Ian C. Hartwig

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SMC 2928
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EDUCATION:

Degree

Carnegie Mellon University
Pittsburgh, Pennsylvania

B.S. ECE (expected May 2015)
M.S. ECE (expected May 2016)

Present

2011 — Current GPA: 3.79/4.00

Skills

- CAD – *Allegro, Eagle, Altium, AutoCAD*
- System Simulation – *Spice, System Verilog*
- EE Lab Equipment – *incl. USB certification, Audio Precision analyzers, SMT soldering*
- Programming – *C, Python, Javascript, Java*
- Web – *HTML, CSS, PHP, XML, MySQL*
- Basic Machining – *Mill, Lathe, Laser Cutting*

EXPERIENCE:

Industry

Hardware Engineering Intern
iOS Device Accessories, Apple Inc.
Drove PCB level integration for several close-to-market products. Worked closely with mechanical, layout, RF, and SI engineers to implement and verify circuits. Sparked test equipment automation collaboration in Python to save engineering time.

Present

2014

Software Engineering Intern
Network Systems, Google Inc.
Built ISP routing preferences interface for Google's content distribution network (CDN). C++ / Python servers with HTML / AngularJS UI. Committed fixes to Angular at Google.
peering.google.com

Intro. Computer Systems (15-213) TA
CS Department, CMU
Lead C & systems programming recitations for 30 students. Developed exams and held office hours for curious, struggling, or stuck students.

2013

Test Engineer Intern
Seegrid Corporation, Pittsburgh, PA
Tested software and hardware on linux-based industrial robots. Developed real-time messaging debugger in Python/javascript with RabbitMQ, SockJS, socket.io, and node.js.

2012

Volunteer/Extra-Curricular

Robotic Buggy
Robotics Club, CMU
Building a self-guiding, gravity-powered vehicle with small group in the CMU Robotics Club. Leader of the embedded SW group and designer of the radio HW for RTK-GPS.
github.com/CMU-Robotics-Club/RoboBuggy
upverter.com/ihartwig/73003c63baaefdd7

Activities Board (AB) Coffeehouse Co-chair
CMU
Booking mid-sized ($10k) concerts at CMU.

Gadgetry (16-250) TA
Robotics Institute, CMU
Advised and debugged student projects in interdisciplinary embedded circuits and PCB-design course; many students had no prior experience.

Solar Splash 2013
CMU
Led hardware design for control systems.

AB Tech Executive Board
CMU
Live audio engineer and electrician for student-run entertainment productions company. Responsible for 2-64 channel PAs, 100-600A 3-phase AC power systems, reviewing capital purchases, and training.

PROJECTS:

Academic

2014

Gravel Kernel
Embedded Systems (18-349) Projects
Wrote a real time multi-process kernel on a basic ARM platform (Gumstix) with 2 peers.

Map-Reduce Framework
Distributed Systems (15-440) Projects
Designed and built a Java framework for executing map-reduce jobs across the Andrew cluster. Included construction of node controller, clients, and distributed file system.

2013

Extra-Curricular

Ace Monster Toys RFID Entry
Extended RFID locks at hackspace in Oakland, CA. Custom microcontroller HW and SW with power relays and USB data.
github.com/ihartwig/amtdoor2

Assassins SMS Gateway
Led small group to develop SMS interface and admin panel for assassins game using the Tropo API and Django python framework.
github.com/ihartwig/camassassins