WALEED AHMED

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in waleed-a

w29ahmed

SKILLS



EXPERIENCE

Autonomous Vehicles Software Engineering Intern Huawei



Sep 2020 - Dec 2020

Toronto, ON

- Developed a unit test suite for a Frenét frame motion planning stack with 90% code coverage using Google Test
- Designed and implemented a path building library using C++ to aid in construction of a wide variety of reference paths to test motion planning algorithms on

Automotive ADAS Software Engineering Intern Qualcomm



i Jan 2020 - Apr 2020

Toronto, ON

- Developed system and application software for an ADAS & autonomous driving platform in C/C++
- Accelerated performance of a computer vision SDK by an average of 20x by leveraging available hardware and software architecture in automotive focused Snapdragon SoCs

Software Engineering Intern

Christie Digital

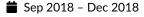


May 2019 - Aug 2019

- Kitchener, ON
- Worked closely with QA and UI/UX designers for user interface development and maintenance to meet release deadlines across a wide variety of platforms using the Qt framework in C++ and QML
- Significantly reduced the effort needed to maintain code health through software architecture redesign and setup of a continuous integration pipeline on a Jenkins build server that included unit tests with 90% code coverage using Google Test

Video Software Engineering Intern

Synaptive Medical



Toronto, ON



- Improved visibility of biological tissue during surgical procedures through color manipulation using C++ (OpenCV) and C#
- Post-processed image data in Python using Pandas, Numpy, and Matplotlib to analyze color manipulation

Industrial Imaging Software Engineering Intern P&P Optica



i Jan 2018 - Apr 2018

- Waterloo, ON
- Developed a robust image acquisition framework for rapid line scan imaging of food on an industrial conveyor belt
- Implemented image correction algorithms and post-processing for industrial cameras in **Python** using **Numpy**, **OpenCV**, and **Matplotlib**

DESIGN TEAMS

Software Team Lead

UW Robotics



Apr 2018 - Aug 2019

github.com/uwrobotics/RR2019

- Managed development for a robot that competed in the International Autonomous Robot Racing Competition
- Developed software architecture in ROS and C++ for perception, mapping, and path planning using a stereo camera, IMU, and LiDAR sensor

PROJECTS

Synviz

UofTHacks VII (3rd place)



i Jan 2020

github.com/w29ahmed/Synviz

- Built an IoT device that could decode spoken text from facial input
- Developed a backend web server in Python using Flask, Google Cloud Storage, OpenCV, and TensorFlow

Bicycle Sensor

ECE 298 Course Project



■ Dec 2019

github.com/w29ahmed/Bicycle-Sensor

• Designed hardware and software for an ultrasonic object detection module

Agilite

DeltaHacks V



H Jan 2019

github.com/w29ahmed/Agilite

 Built a Python backend using OpenCV and TensorFlow capable of recognizing handwritten text from an agile board

EDUCATION

B.ASc Computer Engineering, Artificial Intelligence Option



University of Waterloo

- **Sep 2017 Apr 2022**
- Udemy: Web Development Bootcamp
- Coursera: Self-Driving Cars Specialization
- Coursera: Machine Learning (Andrew Ng)
- Udemy: Computer Vision