Mike J. Cousins

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Profile

Hardware / firmware / software engineer with a creative mind and a love of making. Shaping the future of how we interact with technology.

Technical Skills

Development and Electronics

- Programmed systems using **SiLabs ZigBee SoCs**, **8-bit AVR MCUs**, and **TI BTLE SoCs** in **C and C++**
- Developed test equipment software in **Scala** with **Websocket-based HTML5 GUI**
- Published **npm** modules for PCB rendering in **JavaScipt** and **CoffeeScript**
- Designed and built up to four-layer PCBs for both mixed SMT and thru-hole and **completely SMT** components

3D design

- Engineered consumer products and personal projects in **Pro/Engineer** and **SolidWorks**
- 3D printed on Objet resin printers and MakerBot ABS FDM printers for functional and looks-like testing

Work Experience

Keen Home, New York, NY - keenhome.io

Senior Product Engineer - July 2015 to present

- Shipped production Smart Vent Firmware
- Developed software for assembly-line test fixtures
- Managing embedded development and working closely with software team for Smart Bridge integration

Mechatronics Engineer - November 2014 to July 2015

- Rewrote Smart Vent firmware for reliability and maintainability
- Tested Smart Vent prototypes for mechanical, electrical, and firmware functionality
- Created prototype hardware and software for platform integration of Smart Vent product
- Designed and printed prototype 3D parts for Smart Vent development

Wiley Cousins, New Orleans, LA - wileycousins.com

Co-founder and Hardware Engineer - October 2013 to October 2014

- clockblock (github.com/wileycousins/clockblock)
  - Built complete electronics package for product, including component selection, PCB, and firmware
  - Created CAD assembly in SolidWorks for fit testing and CNC machining
- Taught hands-on twelve week circuits class bringing ten students to an understanding of digital logic

Lightwave, New Orleans, LA - R&D - lightwave.io

Lead Hardware Engineer - February 2013 to September 2013

- Designed and assembled SMT PCBs for the first three iterations of a **Bluetooth LE** wearable sensor device
- Researched and selected all components used in the device, including MCUs, radios, and MEMS sensors
- Generated and 3D printed CAD models of electronics enclosures for wearable testing of devices

Newell Rubbermaid, Oak Brook, IL - Sharpie, Paper Mate, & Prismacolor R&D

Product Engineering Co-op - 48 weeks: Summer/Fall 2010, Summer 2011, Winter 2012

- Modeled complete Paper Mate product in CAD in two weeks to meet deadline for production tooling
- Prototyped products on an Objet 3D printer for visual and functional testing

Education

Northwestern University, Evanston, IL

- Bachelor of Science in Mechanical Engineering with Co-op Certificate - **GPA: 3.84, Magna Cum Laude**
- Courses: Machine Element Design, Manufacturing Processes, Data and Algorithms, Adv. Mechatronics, Machine Perception of Audio, Robotics Design Competition