Alex Klemenchuk | Embedded Developer

Oakville, Ontario, Canada

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Broad interdisciplinary experience in low level software, and a keen interest in building embedded devices.

EDUCATION

University of Toronto Mississauga   **Mississauga, Ontario, Canada**
HBSc - With High Distinction - Computer Science Specialist   *June 2019*
GPA: 85.6/100

EXPERIENCE

Embedded Display Software Engineer   **Markham, Ontario, Canada**
Qualcomm Canada   *October 2019 - Current*
- Enabling, debugging, and verifying hardware features on Windows display drivers for mobile ARM SoCs using protocol analyzers and hardware debuggers.
- Contributing to code reviews, design discussions.
- Collaborating with internal and external teams in order to deliver features in a timely manner.

(**C, C++, Driver Development, Software Architecture**)

Firmware Developer Co-Op   **Waterloo, Ontario, Canada**
Cognitive Systems   *May 2017 - December 2017*
- Created efficient software implementation of WiFi 802.11g PHY layer transmitter on resource constrained custom vector processor with test suite involving remotely instrumenting spectrum analyzers.
- Created Linux kernel driver patches and improved speed and sensitivity of LTE cell detector.

(**C, Python, Matlab, RF Encoding, Embedded Systems**)

Teaching Assistant   **Mississauga, Ontario, Canada**
University of Toronto Mississauga   *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**)   **Mississauga, Ontario**
Beanbag, Inc.   *September 2018 - December 2018*
- Developed plugins, feature additions and bug fixes to the web back-end and front-end with consistent code style, documentation, and test 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%+): 2018-2019
- Gamma Award (3 CS Courses 90%+): 2017-2018
- Gamma Award (3 CS Courses 90%+): 2016-2017
- Delta Award (2 CS Courses 90%+): 2015-2016

Dean's List Scholar - University of Toronto

PERSONAL PROJECTS

PebbleMIDI - github.com/alextechcc/PebbleMIDI   *2019*
Pebble Smartwatch and Android app that forwards accelerometer and button press data from the watch as MIDI over USB to control audio effects while playing an instrument.

Taco Compass - 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, homemade PCB, USB GPS, 9-DOF motion sensor, and scraped Google Places API data.