Joseph Voss

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EDUCATION

Bachelor of Science, Mechanical Engineering, University of Texas at Austin   Aug 2014 – May 2018

EXPERIENCE

Systems Administrator, TeKSystems   Jun 2018 – Present

- Subcontractor at Oak Ridge National Laboratory in the High-Performance Computing Operations group
- Used Puppet to configure and manage large scale systems
- Developed and deployed system health monitoring tools using Golang and Openshift
- Expanded performance monitoring tool to compare current results to historical data

DevOps Engineer, MultiMechanics   Jan 2018 – May 2018

- Focused on making software tools cross-platform and able to be build on Redhat and SUSE systems
- Created automated build system using Vagrant
- Configured and installed pbs-pro job scheduler to better share computing resources. Lead training on it's usage
- Worked on simplifying and stream-lining developer workflow

Texas Advanced Computing Center

- Student Intern, High Performance Computing   Jun 2017 – Aug 2017
  - Developed an automated HPC testing harness using Jenkins, PyTest, and CMake that integrates seamlessly with SLURM
  - Created a heatmap visualization showing historical degradation and improvement in system performance
  - Wrote and presented a research paper describing the test harness developed at the HPC System Professionals Workshop at Supercomputing Conference 17

- Team Member, Student Cluster Competition   Feb 2016 – Mar 2017
  - Designed, built and managed a cluster of high performance compute nodes
  - Developed remote power monitoring system using SNMP, Graphite, and Grafana
  - Learned how to use and profile several HPC applications
  - Attended Supercomputing Conference 2016 to compete with student teams from around the world, placed 4th overall
  - Published a reproducibility study to the Parallel Computing journal.

Science and Engineering Apprentice, Applied Research Laboratory   May 2014 – Aug 2015

- Created a suite of cross-compatible unit tests in C++ for open source software
- Redesigned the method of reading/writing out RINEX files to use OOP encapsulation
- Developed an inexpensive COTS GPS data collection platform using Python; decodes binary streams and writes out to a formatted RINEX file

SKILLS

Python, Puppet, Golang, Openshift, Bash, Git, C++, Jenkins, Linux management & development, LaTeX

PUBLICATIONS

Voss, J., Garcia, J. A., Proctor, W. C., & Evans, R. T. (2017). "Automated System Health and Performance Benchmarking Platform." In *Supercomputing Conference '17: Proceedings of the 2nd international HPC System Professionals Workshop at SC'17*. New York, NY, USA: ACM. https://doi.acm.org/10.1145/3155105.3155106

Ababao, R., Garcia, J. A., Voss, J., Proctor, W. C., & Evans, R. T. (2017). "Student Cluster Competition 2016 reproducibility challenge: Genomic partitioning with ParConnect." *Parallel Computing.* https://doi.org/10.1016/j.parco.2017.07.002