ANDREW SOUSA

[Contact info suppressed for web] | AndrewSousa.com

An ambitious electrical engineer with demonstrated leadership abilities, robust creative and communication skills, who possesses a passion for embedded systems and electronics with a drive to change the world.

EDUCATION

University of Massachusetts Amherst

Bachelor of Science in Electrical Engineering	**May 2015**
Master of Science in Electrical Engineering	**December 2016**

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

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

Otto: The Personal Cameraman (Fall 2014 – Present)
- 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.
- Built various networks using multiple components including op-amps, logic gates, and CMOS Transistors.
- Designed and built an AM radio with discrete components and presented the term project to professor panel.

Bitcoin Keurig Machine (Spring 2014)
- Enhanced a keurig to be wifi enabled and sense when a cup is on the platform.
- Presented project to all participants and sponsors and was awarded the most innovative at HackBeanpot.

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

Microwave Engineering, VLSI, Analog Communications, Nonlinear & Linear Circuit Design, Semiconductor Devices

GROUPS & INTERESTS

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