Joshua Antonson

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Education

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

Skills

Programming Languages/Technologies:
Java, Python, C, JavaScript, HTML, CSS, JQuery, Bootstrap
Ajax, Jersey, Node.JS, 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 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*

- As part of a 3-member team, designed and built 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 building a visual and responsive pacing system for athletes to improve performance in workouts and competition.
- By outfitting a running track with a system of Arduino Yuns, IR sensors, and LEDs, our system intuitively lights up corresponding to a target pace set by the user through an Android app.
- System automatically records accurate user splits at key intervals and displays user workout history through a coaching and athlete dashboard website.

RideThru, Embedded Systems Design Capstone *Spring 2015*

- As part of a team, proposed and built a virtual reality experience for stationary bikes 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 classifier using distributed user data to learn a user's sleep patterns and provide accurate predictions about their future sleep patterns.

Activities

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