries: Flask, Django, NumPy, Pandas, TensorFlow, PyTorch, Bokeh, Java Swing, Jetpack Compose, Astro, Robot Operating System
Tools: Git, LaTeX, AWS, Docker, macOS, Linux, Windows, GitHub, IntelliJ