Alex Fuhr

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Objective

An challenging, team-based internship, co-op, or part time position working on the software or electronics of embedded systems during the school year or summer.

Experience

BloomReach – Engineering Intern (Mountain View, CA) 5/14 to 8/14
Created a web application using Java, Play Framework, AngularJS, and MySQL to simplify the retrieval and optimization of data extraction.

all R friends – Software Developer Intern (Columbus, OH) 8/14 to Present
Working on various aspects of the company's backend system, including an automated text-messaging system and wiki.

OSU ElectroScience Laboratory – Undergraduate Researcher (Columbus, OH) 1/15 to Present
Building a precise RF tracking system using a Zigbee mesh network driven by Arduino.

The Ohio State University – Undergraduate Researcher (Columbus, OH) 11/14 to Present
Currently building a 3-axis prototyping machine with 3D printing and laser cutting capabailities, as a group of four supervised by Dr. Arnab Nandi and funded by the university's Research Scholar Awards.

Wexner Medical Center — Software Developer (Columbus, OH) 1/14 to 4/14, 9/14 to Present
Volunteer position: Wrote Java-based plugins for ImageJ to optimize image processing. Currently creating an image viewer GUI with Python and GTK2.

Education

The Ohio State University Expected Graduation: May 2017

4.0 GPA, B.S. Electrical and Computer Engineering

Projects (more information and source on Github)

• **FEH Proteus Robot:** Designed, programmed, tested, and documented a fully autonomous robot designed to peform a series of tasks in a fictional candy factory. The robot won in the competition's elimination round.
• **Project Zen:** Created for the 2014 OSU hackathon, a set of robotic arms that can rake a zen garden controlled by a Leap Motion and visible through a web interface.
• **Meteor Flies Drone:** A web application written in Meteor that allows many users to control a drone using two different control styles. Won Most Entertaining at Meteor hackathon.
• **FPGA Pong:** A pong game done entirely in Verilog that utilized timing, buttons, and VGA signals and ran on an Altera DE0 board.

Technical Skills

• C#, Java, Python, C, and C++ syntax, data structures, common libraries, and version control using Git
• Electrical circuit prototyping, schematic and PCB design with EAGLE
• Common electrical protocols such as UART, I2C, and VGA, and components such as 555 timers and shift registers
• FPGA design using Verilog and Quartus II block diagrams
• Front-end web development with HTML, CSS, Javascript, JQuery, AngularJS, and Polymer
• Microcontroller-based electronics and ICs with Arduino, Raspberry Pi, and TI Launchpad
• Server-side web development with Django, Meteor, and Node.js
• Android development, common libraries, and Google APIs

Honors and Activities

• **Engineering:** Open Source Club, Collegiate Web Developers Group (project leader), IEEE, Electronics Club (social chair), Dexterity 43210
• **Music:** OSU Jazz Ensemble, Art Blakey Combo
• **Awards:** First Place Head to Head, OSU Fundamentals of Engineering for Honors robot competition
• **Designations:** OSU Honors Program, AP Scholar with Distinction
• **Scholarships:** Maximus Scholar, Grasser Scholar, Hendrix Scholar, Mu Alpha Theta, Research Scholar Award

Relevant Coursework

• **Current:** Electrical and Computer Engineering II, Holography, Advanced C Programming, LISP, Microcontrollers
• **Past:** Electrical and Computer Engineering I, Fundamentals of Engineering Honors: Advanced Programming and Robotics, Software I/II, Linear Algebra, Differential Equations