Josh Preuss

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Education

University of Maryland – College Park
University Honors Student . . . . . *2013 – 2017*
- Bachelor of Science in Computer Engineering. GPA: 3.6

Experience

Texas Instruments
Research Fellowship . . . . . *September 2016 – March 2017*
- I am working to optimize selected kernels of OpenCV on TI's C6000 DSP's
- From this, I am learning OpenCL, DSP's, OpenCV, and hardware optimization

Amazon
Software Engineering Intern . . . . . *June 2016 – August 2016*
- Wrote, tested, and deployed worldwide my own service for the EC2 group to automate host recovery.
- The service was written in Ruby and MySQL, and follows rigorous software engineering coding and testing standards.
- It will directly save Amazon tens of millions of dollars in recovered compute capacity

University of Maryland
Undergraduate Teaching Assistant . . . . . *September 2015 – December 2015*
- Taught a discussion class for CMSC330 – Programming Languages and hold office hours weekly.
- The curriculum includes Ruby, OCaml and Prolog to better grasp parsing, automata, garbage collection and language security.
- Developing new project material in Ruby to teach students network security.

CyberPoint International
Research Intern . . . . . *June 2015 – August 2015*
- Researched operating systems for low resource IOT devices.
- Documented various network stacks and developed sample programs for Contiki, RIOT OS, and TinyOS in C and NesC, using the TI MSP430 compiler.
- Developed packet snooping and injection tools on mesh networks using software defined radio.

Autonomous Marine Systems
General Intern . . . . . *June 2014 – August 2014*
- Investigated many middleware packages and computer vision software packages and recommended best fit for marine robot navigation.
- Ported existing stack from an Android based system to an ARM based embedded system running MOOS-IvP in C and C++ and set up framework for further development.

Projects

- [2016] **Signal Processing Cup 2017:** Working on a team to create an art piece which follows the beat of music
- [2016] **Project Euler Problem #258:** Solved a challenging puzzle to find a very large numbered element of a lagged fibonacci sequence
- [2015] **Carepackage.io:** Postmates frontend for sharing carepackages or gift combinations.
- [2014] **TouchGo:** Fingerprint based applauncher for Windows 8. Won Synaptics Prize at HackMIT.
- [2014] **Twitter News Predictor:** Analyzed massive amounts of tweets to pinpoint possible newsworthy events in real time around the country.

Honors

- [2012] **UMD Banneker Key Scholar:** Highest merit-based scholarship awarded; full tuition
- [2012] **National Merit Scholar**

Skills

- **Proficient:** C, Ruby, MatLab, RIOT OS, MOOS-IvP, Contiki OS, Python, Assembly
- **Competent:** Java, Verilog, Radio Design + Modulation, C++
- **Tools:** ViM, GDB, Wireshark, git, GNURadio, Linux, pSpice, CCS

Selected Courses

- **Software:** Networking, Operating Systems, Algorithms, Languages
- **Hardware:** Circuits, DSP, Digital computer design, and DSP, Circuits and Microprocessor labs
- **Math:** Linear Algebra, Differential Equations

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