

# MICHAEL CAMPFIELD

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## OVERVIEW

An experienced professional combining in-depth understanding of infrastructure, automation, containers, cloud, high performance computing, and standards-based design. Experiences across corporate, education, and research environments with extensive involvement in solutions development and environment modernization. Graduate level degrees in both information science and computer science providing holistic understanding of the complexities and opportunities supporting data-rich and technically demanding settings.

## Recent Experience

- **Office of Scientific and Technical Information, Department of Energy (DOE)** Oak Ridge, TN  
*Linux Systems Administrator/DevSecOps Specialist* Sept. 2023 – Present
  - Systems administration of Red Hat Enterprise Linux 8 (RHEL) and CentOS 7.
  - DevSecOps specialist focusing on OpenShift/Kubernetes, implementing core automation and pipeline infrastructure, and integrating security controls and hardening.
  - Replaced existing ad-hoc configuration management methods with a robust Ansible environment, simplifying systems deployment and maintenance.
  - Primary architect and process designer for CentOS to RHEL transition project.
- **Office of Advanced Molecular Detection, Center for Disease Control and Prevention (CDC)** Atlanta, GA  
*Sr. System Administrator* June 2021 – Sept. 2023
  - Senior administrator and architect for mission-critical activities in the High Performance Computing (HPC) research environment covering multiple high-visibility projects including COVID-19 response.
  - Systems administration of RHEL, CentOS, and Rocky Linux 9 - 7 and Ubuntu-based containers.
  - SME and primary administrator of automation, HPC, batch scheduling, and petabyte-scale storage appliances (Pure and Dell EMC).
  - SME for configuration management, authentication infrastructures, and data management strategies.
  - Development and deployment of the environment's first configuration management solution (Puppet).
  - Integration of Docker, Singularity, virtual environments (conda), modular software technologies for scientific workflows and software development.
  - Authorship of formal policy documentation and data management plans.
  - Trainer and course author for Linux, HPC, and researcher support workshops.
- **Managed Services, Science Applications International Corporation (SAIC)** Oak Ridge, TN  
*Principal System Administrator* Feb. 2019 – May 2021
  - Team lead and primary Linux architect and administrator for customer-facing and internal projects across on-premise data centers, cloud-native, and hybrid environments.
  - Systems administration of RHEL and CentOS 8 and 7 and Amazon Linux 2.
  - Design and development of Puppet and Ansible-based internal and independent customer solutions.
  - Systems management via Red Hat Satellite and Ansible Tower.
  - Automated system creation and deployment across cloud, VMware, and physical systems.
  - Programming in Python, Bash, and Ruby.

- **Research and Development Group, Oak Ridge National Laboratory**  
*Neutron Sciences Directorate System Administrator*

Oak Ridge, TN  
June 2017 – Feb. 2019

  - Embedded team member serving Neutron Sciences Directorate’s multi-facility research operations providing administration for 24x7 data acquisition systems, core infrastructure, analysis software, multi-petabyte high performance storage, and researcher support.
  - Systems administration of CentOS and Ubuntu/Debian-based Linux distributions.
  - Development of Puppet-based cross-organizational configuration management environment.
  - Deployment, troubleshooting, and user assistance for computational clusters.
  - Substantial documentation addition and updating for systems, processes, and project management targeting administration group, internal users, and visiting researchers.
  
- **National Center for Computational Sciences (NCCS), Oak Ridge National Laboratory**  
*High Performance Computing System Administrator*

Oak Ridge, TN  
April 2015 – June 2017

  - Member of HPC Operations group supporting the DOE’s Oak Ridge Leadership Computing Facility (OLCF) hosting multiple petaflop-class supercomputers.
  - Development and support of infrastructure systems supporting a large-scale research environment.
  - Configuration management design and development for Red Hat Enterprise Linux and CentOS versions 7 - 5 using Puppet.
  - Configuration and management of VMware virtualization environment and NetApp storage.
  - Design and testing of new hardware and software systems for integration into team, group, and center-wide initial deployments and for enhancement of existing services.
  
