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Education

2009 - 2014 **B.Eng., Mechanical Engineering**
McGill University – Montreal, Quebec

Relevant Experience

- 8/2013 - 8/2014 **Co-Founder & Mechanical Engineering Lead** ~
McGill Robotics – A.U.V. Design Team – Montreal, Quebec
3rd place static, 10th place overall – AUVSI International RoboSub Competition in San Diego - July 2014
- Created and implemented a comprehensive team structure, brand strategy, work environment, and management system for a student organization with 98 members
 - Lead all mechanical design, manufacturing, implementation, and testing for the team of 60 developing an autonomous underwater vehicle from scratch
- 9/2013 - 7/2014 **Development of a Variable-Friction Shoe-Surface Mechanism** ~
Independent Interdisciplinary Design Project – Montreal, Quebec
- Created from scratch a mechanism to fit in the sole of a shoe and dynamically simulate the friction of a full range of surfaces
 - Designed the mechanical, electrical and software systems using Inventor and Arduino
 - Manufactured complete functioning prototype of mechanism to 0.05mm tolerances using conventional milling & turning, CNCing, and welding
 - Implemented a PD controller to actuate two compact braking pads using a stepper motor, gear system, and lead screws
- 9/2013 - 5/2014 **Development of the Propulsion & Control System for an A.U.V.** ~
Mechanical Engineering Senior Capstone Project – Montreal, Quebec
- Designed and simulated a 5-DOF propulsion and control system using C++ and ROS
 - Implemented the system by interfacing with the planner, computer vision, and motor control
- 8/2012 - 8/2013 **Material Collection System Leader | Marketing & Media Director** ~
McGill LunarEx Robotics Design Team – Montreal, Quebec
Placed 12th out of 50 international teams at NASA's Lunabotics Mining Competition in Orlando, Florida
- Lead the efforts of a five person group responsible for designing, manufacturing and assembling the mechanism that collects and dumps lunar regolith simulant
 - Brought original concepts to realization through CADing, machining, assembly, and testing
 - Developed rebranding strategies to increase interest in robotics and team credibility

Software & Programming Skills

Computer Aided Design: *Inventor, Solidworks, AutoCAD*

Data Analysis: *MATLAB, Excel*

Programming Languages: *Python, C, C++, Objective-C, ROS*

Version Control Systems: *Git, Autodesk 360*

Web Development: *HTML5, CSS, Markdown, Jekyll, Google Analytics, SEO*

Digital Typesetting: *LaTeX*

Media & Graphics: *Illustrator, Lightroom, Photoshop, InDesign, Final Cut Pro*

Last updated September 10, 2014 • For the most recent version, see michelelliotking.com/resume