

SAM ZECKENDORF

sam@zeckendorf.me
(862) 220-0477

ELECTRICAL & COMPUTER ENGINEER

Experience

Google Inc.

Hardware Design Engineer

August 2016

Mountain View, CA

Design hardware for Daydream VR wearables team from schematic capture & layout to verification and test. Responsible for 8 separate PCBAs, FPCAs, and cable assemblies within flagship product from cross functional design to factory quality and bringup.

Drive hardware design from marketing requirements to engineering specification, including developing hardware test tools for measuring relevant real-world data to software testing suites

Design and maintain power modeling tools across product groups within Google family, provide maintenance and functionality updates

Nest Labs Inc.

Hardware Design Engineer

September 2014—August 2016

Palo Alto, CA

Designed FPCs and PCBs for Nest Secure family. Drove schematic capture & component selection, and layout and bring-up in factory/lab. Worked with cross functional teams to ensure worked within constraints across engineering spectrum (thermal, mechanical, EMC, safety, compliance, etc.) Identified design/manufacturing issues at factory in OQC/IQC, and pursued through resolution

Created and maintained MATLAB/SPICE simulations for sensitive circuitry to allow data-driven hardware design.

Architect and DRI for system power in Nest Guard, created validation test plan and drove from Proto through DVT

Wrote and maintained python libraries for interfacing with various internal test equipment over USB/GPIB, governed by web app

Apple Inc.

Systems Integration Intern (iPhone)

January 2013—September 2013

Cupertino, CA

Validated internal PMU silicon, identified startup issue and root caused, provided final schematic and layout changes

Examined signal and power integrity in several subsystems, including Touch-ID. Identified issues resulting from flexible PCB shape, and helped provide alternative designs

Investigated audible noise resulting from piezoelectric properties of ceramic capacitors — designed and fabricated drive and measurement circuitry to stress components under different signal inputs, analyzed resultant audio data

Loopit Inc.

Software Engineer

2012, 2013

Cambridge, MA

Designed web service that aggregates product details across variety of websites and generates growing/adaptive lexicon for use in smart shopping tool

Designed smart comparison tool to bin products into similar categories; company was acquired on merit of software efficacy

Center for Engineering Education Outreach September 2011 — December 2013
STOMP Lego Engineering Fellow Somerville, MA

Part of nonprofit that travels to classrooms in Cambridge and Boston Massachusetts to teach engineering fundamentals to middle and elementary school students

Designed lessons around important and esoteric ideas such as collaborative design, limited materials, abstract problem solving

See More: <http://www.legoengineering.com/about/>

Solar Energy Research
Research Assistant

September 2010 — December 2012
Medford, MA

Investigated thin film Copper(I) and Copper(II) Oxide growth as semiconductor over ITO substrate

Created proof of concept electrodeposition circuit to show possibility of thin film solar cells powered by solar energy

Education

Tufts University
Bachelor of Science in Electrical Engineering

September 2010 - May 2014
Medford, MA

Selected EE Coursework: Feedback-Control Systems, Communication Systems, Microprocessor Architecture & Assembly Code, Digital Logic Circuits, Analog Design I & II, Physics of Solar Cells, Data Structures, Usability Engineering

Selected Other Coursework: Linear Algebra, Discrete Mathematics, Multivariable Calculus, Differential Equations, Music Applications on the iPad, Game Design

Projects

imPact

Created iPhone music application "imPact: Remix", funded by Steinway Music

Squid

Xbox indie game, awarded Indie Gem award on Joystiq.com (affiliate of engadget)

Smart Hydroponics

Intelligent, learning, home-hydroponics system for city dwellers to grow fresh produce. White paper available

*Languages
& Skills*

Cadence (Concept + Allegro)
Altium

C/C++/C#/Objective-C
Matlab

Python
VHDL