ALEXANDER BOLINSKY

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TECHNICAL STRENGTHS

Computer Languages	C++, x86 assembly, C, Javascript, Python, Verilog, VHDL, Haskell
Tools	Command Line, Git, Vim, Linux, AWS, Redis, MySQL, PostgreSQL
Manufacturing	3D printing, circuit board design & fabrication, metalworking

ENGINEERING AND RESEARCH EXPERIENCE

LockerDome June 2016 - July 2017
Web Developer *St. Louis, MO*

· Worked one-on-one with CTO Nick Apperson for 8 months developing and testing a custom high-performance database. This involved a detailed understanding of Linux and its system calls, the memory and caching hierarchy, hand-coding architecture-specific x86 assembly, implementing a custom memory manager, asynchronous socket programming, data (de)serialization, and heavy unit testing and profiling. Afterwards I worked on LockerDome's website on static type-checking for a front-end javascript framework compiler, implementing a lexer/parser for formatting articles, contributing to the api layer, and connecting our ad server with publishing clients.

Institute of Electronics & Electrical Engineers Student Branch February 2014 - May 2016
Co-President & Treasurer *St. Louis, MO*

· Designed and built a prototype force/haptic feedback glove for virtual reality applications. Designed and constructed a "Segway" that utilizes a 9 DOF IMU sensor, an Arduino, and filter and error algorithms for self balancing. Collaborating with other members on projects involving developing for the Oculus Rift, hardware and software design and construction, and 3D printing.

Vasper Systems May 2015 - August 2015
Software Development Intern *San Jose, California*

· Designed and developed an android application that enables log in via NFC or QRCode, and implemented a secure backend user database infrastructure behind the app using MySQL and PHP, following security guidelines to ensure HIPPA compliance.

Digital Systems Laboratory August 2014 - December 2014
Student *St. Louis, MO*

· Designed and implemented a ten-band stereo audio equalizer in verilog and deployed the design on an FPGA. Components include a Finite Impulse Response (FIR) filter for filtering the ten frequency bands, a Serial Peripheral Interface (SPI), the equalizer itself, and a LabVIEW application/GUI.

EDUCATION, LEADERSHIP & AWARDS

Washington University in St. Louis 2012 - 2016
B.S. in Computer Science & Engineering

Leadership

Judge at GlobalHack VI Million-Dollar Hackathon (2016)

IEEE · Co-President & Treasurer of Student Branch (2014 - 2016)

Men's Squash Team · Co-Captain, *Harrow Squash Player* of the National Championship Team (2014)

Awards

Third Place at EHacks Hackathon at SIUE (2016)

Top College Team at GlobalHack V Hackathon (2015)