# WALEED AHMED

w29ahmed@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 – 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**

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**

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, Artificial Intelligence Option
**University of Waterloo**

Sep 2017 - Apr 2022

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