### WALEED AHMED

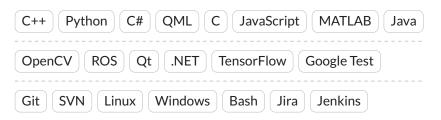
w29ahmed@edu.uwaterloo.ca

**4** 647-708-7272

in linkedin.com/in/waleed-a

github.com/w29ahmed

#### **SKILLS**



### **EXPERIENCE**

# Software Developer 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**
- User interface and backend development for a high-profile application that will enable seamless and efficient control of up to 256 projectors to deliver a world-class visual experience at Expo 2020 in Dubai

### Video Software Developer

#### Synaptive Medical

▼ 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 Developer P&P Optica



m Jan 2018 - Apr 2018

♥ Waterloo, ON

- Developed software on **Linux** machines for industrial imaging applications with **Git** version control in an **agile** environment
- Implemented image correction algorithms and post-processing for industrial cameras in **Python** using **Numpy**, **OpenCV**, and **Matplotlib**
- Refactored data handling modules for efficient file input/output and wrote unit tests for them in **Python** using Pytest
- Restructured camera control modules in **C** that use the Camera Link serial protocol to interface with the camera for control purposes

### **DESIGN TEAMS**

## Path Planning Core Member WATonomous



Sep 2019 - Present

- Developing a simulation tool to efficiently test trajectory planning and costmap generation using ROS, Qt and C++
- Contributing to software development for a level 4 autonomous vehicle competing in the SAE AutoDrive Challenge

## Software Team Lead **UW Robotics**



math 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
- Implemented a lane detection algorithm capable of handling variable lane widths, curvature, and lighting conditions at a maximum of 25 Hz using OpenCV
- Introduced a new lightweight traffic light detection algorithm using OpenCV that reduced overhead and false positive rate

### **PROJECTS**

#### **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



Online Coursework

- Coursera: Machine Learning (Andrew Ng)
- Udemy: Machine Learning A-Z
- Udemy: Computer Vision