



Work Experience

Intel Corporation

FPGA IP Software Engineering Intern

May 2021–Aug 2022

- Developed an MxN AXI4 interconnect FPGA IP using **SystemVerilog** for increasing concurrent read throughput
- Designed a protocol agnostic performance monitor FPGA IP
- Optimized RTL designs by reducing area consumption and improving timing for faster execution

U of T Intelligent Sensory Microsystems Lab

Research Intern

May 2020–Aug 2020

- Developed new 3D computational imaging software to accurately detect and visualize nearby objects
- Applied classical computer vision and numerical computing techniques using **Python**, **NumPy**, and **OpenCV**

National University of Singapore

Student Researcher

May 2019–Aug 2019

- Developed mathematical simulations for environmentally friendly air conditioners to greatly reduce energy expenditure in tropical climates

Extracurriculars

U of T aUToronto self-driving car team

Traffic Light Handling Subteam Lead

Jul 2022–Present

- Built a traffic light handling pipeline using multi-threaded **C++** and **ROS 2**
- Designed pipeline to (a) synchronize camera detection streams; (b) localize 2D detections using ground truth map data; and (c) perform traffic light state filtering to handle misdetections

Trajectory Motion Planning Developer

Aug 2021–Present

- Member of onsite team that won 1st place overall in the 2022 SAE Autodrive Challenge II Year 1 competition sponsored by General Motors
- Researching a thesis on “Practical and Optimal Velocity Generation for Smooth Trajectory Planning for Autonomous Vehicles”

Personal Projects

FluidStride Computer Vision Running Gait Analysis

www.myfluidstride.com

Oct 2020–Apr 2021

- Creator and solo developer of computer vision software to analyze running form in 2D/3D
- Implemented various human pose estimation and running biomechanics papers in a **Python** and **Tensorflow** prototype to accurately study running gait

Awards

Hack The 6ix Best use of Google Cloud Prize	2020
U of T Engineering Science Research Opportunity Fellowship	2019, 2020
3 rd , UofT Engineering Competition Programming Challenge	2020
U of T Engineering Dean's Honours List	2018–2021
U of T Donald C. Leigh Memorial Scholarship	2018

Education

BASc | Engineering Science ECE

University of Toronto | 2018–Present

- 4th year
- cGPA: 3.73

Skills

Software Development

Languages

Python • C++ • Bash

Libraries and Frameworks

NumPy • Matplotlib • OpenCV •
Tensorflow 2.0 • ROS 2 • GoogleTest

Mobile and Web Development

Android • Jekyll • HTML • CSS

Development Tools

Git • Vim • Tmux

Hardware

FPGA Design

SystemVerilog • Quartus • VCS

Embedded Systems

Arduino • Raspberry Pi

General

Languages

English • Chinese • French

Soft Skills

Adaptability • Time Management •
Collaboration • Problem-solving

Interests

Triathlon

Foreign languages

Travelling