Spencer Hance

Q (203) 240-8072 • ☑ hance.s@husky.neu.edu • ⑤ www.shance.me Available to start January 2019

Education

Northeastern University

Boston, MA

December 2018

Bachelor of Science, Computer Engineering

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

Relevant Coursework

- High Performance Computing (C, PThreads, OpenMP, OpenMPI, CUDA), Software Security, Networks, Computer Systems (C, x86), Algorithms (C++), Digital Logic Design (Verilog, FPGA, MIPS), Embedded Design (C, FPGA)

Work Experience

edX

Cambridge, MA

Software Engineering Intern

May 2018 - Present

- Developing full-stack microservices for the edX open-source learning platform (Python, Django, React)

MIT Lincoln Laboratory

Cambridge, MA

Technical Assistant - Machine Learning

October 2017 - May 2018

- Implemented and documented graph-based machine learning pipeline (Python, Anaconda, SLURM)

Advanced Micro Devices (AMD)

Boxborough, MA

Research Engineer Co-op - CPU Architecture

January – April 2018

- Developed instrumentation and trace-driven tools (C++) to research data prefetching of HPC/Exascale workloads
- Created IPython notebooks for analysis and visualization of results from thousands of traces

Advanced Micro Devices (AMD)

Boxborough, MA

Design Engineer Co-op - GPU Architecture

January - July 2017

- Researched new GPU compressed cache designs and presented work at internal innovation expo
- Co-developed cache simulator (C++) and decreased simulator runtime by 300%
- Designed simulation framework (Bash, Python) to run and analyze large-scale experiments on LSF cluster

EnerNOC

Boston, MA

Performance Engineering Co-op

January – December 2016

- Created automated tests to measure web-application performance (JMeter, LoadRunner, Jenkins, AWS)
- Ported a proprietary algorithm at company hackathon to Python/OpenCL and gained a 7x speedup
- Wrote a MEAN.js/JavaScript application to generate and load test data from Hadoop cluster

Research Experience

NU Computer Architecture Research Group

Boston, MA

Undergraduate Researcher

October 2014 - Present

- Contributed significantly to open-source Multi2Sim CPU-GPU simulator for C to C++ rewrite
- Designed a tool (Bash, Python, SQLite3) to run many parallel fault-injection simulations on a SLURM cluster

International Supercomputing Competitions (SC'15, SC'16, ISC'17, SC'17)

Boston, MA

Application Lead

July 2015 - November 2017

- Designed/built four clusters and optimized scientific applications for them
- Achieved the competition record of the HPCG benchmark at ISC'17 in Frankfurt, Germany
- Won the "MacGyver Award" for building an HPC cluster from components on the show floor

Technical Skills

Languages: Python, C(++), Bash

Technologies: Linux, HPC Concepts, LaTeX, Git, Perforce, GDB, LSF, Splunk, JMeter