

# Joel Andrew Miller

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## EDUCATION:

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### Western University

London, Ontario

#### *M.E.Sc Software Engineering with Collaborative Specialization in Artificial Intelligence*

May 2023 - Present

- Studying safe control transitions in autonomous vehicles. Working towards understanding the driver by employing machine learning techniques to model takeover time and behaviour.
- Under the supervision Dr. Soodeh Nikan and Dr Mohamed Zaki Hussein. Part of the AiX Lab and EMRC Lab
- Working towards a human-centered approach of A.I. by furthering our understanding of human-machine interactions with signal processing and data fusion in the context of autonomous vehicles.

#### *B.E.Sc Software Engineering with IBM Coop*

September 2018 – April 2023

## WORK EXPERIENCE:

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### National Research Council Canada

London, Ontario

#### *Student Intern*

September 2023 – December 2023

- Worked with Roadrunner, Unreal Engine, and CARLA simulation software to design and develop a pipeline that used vehicle sensor data to create a digital twin of real-world driving environments.

### IBM

Markham, Ontario

#### *Developer/DevOps Intern*

May 2021 – September 2022

- Lead automated test coverage of IBMs Order Management Software (OMS). Oversaw and developed an internal pipeline using an IBM Virtual Machine with RedHat OS to ensure tests could be regularly updated and deployed to IBMs OMS. Equipped the VM with a webpage to monitor testing results. Additionally, I was responsible for developing frontend components for OMS.
- Regularly learned new frameworks, methodologies, and libraries to tackle a wide variety of important tasks for my team, including Angular, Docker, Kubernetes, Git, Nodejs, IBM cloud, IBM virtual machines, Cypress, Selenium, etc.
- Contributed to company culture by onboarding of the next intern, and participating in hackathons, events, and outings.

#### **Additional Employment**

- *Basic Operations @ NIEPlus* May 2020 – September 2020
- *Zipline Guide @ WildPlay* May 2019 – September 2019
- *Lifeguard/Swimming Instructor @ YMCA* 2015 – 2018

## PAPERS, PROJECTS and LEADERSHIP:

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### FoodSnap

London, Ontario

#### *Capstone Project*

May 2021 – August 2021

- Worked with Dr. Yimin Yang on a machine learning application to return the nutritional value of a meal based on a single photo. Utilized image segmentation to identify different types of food, an associated depth estimation network to predict the volume of each respective food item.

### Western AI Club

London, Ontario

#### *Project Manager*

May 2020 – August 2020

- Managed a team of 5 developers to create, train, and deploy an image classification application capable of categorizing waste. Deployed an iPhone application using SwiftUI and Xcode.

## EXTRACURRICULAR:

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### First Place in Western's Engineering Competition for Programming

London, Ontario

### Reviewer for *Transportation Research Record*

### Certified Coursera Machine Learning Specialization

## Interests:

Star Gazing, Running, Rockets, Hiking