# ABDULLAH ALZAIDY

## CONTACT


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doitmaan


## EDUCATION

University of Western Ontario — Sept. 2015 to Current

B.E.Sc. Mechatronics Engineering 2020

B.Sc. Medical Physics 2020

## SKILLS

**HARDWARE:** Arduino, Raspberry Pi, Circuit board soldering, Multimeter, Signal Generator, Motorola 68HC11 Microcontroller, FPGA, Oscilloscope

**SOFTWARE:** C++, MATLAB, C, MATLAB Simulink, Python, Java, Linux(OS), SQL, Arm Assembly, JavaScript, Jmeter, ROS(Robot Operating System)

**FRAMEWORKS & LIBRARIES:** InfluxDB, Kafka, Docker, Graphite, Grafana, ElasticSearch, Redis, Kibana, Apache Kibana, CMake, OpenCV, PyQt, NumPy, SciPy, Matplotlib, Pandas, PyAutoGUI, Scikit-learn, Jupyter, Nginx, Jmeter, ROS, Selenium, Caffe, TensorFlow, Torch

**CAD SOFTWARE:** SolidWorks, MicroCap (Circuit Simulation), KICad (PCB Circuit Design), 123D design, CES (Material Selection), Quartus II, Eagle, Solidworks simulation

## EXPERIENCE

IBM — Markham, Ontario, Canada

Software Developer Intern (IBM Digital Commerce-Application Development Team) — Sept. 2018 to Current

• Developing automated functional verification test cases and maintained automated testing buckets that run on a daily continuous integration pipeline that points towards a dockerized server application

• Worked on the project of rectifying application server legacy code towards the goal of rectifying all the end points possible for a new release that gives users the capabilities of setting up the store though Rest API calls, and eventually for developers to be able to easily and quickly redesign the old layout, and to be able to come up with new user interface.

• Rectifying took place using JPA mapping framework.

• Java, PostMan, Rest-Assured, Python, Selenium, YML files, Swagger, Gradle, Shell Scripts, Bash, Junit, Maven, Nginx, and Docker.

IBM — Markham, Ontario, Canada

Performance Analyst Intern (IBM Digital Commerce-Performance Team) — May 2018 to Sept. 2018

• Monitored concurrent multi-threaded load test using JMeter to uncover functional or performance issues when the system is under a constant load.

•Used Apache JMeter to create ,Modify and managed the test plans Repo

• Automated maintenance tasks using Shell scripts

•settee up Graphite, Grafana, and New Relic to set up monitoring dashboards for performance analysis on docker-based environments

• Investigated memory leaks, thread locks, and bottlenecks on docker-based environments and assisted in enhancing the performance and capacity

• Automated Javacores/thread dumps, and Heapdumps dumping and extraction from the Dockrazied JVM servers during testing for better understanding the issues of the memory leaks and thread locks

• Self-initiated working on a user interface cross platform executable application to automate the dumping and extraction of heap-dumps and java cores/thread-dumps in a time-series manner . This is to allow the team members to extract heap-dumps and thread-dumps continuously throughout the capacity loading test on the docker-based environments to be able to investigate any memory leaks or thread-locks states through out the varying loading test. Used PyQt, Python, and Requests

• Researched different methods to achieve automated in real-time autoscaling for the docker based applications, was able to come up with a multivariable regression model

• Continuously researched and tried different docker configurations to achieve desired performance indexes

• Python, Requests, Graylog, Kibana, Kafka, Docker, Mesos, Marathon, DC/OS, Redis, Shell Script, docker, Bash, Git, JavaScript/Java, New Relic, Grafana, Apache JMeter, and Graphite

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## CERTIFICATES

Machine Learning · Stanford University — Mar. 2019
See Certificate:
https://www.coursera.org/account/accomplishments/certificate/RNS86HE2YSWK

Python for Data Science · IBM — Jan. 2019
See Credential:
https://www.youracclaim.com/badges/0684dfa6-f610-4fc5-b67e-a36002bae66c/linked_in_profile

Applied Data Science with Python - Level 2 · IBM — Jan. 2019
See Credential:
https://www.youracclaim.com/badges/20966090-3fd0-4845-a390-1178d0a702bc/public_url

Statistics 101 · IBM — Jan. 2019
See Credential:
https://www.youracclaim.com/badges/5bdfdc49-c3a6-49d0-b385-5b8cc1bfe1ac/public_url

Certified Associate - Mechanical Design (CSWA) · SolidWorks — Apr. 2017
CERTIFICATION ID:C-G9LSF744B3

## AWARDS

University of Western Ontario · Engineering Dean's Honor List — June 2016

University of Western ntario · The Western Scholarship of Excellence — Sept. 2015

## PROJECTS

### Generic Vision Object Tracking — Feb. 2019 to Mar. 2019
• This project is a sub-project of a larger goal of being able to track a moving frame from another dynamic frame.
• Used OpenCV for tracking algorithms and looking forward to incorporating more than one camera including a heat camera, and adding a camera filter to be able to predict the dynamic moving feature within the moving reference frame. Thus, towards the main objective having a manipulator, being able to point the end effector towards the target in real-time.
• I am also looking towards implementing this in Nvidia-Jetson as the processor.
Link: https://github.com/doitmaan/OpenCV-PRACTICE

### Machine Learning Handwritten Digit Recognizer — Jan. 2018 to Feb. 2018
• Implementing a handwritten character recognition Algorithm using machine learning with several classifier Multi-Layer Perceptron using Matlab
• It is able to distinguish and recognize handwritten digits

### Environment Data Collection And Prediction of IoT System — Jan. 2018 to Mar. 2018
• Using NodeMCU (based on ESP8266, integrated with GPIO, PWM, IIC, WIFI, 1-Wire, and ADC) implemented a system programmed using "C" that would transfer measured data from the environment to the cloud then proceed to process the data using Machine Learning algorithms in order to form predictions regarding the environment's future state.
• Incorporated Humidity, Temperature, Gas, and an Optical sensor to collect data regarding the system's environment
• Used MATLAB to organize and analyze data
• Processed the data using a Machine Learning algorithm implemented on MATLAB and successfully made predictions regarding the environment's status at a given time.

### Six Bar Linkage Suspension — Sept. 2017 to Oct. 2017
• Phase 1: Defining the output motion, performing a position analysis, performing a velocity analysis, performing an acceleration analysis, and performing a jerk analysis
• Phase 2: Designing a cam and follower.
• Phase 3: Performing vibration analysis.

### RISC (REDUCED INSTRUCTION SET COMPUTER) CPU — July 2017 to Aug. 2017
• Using Logisim CAD software, designed a 12 bits wide RISC processor with 12 instructions
• A second version was to modify the design to 16 bits data wide
Link: https://github.com/doitmaan/RISC-CPU-2" target="_blank

### Autonomous Pyramid Picker — Feb. 2017 to Apr. 2017
• A fully autonomous driving robot designed to collect and place cubes and pyramids.
• Navigation is achieved by using an internal "map" of the key objects in each area, in combination with real-time sensor data. Programming the microcontroller using embedded "C".
• 3D Modelling using Solid works, using 3D laser cutting for prototyping.
• Bluetooth beacons used to locate the IR target.
• ASCII code was processed from the signal received from the IR emitters

### AM Radio — Oct. 2016
• Built an AM radio receiver part of a second-year physics course
• Applied RLC circuit knowledge to build the AM receiver
• Soldered the components in a PCB

### Push Up Alarm Clock — Oct. 2015
• Built an alarm clock that can only be turned off by doing push-ups
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• A variety of proximity and touch sensors were used