

# Alex Klemenchuk | Software Engineer

Oakville, Ontario, Canada

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*Recent Computer Science graduate with broad interdisciplinary experience in low level software, electrical engineering self-study, and a keen interest in building embedded devices*

## EDUCATION

### University of Toronto Mississauga

HBSc - With High Distinction - Computer Science Specialist

GPA: 85.6/100

Ontario, Canada

June 2019

## EXPERIENCE

### Firmware Developer Co-Op

Cognitive Systems

Waterloo, Ontario

May 2017 - December 2017

- Created efficient software implementation of WiFi 802.11g PHY layer transmitter on resource constrained custom vector processor with test bench suite involving remotely instrumenting spectrum analyzers.
  - Created Linux kernel driver patches.
  - Improved speed and sensitivity of LTE cell detector.
- (C, Python, Matlab, RF Encoding, Embedded Systems)

### Teaching Assistant

University of Toronto Mississauga

Mississauga, Ontario

January 2017 - April 2019 (4 Contracts)

- *Computer Organisation (3 contracts)*: Responsible for running labs and marking. The labs utilised Altera DE2 Boards and logic simulation software to teach computer design. Reworked and created new course material for labs.  
(Quartus, Verilog, MIPS Assembly, Digital Logic Design)
- *Introduction to Computer Programming (1 contract)*: Responsible for running labs and marking. Introduced basics of Python and programming.  
(Python)

### Open Source Project Work Course (ReviewBoard.org)

Beanbag, Inc.

Mississauga, Ontario

September 2018 - December 2018

- Developed plugins, feature additions and bug fixes to the back-end and front-end with consistent code style, documentation, and full testing suite.
  - Maintained consistent code quality through collaborative code review, and produced demo videos of features.
- (Code Review, Python, Django, Backbone.js)

## ACADEMIC FOCUS

- Embedded Systems
- Networking
- Systems Programming
- Machine Learning, Image Understanding
- Compilers
- Computer Graphics
- Parallel and scalable programming

## AWARDS AND ACHIEVEMENTS

Math & Computational Sciences Honor Roll - University of Toronto

- Gamma Award (3 CS Courses 90%+): 2018, Winter semester
- Gamma Award (3 CS Courses 90%+): 2016-2017
- Delta Award (2 CS Courses 90%+): 2015-2016

## HOBBY PROJECTS

### Taco Compass - [github.com/alextechcc/taco\\_compass](https://github.com/alextechcc/taco_compass)

2018

A plush taco that acts as a compass pointing at the nearest taco restaurant. Uses a Raspberry Pi, 3D printed parts, a homemade PCB, a USB GPS, a 9-dof IMU sensor, and scraped Google Places API data.

### Fish Assistant - [github.com/alextechcc/fish\\_assistant](https://github.com/alextechcc/fish_assistant)

2017

Google Assistant implemented on Raspberry PI in a Big Mouth Billy Bass that speaks and moves its mouth to respond to you.

## SKILLS

Fluent In

Competent In

Some Knowledge Of

Python, C, Git, Shell Scripting,  
Electronic Test Equipment

Wired Comm. Protocols, JTAG,  
WiFi (OFDM PHY), GDB, C++,  
Makefiles, Security, Matlab

AWS, Verilog, DSP, KiCad (PCB  
Design), Fusion360