

Antonio Martin-Ozimek

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Engineering
at Alberta

Education

The University of Alberta – Bilingual BSc in Computer Engineering, Co-op Class of 2025

Key Classes – Object Oriented, Tangible Computing, Computer Logic, Microprocessors, Databases

Skills – Python, C++, MATLAB, Arduino, HTML5, CSS, C, JavaScript, Unity Engine, C#, OpenCV, React, Tensorflow, NextJS, Keras, Google Colab, SQL, YOLOv8

Experience

HONDA Research Institute | ML Researcher

May 2024 – December 2024

- Acted as the principal researcher on two published papers on **human-robot-interactions** to **HRI2025**
- Research two models: an **Implicit Behavior Cloning** model used to generate human behavior and a **Diffusion Behavior Cloning** model both using **Tensorflow**

Enterprises Macay | ML Developer

May 2023 – September 2023

- Headed the development of and research on a **computer vision model** to detect moisture level in **infrared images**
- Designed two models: a **YOLO-v8** leading edge convolutional model and a hands-on convolutional model built from scratch using **Keras** and **TensorFlow 2.13.0**

University of Alberta | ML Researcher

January 2023 – April 2023

- Developed new OPC UA standard connectivity schemes utilizing **Python**, **C**, and **MATLAB**
- Assembled a **closed-loop multi-process controller** utilizing **YOLO-v7** to detect and track objects
- Implemented data processing techniques with **scikit-learn** and data visualization with **Matplotlib**

Projects

Process Controller | Python, C, MATLAB, LabVIEW

- Developed sensor fusion model that **combined YOLOv8 object tracking** data from a live camera feed with live data from ultrasonic sensors
- Finished **OPC UA standard client & server** for legacy Windows systems to collect data from experiments

OutageML, APIC Energy Hackathon | Python, React, Tailwind CSS, PostgreSQL, Django

- Won second place in Alberta for developing an **A2C** deep learning agent to simulate emergency response systems to power outage sites
- Constructed an interactive site for users to follow power outages

JournAi, HackED | HTML5, Tailwind CSS, JavaScript, React, Firebase

- Collaborated with a team of 4 to develop a web app that classifies journal entries based on detected emotions
- Created an interactive data visualization page to show users a breakdown of emotional trends

Personal Website | TypeScript, JavaScript, React, Next-Js

- Learned **HTML5** and **SASS** to create the front-end of my website and **JavaScript** for the back-end
- Upgraded the site using **React** and **NextJS** to implement a simplified **dynamic front-end**

Volunteering

Future Creators | Arduino

January 2022 – August 2022

- Led two term-long projects using the **Arduino** framework to teach 13 children from grades 5-12
- Took input from an **ultrasonic wave sensor** and outputted the distance traveled by the waves to the terminal while activating a **servo** to release a catapult

Non-Technical Skills

- Bilingual: French & English