ANDREW SOUSA

[contact info suppressed for web] | AndrewSousa.com

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 | Master of Science in Electrical Engineering   May 2015 | December 2016

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

WORK EXPERIENCE

Tulip Interfaces, EE Hardware Engineer (Summer 2016)

Pick-to-Light System
- Designed an analog hand-sensing circuit using a relaxation oscillator, PLL, and metallic plate.
- Designed schematic & pcb artwork in Altium and developed embedded firmware.
- Multiple demos to the founders and team; slated to be in customers hands in fall of 2016.

EE projects
- Last-gasp circuit: designed and built a boost converter circuit to hold-up voltage upon hard cycle of product.
- General mains power switcher: developed firmware and designed circuitry for an embedded mains switcher.

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.
- Presented results and demoed audio amp. board to entire EE Systems Integration team (~60 people).

Bulk Current Injection (BCI) Test Tool
- Controlled and communicated with EMC lab instruments and custom hardware to run BCI test.

Sensor Evaluation Rig
- Designed precision mounting components using NX software to join sensor to motor and sensing table.

ECE 212: AC Circuit Analysis Graduate TA (Spring 2016)
- Trained students on lab equipment, assisted in circuit debugging, ran student skills assessments.
- Responsible for grading and providing feedback to all students on their pre-lab and lab reports.

TECHNICAL PROJECTS

PulseRadio: A BT Audio Amp board (Spring 2016 – Present)
- Designing a module that will receive audio from a bluetooth source and amplify though 30W class-D amp.
- Will design all circuitry for digital components as well as analog output stage of the amplifier (2/3 done).
- Will layout the pc board (in Altium) 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; presented work to a board of faculty advisors.

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.

SKILLS

Circuit design (mixed), Matlab, AWR, CST, Altium/Allegro, Verilog, C, Unix, Python, PERL, Assembly, Arduino(C/C++)

COURSES

Active Microwave Circuits, Analog Integrated Circuits, VLSI, Electromagnetic Theory, Antenna Design, Microwave Engineering, Analog & Digital Comm., Nonlinear & Linear Circuit Design, Bioelectronics

LEADERSHIP, GROUPS, & INTERESTS

HackUMass 2014: Founding team lead, IEEE Ohm's Synack Shop: Founder, Senior design project team lead
Former President HKN, Vice-Chair IEEE & ESAC, Ski & Board Club, hackathons, skydiving, cognitive science, guitar