Michael Elliot King

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Education

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

Relevant Experience

8/2013 - Present **Co-Founder & Mechanical Engineering Lead**
McGill A.U.V. Robotics Design Team – Montreal, Quebec
Competing in the AUVSI International RoboSub Competition in San Diego

- Created and implemented a comprehensive structure, brand, environment, and management system from scratch for a student organization with 98 members
- Lead all mechanical design, manufacturing and testing for the team of 60 creating an autonomous underwater vehicle

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