Nick Speal

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Objective A full-time systems engineering management position in California

Education

McGill University (Montreal, Canada) 2009-2014
Bachelor of Mechanical Engineering
Louis C. Ho Scholarship & Dean's Honour List
CGPA: 3.9/4.0

Leadership

Founder and Project Manager, McGill Robotics 2011-2014
- Led the growth of the team from 2 to 120 members
- Oversaw yearly design cycles, from concept to deployment, of three different robots competing in international competitions
- Raised over $90,000 of cash and in-kind donations from sponsors over two years, and managed the budget to balance competing priorities
- Solved technical problems with 22 division and section leaders across all systems
- Manufactured numerous parts on the lathe, mill, and other machine tools

Academic Projects

Propulsion and Control System for an Autonomous Underwater Vehicle
- Developed a 5-DOF control system in C++ and ROS
- Established and iterated upon interface requirements with the autonomous planner and for state feedback from computer vision and other sensors

Braille University: iOS Application
- Development of an iOS app to help blind users learn braille
- Conducted extensive testing to optimize user experience.

Research Experience

McGill Aerospace Mechatronics Lab Summer 2013
Prof. Inna Sharf & Prof. Meyer Nahon
- Designed and conducted experiments on a quadrotor aircraft to facilitate autonomous takeoff and landing
- Published work on thruster performance characteristics at very low altitudes in the 2014 International Conference on Unmanned Aircraft Systems
- Studied a variety of sensors for altitude measurement, with a focus on LiDAR

McGill Shockwave Physics Group Summer 2012
Prof. Andrew Higgins
- Independently developed a granular dynamics physics simulator in MATLAB
- Collaborated to perform detonation experiments and source components for a Photon Doppler Velocimeter for hypervelocity measurements.

McGill Structural Dynamics and Vibrations Lab Summer 2011
Prof. Christophe Pierre
- Quickly and independently learned the Python programming language to develop a graphical user interface
- Debugged and validated code to deliver a stable and reliable application now used for turbomachinery simulations