# Joshua Antonson

A: 5000 Forbes Ave, Pittsburgh, PA 15217 E: jantonso@andrew.cmu.edu T: 630-780-9266 W: http://jantonso.github.io

**Education**

**Carnegie Mellon University**, Pittsburgh, PA
Master of Science in Electrical and Computer Engineering — May 2016
Bachelor of Science in Electrical and Computer Engineering — May 2015
Minor in Computer Science
Overall GPA: 3.65/4.00

**Skills**

**Programming Languages/Technologies:**
Proficient: Java, Python, JavaScript, NodeJS
Familiar with: C, HTML, CSS, JQuery, Bootstrap, Django, MySQL, MongoDB

**Work Experience**

**Image, Video, Multimedia (18-798)**, Carnegie Mellon University — Spring 2015 – Spring 2016
**Teaching Assistant**

- Assisted in defining and managing lab assignments and projects for exploration of video computing algorithms including: object detection and tracking, motion analysis, 3D display.
- Led student exploration and documentation of using Emotiv EEG headset to record and analyze user brainwaves while watching videos.

**Financial Intelligence Unit**, Koror, Palau — Summer 2015
**Consultant**

- Built and deployed an Access database that enabled much more efficient search and analysis of financial reports than the previous manual method of paper reporting.
- Enabled electronic reporting between various financial institutions and the FIU through secure electronic transfer of reports in documented CSV file format.
- Trained staff of the FIU to use Access database and to efficiently import data into database.

**Nike**, Beaverton, Oregon — Summer 2014
**Consumer Digital Technology Intern (Platform Team)**

- Built prototype project to demonstrate end-to-end architecture using Netflix OSS and Cassandra database and the deployment process on AWS.
- Built API for a Nike+ app to enable efficient storage and retrieval of user information.

**Projects**

**HealthMate**, Building Reliable Distributed Systems — Fall 2015

- Developed a Personal Health Record aggregation website that automates the task of contacting, collecting, and storing a patient's medical history across hospitals/providers.
- Designed to be fault-tolerant to message loss and OS/process crashes through passive replication, fault detection, and graceful recovery to a consistent system state.

**PaceMate**, Special Topics in Embedded Systems: Sports Technology — Spring 2015 – Fall 2015

- Led team through development process of designing a visual and responsive pacing system for athletes to improve performance in workouts and competition.
- Built the physical system of Arduino Yuns, IR sensors, and LEDs to intuitively light up corresponding to a target pace set by the user through an Android application.
- Enabled automatic recording of accurate user splits at key intervals and display of user workout history through a coaching and athlete dashboard website.

**RideThru**, Embedded Systems Design Capstone — Spring 2015

- Proposed and built a virtual reality experience for stationary bikes as part of a 4-member team by equipping sensors to measure turning, speed, and fan control connected to a custom PCB.
- Integrated PCB communication with Unity3D and an Oculus Rift, so the user can bike through virtual terrains and play video games using the stationary bike as a controller, creating a fully immersive and responsive workout experience.

**SleepApp**, Networks in the Real World — Spring 2015

- Developed an Android application that collects accelerometer data during sleep and accurately detects a range of user movements.
- Trained a SVM classifier using distributed user data to learn a user's sleep patterns and provide accurate predictions about their future sleep behavior.

**Activities**

Varsity Men's Track and Field, Carnegie Mellon University — 2012 – present
Varsity Men's Cross Country, Carnegie Mellon University — 2011 - present