# WALEED AHMED

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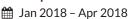
**4** 647-708-7272

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github.com/w29ahmed

### **EXPERIENCE**

# Industrial Imaging Software Developer P&P Optica



♥ Waterloo, ON



- Developed software for industrial imaging applications on Linux machines 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
- Refactored camera control modules in C/C++ that use the Camera Link serial protocol to interface with the camera for control purposes
- Documented software design decisions and a troubleshooting guide to efficiently debug issues pertaining to image acquisition

# Simulations Lab Assistant University of Waterloo

May 2017 - Aug 2017

♥ Waterloo, ON



- Simulated thermal management systems in COMSOL Multiphysics to be integrated with high power laser diodes in order to maximize device lifetime and performance
- Conducted literature review on state-of-the-art semiconductor devices and cooling techniques
- Wrote technical report on results and analysis of simulation data; accepted for publication as an **IEEE** conference paper

## **PROJECTS**

#### Arduino Jukebox

github.com/w29ahmed/Arduino-JukeBox



- Programmed in C++ to use analog input from a variable resistor to cycle through a list of songs displayed on a 16x2 LCD screen
- Songs are hard coded frequency patterns digitally sent to a piezoelectric speaker

#### Arduino Voltmeter

github.com/w29ahmed/Arduino-Voltmeter



• Programmed in C++ to utilize a voltage divider circuit in order to read voltages up to 500 V with an error of  $\pm 1.4\%$ , displayed on a 16x2 LCD

### Toronto Raptors Image Classifier

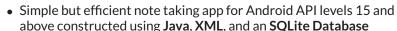
github.com/w29ahmed/toronto-raptors-classifier



• Utilized transfer learning on Google's Inception v3 image classifier to identify players on the Toronto Raptors using **TensorFlow**, an open source machine learning framework in **Python** 

#### Android Notes App

github.com/w29ahmed/Notes\_App



## **SKILLS**

Python C++ MATLAB Java

SQLite Git Linux

Microcontrollers

COMSOL Multiphysics

### **EXTRACURRICULAR**

# Software Team Member UW Robotics



Apr 2018 - Current

 Working on software architecture using a Linux based framework: ROS (Robot Operating System), for efficient package management and communication between machine vision modules in C++

# Marketing Director NanoRobotics Group



**M** Oct 2016 - Apr 2018

- Responsible for in-team logistics such as funding allocation, business proposals, and delegation of administrative tasks to ensure functional team structure
- Acquired \$4000+ in funding and sponsorships through pitching proposals

### Orientation Leader University of Waterloo



## Aug 2017 - Sept 2017

 Front-line leader responsible for directly interacting with first years and leading them throughout orientation week events

# **INTERESTS**

Arduino Image Processing

Machine Vision Hyperspectral Imaging

Software Development Self-learning

Basketball Toronto Raptors

## **EDUCATION**

B.ASc Computer Engineering University of Waterloo



