

Isaiah Ngou

(613) 878-8489 | isaiah.ch.ngou@gmail.com | [linkedin.com/in/isaiah-ngou](https://www.linkedin.com/in/isaiah-ngou) | github.com/isaiahoh

EDUCATION

University of Toronto

Toronto, ON

Master of Engineering in ECE, Emphasis in Robotics and Controls

Sept 2023 – June 2025

Courses: Game Theory, Adaptive Control and RL, Mobile Robotics and Perception, Intro to ML, Deep RL

McMaster University

Hamilton, ON

Bachelors of Electrical Engineering

Sept. 2018 – May. 2023

GPA: 3.74/4.0

EXPERIENCE

Software Engineer

August 2025 – Present

Meta | Python, C++, LLMs, Agents, GenAI

Bellevue, WA

- Developing **conversational AI** systems focused on **AI-driven media** processing, generation, and understanding
- Building production-scale pipelines for **image and video generation** workflows
- Implementing high-performance inference infrastructure using **C++** and **Python** for generative models

Software Engineer Intern - Perception

May 2024 – Dec 2024

AutonomousStuff (Hexagon AB) | C++, Eigen, OpenCV, Python

Ottawa, ON

- Developed online **Information Theoretic** multi-camera extrinsic calibration PoC for deployment on **Jetson**
- Integrated **ORB-SLAM3**, **Kimera-VIO**, and **MSC Kalman Filter** into current system

Undergraduate Research Assistant

Sept 2021 – Sept 2022

McMaster University | Python, PyTorch, PyTorch Geometric

Hamilton, ON

- Applied **Graph Neural Network** on small language model to distill knowledge from a **LLM**, achieving 80% accuracy with 50% of the parameters
- Drafted a project proposal for the Mitacs Accelerate Program, successfully raising \$780,000 in funding

Software Development Engineering Intern

May 2021 – Aug 2021

Amazon | Java, TypeScript, AWS Lambda, DynamoDB

Toronto, ON

- Created a system to suggest groceries to repurchase inferred from purchase history and item expiration date
- Implemented a voice and visual command interface for viewing previously purchased items and quick reordering

PROJECTS

Pick Described Object | *Python, RLBench, PyTorch*

May 2024 – August 2024

- Coded **PPO** and **TD3 Reinforcement Learning** agents for a 7-DOF Panda Arm to pick and place objects
- Extended agents with **adaptive replay buffer** to prioritize experience with higher informational value

Autonomous Robotic Cleaner | *Python, OpenCV, MoveIt!, Jetson Nano, ROS 1*

September 2022 – April 2023

- Led a team of 5 members to design and build a mobile robot capable of detecting and collecting objects
- Developed an object detection system leveraging **Intel RealSense D435i** and integrated it with **MoveIt!** Motion Planning Framework to control the robotic arm for object manipulation

ACTIVITIES

Robotic Software Research Engineer | *AutoDrive UofT Drivers Team | C++, ROS2*

Oct 2024 – May 2025

- Led development of ROS2 Lifecycle Drivers for Continental **Radar**, Cepton **Lidars**, and Lucid **Cameras**
- Architected a centralized lifecycle manager acting as a watchdog system for autonomous vehicle subsystems
- Developing real-time **scene understanding** perception pipeline
- Integrated **IceOryx** MiddleWare for zero copy data transfer

Branch Chair | *IEEE McMaster Student Branch*

Sept 2021 – April 2023

- Revitalized club activities post-COVID, increasing membership to **17** executives and over **200** members through targeted recruitment efforts and outreach events

TECHNICAL SKILLS

Programming Languages: C++, Python, C, Matlab

Libraries: PyTorch, PyTorch Geometric, TensorFlow, OpenCV, Pandas, NumPy, SciPy, Matplotlib, Eigen