

# Sammy Al Hashemi



 Device Characterization Engineer

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## \* Skills

Python 

80%

Angular 

75%

ES - ES6 - JS

40%

Java 

30%

## Languages

English



## Work Experience

### Device Characterization and Product Engineering Intern *Microsemi Corp.*

 July 2017 - August 2018

- Worked on development of test structures and designs used to assess and characterize Microsemi FPGA products that went to market.
- Took part in weekly meetings to update and collaborate with a subset of my team in India.
- Performed design creation, design simulation, and design testing at offsite vendors to fully characterize the component(s) worked on.

### Undergraduate Research Assistant *University of Toronto, AP<sub>2</sub>D Labs*

 May 2015 - Sept 2016

- Worked with modelling language LAMMPS to simulate different behavior of different gaseous substances being introduced to a carbon substrate.
- This project furthered the understanding of the graphene production process, specifically if it can be synthesized at lower temperatures using AiMS instead of the normal, energy intensive, CVD process.

## Thesis

 July 2017 - **Present**

- Today's classical computers do not carry the capacity to be able to break modern encryption algorithms without first knowing secret keys that initialize the algorithm.
- With the emergence of quantum computers, quantum algorithms such as Shor's (integer factorization) and Grover's (database query) pose a potential security threat.
- This year, I will be programming scalable versions of Shor's and Grover's algorithms for my thesis under Professor Glen Gulak.



## Education

### University of Toronto

#### Bachelor of Applied Science and Engineering *Department of Engineering Science*



Sept 2014 - Present

Enrolled in the Engineering Science Program. I chose the Physics option which focuses on engineering design with major physics applications

**cGPA:** 3.56



## Projects

### Robot Pipe Scanner

- Electromechanical member of a group building a robot capable of scanning a pipe for “radioactive waste” (black dots) and count the occurrences.
- Team meetings twice a week to update on our individual progress and collaborate on future plans
- It follow the following constraints:
  1. Be able to scan dots located anywhere of the circumference of the pipe and at any location along the pipe's length.
  2. Not scratch the pipe
  3. Include an emergency stop button
  4. To record the number of instances of black dots and record their location

### Finder Thingy

- Personalized list of branches where I could look up the closest locations to me
- I used Alamofire to access the Google Maps/PlacesAPI
- De-structured the returned JSON to supply the user with direction information.
- This was an introductory app that really wasn't that great at all, but I'm proud of the fact that it was my first.

### Personal Website

- Single-page application written in an Angular6 frontend
- Animations to liven up pages
- Uses complex angular routing features
  - data transfer with route parameters
  - asynchronous picture loading with Firebase Storage
  - route animations
  - route resolvers
  - lazy loading