

# SAM ZECKENDORF

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(862) 220-0477

## ELECTRICAL & COMPUTER ENGINEER

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### 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 and specification 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 tool across product groups within Google family, provide maintenance and functionality updates

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#### Nest Labs Inc.

Hardware Design Engineer

September 2014—August 2016  
Palo Alto, CA

Designed several FPCs and PCBs from schematic capture & component selection, drove layout and bring-up in factory/lab. Worked with cross functional teams to ensure worked within constraints across engineering spectrum (thermal, mechanical, EMI, 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, in particular for IR Receiver Rx chain.

Architect and DRI for system power in high-power consumer product, created validation test plan and drove from Proto through DVT

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

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#### 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

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#### 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

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**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/>

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**Solar Energy Research** September 2010 — December 2012  
**Research Assistant** 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

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***Education***

**Tufts University** September 2010 - May 2014  
**Bachelor of Science in Electrical Engineering** 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

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***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

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***Languages & Skills***

Cadence (Concept + Allegro)  
Altium

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

Python  
VHDL

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