

# Michael Elliot King

DEPARTMENT OF MECHANICAL ENGINEERING  
MCGILL UNIVERSITY  
817 Sherbrooke Street West  
Montreal, Quebec H3A 0C3 Canada

☎ 1 (633) 633-0828  
✉ [michael.king2@mail.mcgill.ca](mailto:michael.king2@mail.mcgill.ca)  
in [linkedin.com/in/michaelelliottking](https://www.linkedin.com/in/michaelelliottking)  
🌐 [www.michaelelliottking.com](http://www.michaelelliottking.com)

## 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 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*

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

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