Alex Fuhr

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Education

An impactful team-based position with creative freedom in the field of audio or video games.

Experience

Google – Software Engineer (Mountain View, CA)   6/17 to present
Working on improving analysis of Street View images.

Google – Software Engineering Intern (Mountain View, CA)   5/16 to 8/16
Worked on features to improve a machine learning algorithm for analyzing part health data.

ElectroScience Lab – Undergraduate Researcher (Columbus, OH)   1/15 to 5/15, 1/16 to 5/16
Tested and planned an RF tracking system using a Zigbee mesh network.

Raytheon SI – Computer Science Engineering Intern (Indialantic, FL)   8/15 to 12/15
Researched potential exploits in several native and browser-based applications and worked on internal tools for exploit analysis.

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.

Education

The Ohio State University   Graduated May 2017

3.85 GPA, B.S. Electrical and Computer Engineering

Projects

• **Digital Synthesizing Guitar:** A 72-note guitar operated with touch sensors that included several different filters created with a DSP board to change the sound.
• **WiFinder:** A robot that utilized two ESP8266 modules to drive towards the location of the best Wi-Fi dsignal for a given hotspot.
• **Laser Harp Hero:** A laser harp capable of playing multiple keys and types of scales and includes a Guitar Hero-style game.
• **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.

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
• 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
• Machine learning concepts and model design with Tensorflow
• Audio generation using DAWs and Pure Data, music theory concepts

Activities

• **Volunteering:** Dog TLC volunteer at Pets In Need in Redwood City, October 2017-present
• **Engineering:** Open Source Club (vice president), Collegiate Web Developers Group (vice president), IEEE, Electronics Club (social chair)
• **Music:** OSU Jazz Ensemble, Jazz, Fusion Combo

Relevant Coursework

• OSU: Computer Architecture, Computer Networking, Mixed-Signal VLSI, Network Security, RF & Optics, Advanced Digital Design, Operating Systems
• Online: Survey of Music Technology (Coursera), Music Theory for Electronic Music 1 and 2