

## Education

### University of Toronto (Graduate)

September 2023- March 2025

- Candidate for Master of Engineering in Electriccal & Computer Engineering
- Recommended to enhance MEng program through promotional testimonial

### University of Waterloo (Undergraduate)

September 2018- June 2023

- Bachelor of Applied Science, Nanotechnology Engineering (With Distinction)

### Awards & Achievements

- President's Research Award (Sep 2019)
- President's Scholarship of Distinction (July 2019)
- Ontario Scholar, Minister of Education (Jun 2017)
- Top 25% in Euclid Mathematics Contest, Top 1 in highschool (2017)

## TA Experience

### APS1070 (Foundations of Data Analytics and ML)

Winter 2024, Summer 2024, Fall 2024, Winter 2025 @ UofT

- Marking, Tutorial (12 per term), Piazza, Invigilation
- Graded more than 200 projects per term

### CSC108 (Introduction to Computer Programming)

Winter 2024, Fall 2024 @ UofT

- Marking, Office Hour, Classroom Help, Invigilation

### MIE370 (Introduction to ML)

Summer 2024, Fall 2024 @UofT

- Created 2 Projects, 2 Tutorials, and 2 Exam questions.
- Marking, Office Hour, Invigilation

## Work Experience

### CarPlay Network Performance Optimization | Ford Motor | Python, Slash testing, DET

May 2022 - August 2022

- Fixed issues from the Transmission Control Unit (TCU) daily performance testing.
- Designed ways to optimize and test the TCU throughput in different scenarios.
- Fixed 40+ SSH exception issues by updating the Ubuntu and iPerf versions, changing the WLAN cmd.
- Fixed several selenium exception errs by changing the ChromeDriver version of the testing laptop.
- Wrote a guide on how to operate Ubuntu and how to use iPerf3 to run the performance tests, as well as how to fix certain common issues like SSH exception and selenium exception, for later testers' use.

### QA-Developer | Imagine Communications Corp | TypeScript, MySQL

January 2021 - April 2021

- Writing daily tests to notify the team of daily server status,
- Retrieving information from the webpage UI, also writing autonomous testing scripts to interact by clicks, keystrokes, etc (By css).

### QA Automation Specialist | Teranet CMS, Recovery Division | C#, Selenium

September 2020 - December 2020

- Writing regression tests with C# under Selenium framework.
- Optimizing test execution time and technical health.

### QA-Developer | Manulife, Online Banking Squad, Waterloo | JavaScript, React, WebDriver IO

January 2020 - April 2020

- Developed and fixed components in web pages using Modern (ES6) JavaScript, HTML, and MUX components.
- Wrote BDDs to test cross-browser (4 different browsers) behavior of online banking site, found and fixed 9 IE defects in total.
- Improved technical health of the entire code base, fixed 40+ SonarQube issues, achieved 98%+ code coverage.
- Conducted a product demo in a 50+ people group meeting, including developers, business analysts, stakeholders, and product owners.

## Projects (More on my [website](#))

### Emergency Route Planning | Python, LLM

September 2024- December 2024

- Used several APIs and geospatial analysis tools to simulate route planning.
- Devised a new algorithm based off from ACO which completely beats traditional Dijkstra in terms of total evacuation time.
- Deployed Meta-prompt using evaluation system, fed to LLM to produce the optimal route, leading to consistent outperformance compared to simple Dijkstra

### Food-Raccoon: Food Recommendation System | Python, LLM

November 2024

- Transform the 'craving flavour' into actual restaruant recommendations through LLM and several other APIs such as Yelp and Google Places.

### Autonomous Robot | LEGO MINDSTORMS

July 2018 - August 2018

- In a group of 3, successfully designed, programmed, & troubleshooted the robot to perform tasks, received 3rd place.
- Presented 4 tasks in final demo (retrieving and tracking), using only one month to prepare.

## Technical Skills

### Spoken Language:

English (IELTS score 8 )

Chinese (Mandarin, 1st language)

### Automation Testing:

SlashBDD, TDD, Selenium, Gherkins, React, Redux, Nodejs  
Cumcumber, WebDriver IO, BrowserStack,  
SonarQube, ESLint

### Azure:

Azure Data Factory, Azure Data Lake, Azure Databricks,  
Azure Cosmos DB, Azure Notebook

### Programming Languages:

Python, C++, Bash scripting,  
HTML, CSS, Modern JavaScript, Java, C#, Matlab, R

### Data/Circuit/Analysis:

MS Office, SQL Microsoft Server, LTspice, SolidWorks,  
AutoCAD, LayoutEditor