Wilson Ryan

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Education

Purdue University
B.S. Electrical Engineering, graduating Dec. '16

Relevant coursework
Digital Signal Processing, ASIC Design, Digital Systems and Design, Signals and Systems, Semiconductor Devices, Microprocessor System Design, Probabilistic Methods, Noise Control, Linear Circuit Analysis

Skills
Experience with bring up and verification of new designs
Printed circuit board layout and design for testing and manufacture
Embedded systems design
Experience with ARM development
Circuit design and analysis
Experience with DSP in MATLAB
Strong knowledge of many DSP concepts and practices
Experience with electronics measuring equipment
Experience designing and modifying audio circuits including drum machines, guitar pedals, amplifiers, mixers, microphones, and voltage controlled filters

Languages / Software
C/C++ / Python / MATLAB / System Verilog
Cadence Allegro / Altium Designer / EagleCAD / LTSpice

Personal Project
Digital Synthesizer "totallySynth"
February-March 2015

Designed circuit and routed PCB for digital synthesizer dev-kit in EagleCAD
Featured ATmega32U4 "oscillator" with voltage controlled low pass filter based off of OTAs
Designed, built, and assembled in one month

Experience

Device Accessories EE, Apple Inc.
Jan. - Aug. 2016

Designed a test box for third party accessory verification
  • created schematic using Cadence Allegro
  • oversaw critical layout for PCB
  • debugged and refined design to meet specifications
  • worked with product designers for complete design
  • worked with vendors for fabrication
  • developed test plans for FATP
Tested and characterized switching power converters in a system to maximize efficiency
Validated new designs
Created automated test stations using python

Hardware Engineer, BoilerMake Badge
Aug. 2015-Present

Designed schematic and PCB for wireless embedded Linux system in Altium
Routed high speed signals for DDR3 DRAM
Designed for manufacturing 650 boards

Audio Engineer Freelancing
2006-Present

Designed electronic circuits for new instruments, effects processors, guitar pedals, amplifiers
Utilized I2S for sound generation with DACs
Recorded and engineered songs in a variety of settings
Learned collaboration techniques and many team skills
Helped raise money for a number of local and national charities

Chief Engineer, Kelly Nursery LLC
2011-2014

Designed and managed electronically automated irrigation systems
Designed a portable fertilizer injector