

# Rahman Qureshi

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## EDUCATION

University of Toronto, *BASc in Engineering Science – Computer Engineering*

Expected Graduation 2018

- Honor Roll 2013 – 2014, 2015 – 2016

## SKILLS

- Fluent in Java, C++/C, Python, HTML, CSS, Javascript
- Technologies: Linux/Unix, Git, MongoDB/MySQL, Amazon EC2, Heroku, Atmel Studio, Visual Studio, Arduino

## PROFESSIONAL EXPERIENCE

IPD Engineer

May 2016 – Expected December 2017

Intel San Jose, CA, USA

- Worked on Transceiver (XCVR), Fractional Phase-Locked Loop (FPLL) of Intel's new 14nm FPGA, Stratix 10
- Wrote a regression test suite for FPLL to verify connectivity, bit settings, and simulation model behaviour that is now used by entire SJ IPD group to validate FPLL changes. Suite is now part of the nightly build process
- Solved critical XCVR simulation model bugs submitted by high profile customers which required an intimate knowledge of digital design, and XCVR microarchitecture and functional spec
- Wrote Tcl scripts to automate and customize quartus flow for test designs
- Wrote python scripts to automate comparison of prefit and postfit netlists to help debug fitter

Research Intern

May 2015 – August 2015

Ultrasonic Non-Destructive Evaluation Laboratory

Toronto, ON, Canada

- Summer research to develop a method to detect weak adhesion using ultrasound and machine learning
- Wrote Python API for precision motion control system (bypassing company's GUI based software) to enable automated collection of large dataset consisting of 20M+ points
- Built theoretical thin-layer models in Matlab predicting pulse reflection from embedded adhesive layer
- Used python's numpy/scipy for signal processing/statistical analysis of data and scikit-learn for machine learning

Backend Web Developer

May 2014 – August 2014

University of Toronto Information and Technology Services

Toronto, ON, Canada

- Worked on backend of a new website that is similar to google API console as part of an initiative by the university to enable students to access University data
- Used JAX-RS and JPA (JavaEE) to provide restful account/user/api services
- Helped design data APIs with a focus on RESTful convention and simplicity to be implemented by future interns

## EXTRACURRICULARS AND PERSONAL PROJECTS

University of Toronto Aerospace Team

May 2015 – May 2016

- Worked on the power subsystem of a 3U CubeSat as part of the Canadian Satellite Design Challenge
- Designed, simulated, and refined battery balancing analog circuit which was subsequently laid out on the power board
- Characterized battery Q-V curve of our Li-Ion battery to determine battery life remaining during satellite operation
- Wrote C drivers for port expanders, temperature/humidity/light sensors

Programming Competition Director

May 2015 – January 2016

- Designed a programming competition package for the University of Toronto Engineering Competitions
- Spent a lot of time researching other competitions, research papers and algorithm textbooks and writing multiple problem statement drafts and prototyping them to assess viability and difficulty
- Made a route planner using City of Toronto open map data and visually displayed route with Google Maps API

8x8x8 LED Cube

May 2016 – July 2016

- Designed, built and programmed an LED cube from scratch including base PCB and analog circuitry
- Drove 512 LEDs with 3 Atmega328P outputs by chaining shift registers and created easy-to-use C control interface

House Doctor

December 2015

- Android app that delivers emergency medical information via SMS using the Twilio API

References Available Upon Request