Spencer Hance

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Availability: January-July 2018

Education

Northeastern University **Boston, MA**
Bachelor of Science, ***Computer Engineering*** *May 2019*

- IEEE (**Treasurer, Fall'16, Fall'17**)
- Beta Gamma Epsilon Engineering Fraternity (**Vice President, Fall'17**)

Relevant Coursework

- High Performance Computing (**PThreads, OpenMP, OpenMPI, CUDA**), Software Security, Computer Systems, Algorithms (**C++**), Networks, Digital Logic Design (**Verilog, FPGAs**), Embedded Design (**C**)

Relevant Experience

Advanced Micro Devices (AMD) **Boxborough, MA**
GPU Architecture Co-op *January – July 2017*

- Researched new GPU cache designs and presented at internal innovation expo
- Contributed to cache simulator(**C++**) and gained 3x speedup on runtime
- Designed simulation framework to run large-scale experiments on LSF cluster
- Implemented unit testing framework and increased code coverage

EnerNOC **Boston, MA**
Performance Engineering Co-op *January – December 2016*

- Created automated tests to measure web-application performance using JMeter and LoadRunner
- Developed a **MEAN.js** application to load data for application testing
- Implemented status pages to monitor production services
- Ported a core algorithm to **Python/OpenCL** and gained a 7x speedup

NU Computer Architecture Research Group **Boston, MA**
Undergraduate Researcher *October 2014 – Present*

- **Multi2Sim Heterogeneous System Simulator**
  - Ported over 15,000 lines of **C** to **C++** for a full application rewrite
  - Developed unit tests with Google Test for automated code validation
  - Debugged simulator code with GDB for release
  - Analyzed x86 application patterns with Valgrind for more efficient simulation
- **Student Cluster Competition (SC'15, SC'16, ISC'17, SC'17)**
  - Designed a 3kW supercomputer with a team of students
  - Optimized scientific applications for best performance on the system
  - Troubleshooted the High Performance Computing software stack
- **Fault Injection Tool**
  - Developed a bash tool to run massive GPU fault injection simulations
  - Utilized Python and SQLite3 to analyze simulation results

Technical Skills

Technologies: Python, C(++), Bash, JavaScript (MEAN.js), Linux, Verilog, HPC Concepts, LaTeX, Git, Perforce, GDB, LSF, Splunk, JMeter

Certifications: CompTIA A+ Technician