

Jack Morrison

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EXPERIENCE

• Oak Ridge Leadership Computing Facility (OLCF)

Oak Ridge, TN

HPC Engineer, User Assistance and Outreach Group

March 2018 – Present

Post-Bachelor's Research Associate, User Assistance and Outreach Group

July 2017 – March 2018

- Hired to full OLCF staff member 8 months into a 2-year post-education appointment
- Provide end-user support for 9 HPC systems, including leadership-class supercomputers Titan and Summit (Top500 #1), National Oceanic and Atmospheric Administration supercomputers, and internal test beds
- Compile and install scientific software with complex dependencies
- Identify and resolve system-level bugs in conjunction with other technical staff and system vendors
- Write and maintain documentation for OLCF supercomputing resources
- Develop tools to improve HPC system usability and facilitate internal User Assistance processes
- Lead public and private tours of National Center for Computational Sciences compute facilities

• St. Jude Children's Research Hospital

Memphis, TN

Student Employee, High-Performance Computing Facility (HPCF)

January 2017 – April 2017

- Assisted with administration and monitoring of HPCF systems, including Spectrum LSF, GPGPU nodes, and peta-scale GPFS storage
- Installed user-requested scientific software packages
- Researched hardware and software compatibility for system upgrades
- Contributed to proof of concept for increased Hadoop and Spark use in the area of genomics

Intern, Information Services

June 2016 – July 2016

- Benchmarked GPU acceleration of MATLAB compute kernels with high research relevancy to demonstrate performance benefits and encourage use of GPU nodes in the hospital's 250+ node, 5000+ core cluster
- Wrote Bash scripts to streamline researcher workflows

• FedEx Services

Collierville, TN

Intern - Developer, Transaction Risk Data Science

January 2016 – May 2016

- Used a Hadoop cluster and Apache Spark to build models of normal user behavioral patterns in order to identify anomalous and potentially fraudulent activity on fedex.com
- Wrote Python programs to parse and analyze Apache logs

PROJECTS & PUBLICATIONS

- **Job Step Viewer** provides a graphical view of an application's runtime layout on the Summit supercomputer, useful for understanding and optimizing job launch. Team lead for CLI and web app development.
- Yin, Junqi, Shubhankar Gahlot, Nouamane Laanait, Ketan Maheshwari, **Jack Morrison**, Sajal Dash, and Mallikarjun Shankar. "Strategies to Deploy and Scale Deep Learning on the Summit Supercomputer." 2019 IEEE/ACM Third Workshop on Deep Learning on Supercomputers (DLS), 2019. <https://doi.org/10.1109/dls49591.2019.00016>.

EDUCATION

• Rhodes College

Memphis, TN

B.S., Computer Science

May 2017

SKILLS

- Languages: Python (Preferred), Bash, Javascript, C
- Familiarity with: RHEL, IBM Spectrum Computing and Storage, Cray XC/XE/XK, Nvidia GPUs, Slurm, TORQUE, Moab, LMOD, Singularity, UNIX/Linux, OpenMP, MPI, HTML, CSS, Fortran, Git, GitLab CI/CD, Spack, OpenShift, ReactJS
- Strong written and verbal communication
- Experience presenting technical material to a wide variety of audiences
- Persisting enthusiasm for making HPC more accessible to the scientific community