# Daniel Johnson

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**Goal:** To work with a team solving interesting problems in biomechanics and technology. In particular, I'm passionate about playing sports competitively and using technology to improve athlete performance or training would be my ideal role. At *Thalmic Labs*, I think that my knowledge of biomechanics and skills in development would be used to help develop interesting applications for the *Myo* related to sports performance and athlete training.

## Skills

- **Development:** objective-C/Cocoa, C/C++, Python, MATLAB, C#, Git
- **Modeling:** 2-D and 3-D Dynamics and simulation of biomechanical systems, control systems
- **Application Design:** designed, built, and released applications for iOS, Mac, Windows, and the web: both in the workplace and on my own time.
- Teamwork: enjoys working with others to excel in finding solutions to difficult problems.
- Communication: excels at writing clear and concise documents and presenting and explaining ideas.
- Learning: loves to learn new things and explore new areas of technology. Quick to pick up new skills and technologies as required.

## Education

**University of Waterloo** — Waterloo, ON
Masters of Applied Science - Systems Design Engineering — *2012-2014(est.)*

- Created a comprehensive golfer swing model using MapleSim and Matlab for evaluating golf clubs
- Includes a 4 degree of freedom golfer with realistic joint torques as inputs, a flexible shaft modelled using Rayleigh beam theory, an impulse-momentum impact model, and an aerodynamic flight model for the ball
- Implemented control algorithms to optimize the golf swing for different simulated clubs.

**University of Waterloo** — Waterloo, ON
BASc - Honours Systems Design Engineering, Co-operative Program — *2007 - 2012*

## Work Experience

**Apple Inc.** — Cupertino, CA
Software Engineering Intern - iOS Location Software — *Sep-Dec 2010 and Jan-Apr 2010*

- Designed and implemented a testing framework for location algorithms on iPhones and iPads in the form of an iOS application, Mac application, and accompanying server-side code
- Developed an improved location algorithm using Kalman Filters for determining an iOS device's location in a particular type of environment

**University of Waterloo (Vision and Image Processing Lab)** Waterloo, ON
Research Assistant *May-Aug 2011*

- Developed algorithms for processing SAR imagery of sea-ice in the Canadian North
- Implemented algorithms within existing image processing software in Visual C++.
- Supervised another student building a website for the lab using Drupal resulting in a software package for building reserach group websites that was released as open-source

**Trimble Navigation** Christchurch, NZ
GPS Software Tester *May-Aug 2009*

- Developed and performed experiments on software keyboards for mobile devices using C#.
- Developed micro-controller code for RF chamber test rig for handheld GPS devices.
- Tested hand held GPS devices for accuracy and interface usability.

**CREZ Basketball** Waterloo, ON
Software developer *Sep 2007 - Dec 2007 and Jan 2007 - April 2007*

- Developed statistics software for basketball coaches in Visual Basic .NET and C#
- Implemented client-side code for livestreaming basketball statistics to a web service.
- Packaged and released software to clients using InstallShield.
- Provided technical support through direct interaction with customers and written documentation

## Personal Projects

**Wedding Website** nodeJS, Javascript, HTML & CSS
`github.com/proverbialsunrise/weddingsite` *2014*

**pySTL** Python
`github.com/proverbialsunrise/pySTL` *2014*

**Simple Ultimate Stats (In Progress)** Objective-C
`github.com/proverbialsunrise/ultimatestats` *2013-*

**Hymnal Mobile Application** Objective-C, C, Java
`github.com/proverbialsunrise/hymnalapp` *2010*

## Awards

- *Ontario Graduate Scholarship* - Sep 2013
- *NSERC Alexander Graham Bell Scholarship* - Sep 2012
- *NSERC Undergraduate Student Research Award* - May 2011

## Personal

**Crash Ultimate - KW Guelph Competitive Ultimate** `http://www.crashultimate.ca`
Captain *2013-*

- Elected captain of National Championship winning team in 2014

**Hobbies:** Singing (A Cappella and Barbershop in particular), Ultimate Frisbee, Soccer, Basketball