WALEED AHMED

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github.com/w29ahmed

EXPERIENCE

Software Engineering Intern Synaptive Medical

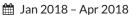
Sep 2018 - Present

♥ Toronto, ON



- Implemented a colour contrast enhancement algorithm in C# using three dimensional look up tables in order to improve visibility of biological tissue during surgical procedures
- Created a front-end interface using JavaScript, HTML, and CSS for testing/diagnostics of colour correction algorithms through an in-house web API paired with a foreign function interface (FFI) between Visual C++ and C#
- Refactored various dynamically linked libraries for colour corrections into a single library for more efficient and organized software architecture

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

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

Toronto Raptors Image Classifier

github.com/w29ahmed/toronto-raptors-classifier



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 a SQLite Database

SKILLS



ACTIVITIES

Software Team Member UW Robotics



Apr 2018 - Current

- Developed software architecture using a Linux based framework: ROS (Robot Operating System), for efficient package management and communication between machine vision modules in C++
- Used CUDA, NVIDEA's parallel computing platform for GPU optimization of OpenCV code in C++ for lane and object detection

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

INTERESTS

Machine Vision Image Processing

Machine Learning Self-teaching

Basketball Toronto Raptors

EDUCATION

B.ASc Computer Engineering University of Waterloo



2017-2022

Online Coursework

- Stanford University: Machine Learning with MATLAB by Andrew Ng
- Machine Learning A-Z: Hands-On Python & R In Data Science