KARIM EL HALLAOUI

301-1070 Emile-Bouchard, Vaudreuil-Dorion, QC, Canada J7V 0B6
Phone Number: (438)869-1555, Email: karim.elhallaoui@mail.mcgill.ca

SKILLS

Spoken and Written Languages: French and English.

Programming Languages: MATLAB, python, Java, C#, C, Machine C, Assembly, VBA, SPICE and VHDL.

Technical Competencies: Machine learning algorithms using biosensor data for detecting cancer.
Micro-electromechanical systems (MEMS) fabrications techniques.
Embedded systems design and microprocessor programming (ARM).

ACADEMICS

2015 **McGill University - Master's in Electrical Engineering** (Montreal)
Research based Master's Degree in Electrical Engineering supervised by Prof. Coates.
Design of a wearable breast cancer detection system using RF signals and machine learning classifiers for diagnosis. Minituarized the components used for generating RF pulses. Conducted test experiments on breast phantoms. Implemented anomaly detection algorithms for classifying tumorous scans.

2011 - 2015 **McGill University - Bachelor in Electrical Engineering** (Montreal)
Grade Point Average: 3.71/4.0

Winter 2014 **Hong Kong Polytechnic University** (Hong Kong)
McGill Student Exchange Program

PROFESSIONAL EXPERIENCES

Summer 2014 **ITF Labs** (Montreal) - R&D group for ultra-reliable fiber-optics.
- Designing integrated electronics for testing incoming PCBs.
- Designing a test and surveillance station for the stress test of high powered lasers.

Summer 2013 **Discovery Air Defence Services** - Canadian Air-Force training services.
- Performing maintenance and modifications to the on-board avionics of aircrafts.
- Preparing engineering plans for repairs to be excuted by the technical teams.
- Creating VBA tools for the ease of inventory management with the logistics team.

2007 - 2009 **CSC (Central Student's Committee)** - Lester B. Pearson School Board
- Elected co-chair and representative for the Central Student's Committee.
- Responsible for proposing board-wide motions, budgets and projects.
- Managed the budget and a team of 20 head-organizers for board-wide event realization.

TRAINING

2015 **Design of a MEMS Electrostatic Motor** - UQAM University
- Surveying available literature pertaining to the design and control of MEMS motors.
- Defining design parameters in coordination with other teams involved in the project.
- Designing a microelectronic control system for the MEMS motor to rotate at 10,000 rpm.

2012 **Autonomous Basketball Playing Robot** - McGill University
- Designing the mechanical structure and throwing arm mechanism.
- Managing and organize team meetings and work hours using Gantt Charts.
- Programming Java in real-time, debugging and integrating with mechanical design.

2008 - 2009 **National Canadian Student Leadership Conference** - CSLC
- Organized leadership and team building workshops and training with the National Associaton for Student Leadership in Canada.

PUBLICATIONS

K. El Hallaoui, A. Santorelli, M. Popović, M. Coates. "A miniaturized clock generator for a time-domain microwave breast health monitoring device". ANTEM, 2016.

AWARDS AND SCHOLARSHIPS

McGill Mobility Award, Rio Tinto-Evans Exchange Award