



Robert Rehrig

Hardware hacker by day, design deliriant by night

Electrical and Music Engineering Technology

Contact

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Skills

Engineering

Analog Circuit Design
Digital Synth Design
Hardware Prototyping
Human-Computer
Interfacing
PCB Design
Signal Processing
Software Prototyping
Spatial Audio
VLSI Design
Wireless
Communication

Languages

C, C++, Obj. C
HTML(5) & CSS(3)
Javascript
Matlab
Python
Japanese (beg)
Spanish (int)

Other

Adobe Illustrator
Adobe Photoshop
Bike Mechanic

Education

2012-2014 University of Miami, Coral Gables, FL
Masters of Science in Music Engineering Technology
"Multidimensional Wave Field Synthesis Control Through
Wireless Hardware"
Expected graduation date: May 2014

2007-2011 University of Delaware, Newark, DE
2011-2012 **Bach. of Electrical Engineering** in Electrical Engineering
Masters of Science in Electrical and Computer Engineering
"Design and Development of a 2-Color Infrared Emitter Array
System"
GPA: 3.935

Experience

2012-Present **Graduate Research Assistant**
University of Miami, Music Engineering Dept. Coral Gables, FL
- Hardware and software prototyping using BLE

2013 **User Experience Intern**
Shure Inc., User Experience Dept., Niles, IL
- Analysis of device user interfaces for full product line
- Software prototyping and design for upcoming device line

2012 **Co-Founder and Shop Manager**
Newark Bike Project Co-op, Newark, DE
- Head bike mechanic
- Designed logo and website

2010-2012 **VLSI Contractor**
Chip Design Systems (CDS), Newark, DE
- Design of a chip to read in a pixel array
- 8:1 mux and 1:8 demux chip design

2009-2012 **Graduate Research Assistant**
University of Delaware, Elec/Comp Eng Dept, Newark, DE
- 48 micron pitch VLSI design
- Created a 3-D head tracking system using Wiimotes
- PCB design and FPGA development

2008-2011 **Resident Assistant**
University of Delaware, Residence Life, Newark, DE
- Managed and developed freshmen floor communities

Publications

- 2013 "PsychoMasker: An iOS Application for the Visualization of PsychoAcoustic Principles". In *Audio Engineering Society Convention 135*. Audio Engineering Society.
- 2010 "Repurposing Commodity Hardware for use as Assistive Technologies". In *Proceedings of RESNA 2010 Conference, International Symposium On Quality Of Life Technology*.

Presentations

- 2013 "PsychoMasker: An iOS Application for the Visualization of PsychoAcoustic Principles". Audio Engineering Society Convention 135, New York City, NY
- 2010 "Repurposing Commodity Hardware for Use as As Assistive Technologies". RESNA 2010 Conference, Las Vegas, NV.
- 2009 "Hacking the Wiimote and Wii Fit to Help the Disabled". DEFCON 17, Las Vegas, NV.
- 2009 "Off the Shelf Security - Meeting Crime with an Open Source Mind". Shmoocon 5, Washington D.C.

Honors

- 2012-2013 Full-Tuition Scholarship/Assist, University of Miami
- 2011-2012 Full-Tuition Scholarship/Assist, University of Delaware
- 2010-2012 Engineering Ambassador, University of Delaware
- 2007-2010 \$1000 Academic Scholarship, University of Delaware

Activities

- 2012-2013 Ultimate Frisbee Club, University of Miami
- 2012-2013 Running Club, University of Miami
- 2009-2012 Running Club, University of Delaware