

# Michael Elliot King

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## Education

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

## Experience

- 9/2014 - Present **MECHANICAL ENGINEER I** ~  
*Charles River Analytics* – Wakefield, Rhode Island
- Lead design of maintenance & operations logistics of next generation large displacement unmanned underwater vehicle [LDUUV]
  - Sourced, tested, and implemented a submersible pneumatic and electrical system for urgent surfacing maneuvers
  - Designed a pressure-balanced oil-filled electronics enclosure & tested it in a hyperbaric chamber to full ocean depth
- 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
  - Designed the vehicle assembly with Inventor for FEA, dynamic modeling, 3D printing, machine drawings
- 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

## Software & Programming Skills

Computer Aided Design: *SolidWorks, Inventor, 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*

Last updated November 17, 2015 • For the most recent version, see [michaielelliotking.com/resume](http://michaielelliotking.com/resume)