

# Antonio Martin-Ozimek

[antoniomartino.com](https://antoniomartino.com) | [LinkedIn](#) | [GitHub](#) | [Devpost](#)



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

- Authored two papers on **human-robot-interactions** to **HRI2025**
- Implemented two generative models: an **Implicit Behavior Cloning** and a **Diffusion Behavior Cloning** model to generate non-verbal cues from **360-degree images** using **Tensorflow** and **PyTorch**
- Extracted **feature** data using **YOLOPose** and **Gaze360** to then be filtered using **pandas** for thresholding, normalization, and interpolation
- Tracked training results using **Tensorboard** and **WandB** for **MLOps** backbone

**Enterprises Macay** - ML Engineer

May 2023 – September 2023

- Headed the implementation of a **CNN model** to synchronously detect moisture level in **infrared images** and catch contaminants in **RGB** images in quality control line
- Designed and implemented two models: a pre-trained **YOLO-v8 CNN** model fine-tuned on **IR images** and a **CNN** using **Keras** and **TensorFlow** trained from scratch on our data

**University of Alberta** - ML Researcher

January 2023 – April 2023

- Developed **sensor fusion PID controller** that **combined YOLOv8 object tracking** from a live camera feed with live distance measurements from **ultrasonic sensors**
- Set up an **OPCUA standard client & server** for legacy Windows 7 systems to enable communication between **embedded controller** on the **server** and **client** on remote PC
- Implemented data processing with **scikit-learn** to facilitate **regression analysis** and **normalization** for model training and evaluation

## Projects

**Autonomous Driving Robot** | Python, Docker, Duckietown, ROS2

- Developing an **intelligent agent** for an **autonomous driving** robot to complete **lane-following** and **localization** tasks using **ROS2** to maintain system

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

- Created a **mobile & desktop** friendly site using **React** and **NextJs** to implement a simple **dynamic front-end**

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

- Collaborated with a team of 4 to develop a web app to **classify emotion** of journal entries
- Created a personalized data visualization page to show users a breakdown of emotional trends

## 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