

Alex Fuhr

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Objective

An challenging, team-based internship, co-op, or part time position working on low-level software, electronics, or computer architecture during the school year or summer.

Experience

Raytheon SI – Computer Science Engineering Intern (Indialantic, FL) 8/15 to 12/15

Reserching potential exploits in several native and browser-based applications.

Google – Software Engineering Intern (Mountain View, CA) 5/15 to 8/15

Created, debugged, and tested several new features to Google's iOS mobile ads SDK.

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 4/15

Worked 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 5/15

Tested and planned an RF tracking system using a Zigbee mesh network.

Education

The Ohio State University

Expected Graduation: December 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 perform 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, C++, Objective-C, and CLISP syntax, data structures, common libraries, and version control
- Electrical circuit prototyping, schematic and PCB design with EAGLE and KiCAD
- Electronic communication protocols such as UART, I2C, and SPI, and components such as 555 timers and shift registers
- FPGA design using Verilog and VHDL with Quartus II and Xilinx ISE Tools
- Front-end web development with HTML, CSS, Javascript, JQuery, AngularJS, and Polymer
- Server-side web development with Django, Meteor, and Node.js
- Microcontroller-based electronics using AVR and MSP430
- Security concepts such as buffer/heap overflows, fuzzing, and code injection
- x86, MSP430 and ARM assembly languages and architectures, and CPU design using HDL

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

- **Past:** Robotics, Software I/II, Differential Equations, Digital Design, Signals, Analog Circuitry, Advanced C Programming, LISP, Microcontrollers