Joseph Voss

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EDUCATION

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

Related Courses: Advanced Mechatronics II, Parallel Computing, Programming and Engineering Computational Methods, Machine Tool Operation, Engineering Vibrations

Study Abroad, IES Abroad: Vienna, Austria — May 2015 – Jun 2015

EXPERIENCE

MultiMechanics

- DevOps Engineer — Jan 2018 – Present
  - Focused on making their software tools cross-platform and able to be build on Redhat and SUSE systems
  - 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 using Bokeh, showing historical degredation 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
  - Led several workshops describing the usage of the testing harness
- 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.

Trident Research LLC

- Mechanical Engineer Intern — Jun 2016 – Aug 2016
  - Designed and assembled charging system for naval buoys
  - Created drawings and 3D models in Solidworks of custom parts
  - Wrote embedded firmware for safe charging of buoys
  - Completed acceptance testing for both custom and COTS parts
  - Wrote and updated documentation of the naval buoy system

Applied Research Laboratory

- Student Technician, Space and Geophysics Lab — Jan 2015 – Aug 2015
  - Created a suite of cross-compatible unit tests in C++ for open source software
  - Developed testing framework based off CMake/CDash/CTest suite
  - Redesigned the method of reading/writing out RINEX files to use OOP encapsulation
  - Updated the in-house code base to use the new RINEX objects for file I/O
- Science and Engineering Apprentice, Space and Geophysics Lab — May 2014 – Aug 2014
  - Developed an inexpensive COTS GPS data collection platform using Python
  - Wrote software capable of decoding binary streams, translating to the floating point representation, and writing out to formatted RINEX file
  - Interfaced with GPS receiver mounted on a DIP via serial communication

SKILLS

Solidworks, C++, Python, Git, Bash, LabVIEW, CMake, Jenkins, Linux management & development, Soldering, MATLAB, LaTeX, Microsoft Word, Microsoft Excel, Basic machining and assembly experience.

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