

# Daniel Johnson

M.A.Sc. B.A.Sc.

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**Goal:** To work with a team solving interesting problems in biomechanics and technology. At *Thalmic Labs*, I think that my knowledge of biomechanics and skills in software development could be used to help develop interesting applications for the *Myo* and improve its gesture recognition algorithms.

## Skills

- **Development:** Objective-C/Cocoa, C/C++, Python, MATLAB, C#, Git, SVN, Unity.
- **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.
- **Algorithm Development:** Created and refined algorithms for processing digital signals for many different applications.
- **Communication:** Excels at writing clear and concise documents and explaining ideas.
- **Learning:** Loves to learn new things and explore new areas of technology. Quick to pick up new skills as required.

## Education

### University of Waterloo

*Masters of Applied Science - Systems Design Engineering*

Waterloo, ON

2012-2015

- Used portable EMG, IMU (MVN Suit), and motion capture (Eagle Vision infrared cameras) to measure golfer motion and extract swing information.
- Created a comprehensive golfer swing model using MapleSim and Matlab for evaluating golf clubs. The model is optimally controlled to accomodate different simulated clubs.
- Delivered the completed golfer model to an outside industry partner along with documentation on how to modify the model to evaluate different golf clubs.

### University of Waterloo

*BASc - Honours Systems Design Engineering, Co-operative Program*

Waterloo, ON

2007 - 2012

## Work Experience

### Apple Inc.

*Software Engineering Intern - iOS Location Software*

Cupertino, CA

Jan-Apr 2010 and Sep-Dec 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.
- Presented the completed application to senior management after being selected as the best intern project of the term.

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## **CREZ Basketball**

*Software developer*

Waterloo, ON  
*Jan-Apr 2007 and Sep-Dec 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.

## **University of Waterloo (Vision and Image Processing Lab)**

*Research Assistant - vip.uwaterloo.ca/website-package*

Waterloo, ON  
*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 and assisted a co-op student building a website for the lab using Drupal resulting in a package for building research group websites that was released as open-source.

## **Trimble Navigation**

*GPS Software Tester*

Christchurch, NZ  
*May-Aug 2009*

- Developed and performed experiments on software keyboards for mobile devices using C#.
- Built a test-rig for rotating handheld GPS devices inside an RF chamber using a microcontroller and stepper motor.
- Tested hand held GPS devices for accuracy and interface usability.

## **Personal Projects**

### **Bearded Baritones Website**

[github.com/proverbialsunrise/baritonesWebsite](https://github.com/proverbialsunrise/baritonesWebsite)

nodeJS, Javascript, HTML & CSS  
*2015*

### **Space Shooter Game**

[ddajohnson.com/shooter/shooter.html](http://ddajohnson.com/shooter/shooter.html)

Unity, C#  
*2015*

- Later modified this game to incorporate simple gesture control using the Myo armband.

### **pySTL**

[github.com/proverbialsunrise/pySTL](https://github.com/proverbialsunrise/pySTL)

Python  
*2014*

### **Hymnal Mobile Application**

[github.com/proverbialsunrise/hymnalapp](https://github.com/proverbialsunrise/hymnalapp)

Objective-C, C++, Java  
*2010*

## **Personal**

### **Crash Ultimate - KW Guelph Competitive Ultimate**

*Captain*

[crashultimate.ca](http://crashultimate.ca)  
*2013-*

- Elected captain of National Championship winning team in 2014.

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