WALEED AHMED

w29ahmed@edu.uwaterloo.ca

4 647-708-7272

in linkedin.com/in/waleed-a

github.com/w29ahmed

SKILLS



EXPERIENCE

Automotive ADAS Software Engineering Intern Qualcomm



🛗 Jan 2020 - Present

♥ Toronto, ON

• Developing software features involving machine learning, cameras, graphics, and computer vision for an autonomous vehicles platform

Software Engineering Intern

Christie Digital

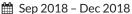


May 2019 - Aug 2019

- **♥** 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





- 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**

through colour manipulation using OpenCV in C++



- m 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**



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

Software Team Lead **UW Robotics**



WATO

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

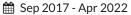
github.com/w29ahmed/Agilite

• 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: Computer Vision
- Udemy: Machine Learning A-Z