Ben **Hepditch**

Montreal, Quebec, Canada

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Education

McGill University
Montreal, Quebec

B.A. & Sc, Double Major in Computer Science - Artificial Intelligence & Urban Studies — *Sept. 2020 - April. 2025 (Expected)*

- **Certifications:** Canadian Securities Course, Canadian Securities Institute

Skills

Programming	Python, Java, C,C++, Ocaml, Bash, JavaScript, MIPS Assembly, SQL/NoSQL
Libraries & Frameworks	PyTorch, TensorFlow, Scikit-learn, Pandas, ROS & ROS2, React, OpenCV, NumPy, Django, Flask, Keras
Tools	Excel, Microsoft Office, Adobe XD, MongoDB, Unix, Git, CMake, Arduino, Docker, Jupyter Notebook

Experience

Machine Learning Engineering Intern
September 2023 - Present

OpenFood.AI — *Part-Time, Remote*

- Leveraged GPT-3.5 API, PostgresSQL, and Apache Airflow to gather, standardize, and classify ingredient data
- Utilized TensorFlow and Keras to develop a hybrid deep learning recommendation model
- Deployed ML models on AWS SageMaker and designed a RESTful API for real-time recommendation serving

Project Manager
Sept. 2020 - Present

Autonomous Underwater Vehicle (AUV) Team, McGill Robotics — *Montreal, Quebec*

- Led a multidisciplinary team of 30+ engineering students to a top 15 position at the RoboSub 2023 Autonomy Challenge
- Procured over $60k in funding to create an AI tool to assist McGill's research with monitoring underwater invasive species
- Executed an efficient development strategy, achieving milestones like the completion of 2 advanced PCBs, 7 new software packages, and 3 sensors
- Coordinated 100+ structured meetings throughout the academic year, facilitating in-depth design reviews and aligning stakeholder requirements

Software Engineering Intern
May - August. 2023

Independent Robotics, Innovobot — *Montreal, Quebec*

- Designed a robust, end-to-end text-to-speech pipeline optimized for real-time operations, harnessing the power of ROS2, Python, and PyTorch
- Analyzed geodetic time series data using advanced statistical tools in Pandas and sk-learn to evaluate the performance of predictive models
- Engineered high-performance pipelines for synthesizing navigation and imagery data into enriched video by leveraging SQL3, Python, and threading
- Integrated drivers for mission-critical sensors and segmented displays into the robot's localization stack using C++ and ROS2

Machine Learning Research Assistant
Jan - April. 2023

Mobile Robotics Lab, McGill University — *Montreal, Quebec - Holetown, Barbados*

- Analyzed the performance of an autonomous robot on searching, tracking, and recovering divers amidst low-visibility ocean conditions
- Co-designed the machine learning pipeline enabling a reinforcement learning agent using tools such as Python, PyTorch, ROS2, and Bash.
- Developed computer vision models capable of detecting scuba divers in both the ocean and in simulation using YOLO v7, achieving above 0.92AP

Mergers & Acquisitions Intern
May - Aug. 2022

Valsoft Corporation — *Montreal, Quebec*

- Developed financial models in Excel, analyzing potential acquisitions for alignment with Valsoft's acquisition strategy.
- Conducted due diligence for acquisition targets, evaluating over $100 million in assets and identifying potential risks and synergies.
- Headed an overseas research team, optimizing due diligence and target identification for 6 M&A groups.

Equities Analyst Intern
May - Aug. 2021

Lennox Mcneely — *Whistler, British Columbia*

- Analyzed and reported on small-mid cap IT companies listed on the TSX and TSXV, in addition to passing the Canadian Securities Course
- Produced charts of time-series data from TR Eikon with Excel and Python to gauge the 5-year performance of prospective securities
- Achieved an average 3 month portfolio return of 18.3% over 3 months and outperformed the S&P 500 by 11% over the same period

Coding Projects

Rate My Fit, McHacks 10
Python | JavaScript | Flask | PyTorch

A web-based machine learning tool for rating outfits — *Jan 28-29, 2023*

Inverted Pendulum Game, COMP 417
Python | OpenCV

Self-balancing pole agent with Reinforcement Learning and a PID controller — *Nov. - Dec. 2022*

Intelligent Schedule Builder, CSUS Mentorship Program
Python | TypeScript | NextJS

A free web app to help McGill students plan their course load from freshman to senior year — *Oct. - Dec. 2022*