

# ANDREW SOUSA

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An ambitious electrical engineer with demonstrated leadership abilities, robust creative and communication skills, who's mission is to create products that will advance society while being delightful for people to use.

## EDUCATION

### University of Massachusetts Amherst

Bachelor of Science in Electrical Engineering

Master of Science in Electrical Engineering

Betterment of the Department Award, Eta Kappa Nu, Abigail Adams Scholarship

May 2015

December 2016

## WORK EXPERIENCE

### Apple Inc., EE Hardware Engineer (Summer - Winter 2015)

#### Audio Amplifier Design

- Developed audio pc board using class-d amplifiers to drive a wide range of speakers (2-8 ohm).
- Designed an input attenuation circuit, and implemented output filters for low-pass and EMI filtering.
- Verified all analog and digital signals were in proper operation and created test plan to verify specs.
- Presented results and demoed audio amp. board to entire EE Systems Integration team (~60 people).

#### Bulk Current Injection (BCI) Test Tool

- Developed a Matlab GUI for engineers to easily and safely run the test.
- Controlled and communicated with EMC lab instruments and custom hardware to run BCI test.

#### Sensor Evaluation Rig

- Built a dynamic rig (out of prototype material) to evaluate electrical properties of various sensors.
- Designed precision mounting components using NX software to join sensor to motor and sensing table.

### Apple Inc., Network Security Engineer (Summer 2014)

- Designed and built a prototype Web Application Firewall (WAF) to protect application services.
- Presented results to directors and CIO; team plans to implement this system and replace current solution.

## TECHNICAL PROJECTS

### PulseRadio: A BT Audio Amp board (Spring 2016 – Present)

- Designing a module that will receive audio from a bluetooth source and amplify to be heard on 30W speakers.
- Will design the all circuitry for digital components as well as analog output stage of the amplifier.
- Will layout the pc board and oversee the fab. & assembly process.

### Otto: The Personal Cameraman (Fall 2014 – Spring 2015)

- Leading a group of four engineers tasked with designing a drone to follow a user performing an action sport.
- Responsible for all of the drone system hardware; I am designing certain aspects of them.
- Presenting design and progress to a board of faculty advisors periodically throughout the year.

### IEEE Micromouse Robot (Spring 2013 – Spring 2014)

- Lead a group of four engineers tasked with designing a robot that will navigate 16 x 16 maze.
- Design hardware using Eagle to optimize speed without sacrificing reliability, and formulated algorithm.

### Electronics Lab I & II (Fall 2013 - Spring 2014)

- Designed AM demodulator, AC & BiCMOS Amplifier, ring oscillator in PSPICE then analyzed in-lab.
- Designed and built an AM radio with discrete components and presented the term project to professor panel.

## LEADERSHIP

HackUMass 2014: Founding team lead, IEEE Ohm's Synack Shop: Founder, HKN President, SDP team lead

## SKILLS

PSPICE, Matlab, Eagle, Verilog, Java, C, Unix, Python, PHP, PERL, Assembly, Arduino(C/C++), HTML, CSS

## COURSES

Active Microwave Circuits, Microwave Engineering, VLSI, Analog & Digital Comm., Nonlinear & Linear Circuit Design

## GROUPS & INTERESTS

President HKN, Former Vice-Chair IEEE & ESAC, Ski & Board Club, Hackathons, Skydiving, Fitness