

# WALEED AHMED

✉ w29ahmed@edu.uwaterloo.ca

☎ 647-708-7272

🌐 linkedin.com/in/waleed-a

🐙 github.com/w29ahmed

## SKILLS

C++ Python C C# QML JavaScript MATLAB Java

OpenCV ROS Qt .NET Flask TensorFlow Google Test

Git SVN Perforce Linux Bash Jira Jenkins GCP

## EXPERIENCE

### Automotive ADAS Software Engineering Intern

**Qualcomm**

📅 Jan 2020 – Present

📍 Toronto, ON

- Developing software features involving computer vision, cameras, and graphics for an autonomous vehicles platform



### 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**

📅 Sep 2018 – Dec 2018

📍 Toronto, ON

- Improved visibility of biological tissue during surgical procedures through colour manipulation using **OpenCV** in **C++**
- Facilitated full control of camera settings through a **.NET** application that served as a frontend interface to a serial communication protocol
- Enabled intuitive usage of a colour manipulation algorithm through a web interface built with **JavaScript**, **HTML**, and **CSS**
- Post-processed image data in **Python** using **Pandas**, **Numpy**, and **Matplotlib** to analyze colour manipulation
- Used **C#** to integrate image processing algorithms with existing software architecture in a Windows environment



### Industrial Imaging Software Engineering Intern

**P&P Optica**

📅 Jan 2018 – Apr 2018

📍 Waterloo, ON

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



## DESIGN TEAMS

### Path Planning Core Member

**WATonomous**

WATO

📅 Sep 2019 – Dec 2019

- Simulation software development for a level 4 autonomous vehicle competing in the **SAE AutoDrive Challenge**

### 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)**

📅 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**



### Agilite

**DeltaHacks V**

📅 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

**University of Waterloo**

📅 Sep 2017 - Apr 2022



### Online Coursework

- Coursera: Intro to Self-Driving Cars
- Coursera: Machine Learning (Andrew Ng)
- Udemy: Computer Vision