WALEED AHMED

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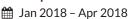
4 647-708-7272

in linkedin.com/in/waleed-a

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 (±1.4% error) and display it on a 16x2 LCD screen

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

• Simple but efficient note taking app for Android API levels 15 and above constructed using **Java**, **XML**, and an **SQLite Database**

SKILLS

Python C++ MATLAB Java
SQLite Git Linux
Microcontrollers

ACTIVITIES

COMSOL Multiphysics

Software Team Member



Apr 2018 - Current

UW Robotics

 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 new students 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



2017-2022