- **University of Tennessee National Institute for Computational Sciences (NICS)**  
*Senior Linux System Administrator/HPC System Programmer*

Oak Ridge, TN  
Oct. 2011 – April 2015

  - Deputy manager for the Extreme Science and Engineering Discovery Environment (XSEDE) Systems Operations group with responsibilities including staff organization, project management, service deployment, quarterly report authoring, and key performance indicator evaluation.
  - Infrastructure team leader with technical supervision responsibilities over team projects and goals.
  - Deployment, customization, and troubleshooting of TORQUE/Moab batch queuing systems.
  - Lead system administrator for a SGI UV1000 1024-core, large-memory, supercomputer targeted at visualization and designed procedures for major system upgrades.
  - System administrator on mid-size Linux clusters used for transition applications to supercomputer-level parallelism.
  - Initiated and led redesign of and redevelopment of Puppet 2 environment into new Puppet 3 deployment incorporating common IT systems services, high availability tools, security systems, virtualization management, patch cycle control, and specialized HPC requirements.
  - Design, deployment, and management of VMware vSphere primary and disaster recovery sites, migration of existing infrastructure to virtual machines.
  - Service documentation and architecture guides targeting disparate experience levels and technical knowledge.

## **Relevant Skills and Certifications**

- Over 20 years of experience with Linux server and workstation administration of Red Hat Enterprise Linux (RHEL) and Ubuntu/Debian-based distributions.
- HPC/cluster, large storage, and modular software deployment, configuration, and operational support.
- Implementation and management of batch job scheduling systems (e.g., Grid Engine and Slurm).

- Containerization utilizing OpenShift/Kubernetes, Helm, Docker, and Singularity.
- Extensive experience implementing configuration management solutions with Puppet and Ansible.
- Configuration and utilization of DevSecOps tools including GitLab, Rundeck, and Jenkins.
- Infrastructure as Code (IaC) solutions primarily utilizing Terraform.
- On-premise and cloud virtualization including Azure, VMware, AWS, and HashiCorp tools (e.g., Packer and Vagrant).
- High availability, high throughput, and load-balanced resource orchestration.
- Programming in Python and Bash shell scripting with experience in additional C-family languages.
- Standard Linux services including Apache HTTP, PostgreSQL/MariaDB, storage, and backups.
- System and application hardening and continual compliance validation against federal, state, and internal security standards (e.g., DISA STIG and CIS).
- MLIS with specialization in research-focused information sciences and academic librarianship.
- Scientific research and experiment design and information sciences support.
- Proposal and grant development, project design, and feasibility reviews.
- Red Hat Certified System Administrator (RHCSA) for RHEL 8.
- Red Hat Certified Engineer (RHCE) and RHCSA for RHEL 7 (inactive).
- LaTeX and BibTeX authoring, typesetting, and documentation systems.
- ITIL v4 Foundation Certified.
- AWS Certified Cloud Practitioner including deployment experience.
- Microsoft Certified: Azure Fundamentals including deployment experience.
- DevOps Institute: DevOps Foundation Certification.
- Multiple certifications for Thomson Reuters and LexisNexis legal research tools.
- Maintained US Department of Energy (DOE) L security clearance (inactive).

## Open Source, Recent Presentations, and Research

- "mimeograph" A high-level configuration and templating environment for HashiCorp Vagrant.  
<https://www.github.com/campfield/mimeograph>
- "tanagra" LaTeX and BibTeX document management and build system.  
<https://www.github.com/campfield/tanagra>
- "Stormy Skies Ahead: Batten down the hatches with on-prem." Oct. 2022
- "Techronomicon: Keeping documentation that won't drive you mad." Feb. 2021
- "Designing Configuration Management for Friends and Enemies." May 2018
- ORCID researcher ID: 0000-0002-9708-2879.

## Education

- **Indiana University-Purdue University Indianapolis (IUPUI)** Indianapolis, IN  
*Master of Library and Information Science (MLIS), Academic Librarianship Specialization* Dec. 2023
  - Education and skills applicable across a large swath of corporate, research, government, and higher education settings.
  - Knowledge, data, and information acquisition, organization, and management.
  - Information management policy development and evaluation.
  - Proposal and grant development, project design, and feasibility reviews.
  - Research and experiment design and information sciences support.
  - Scholarly communication, instruction methodologies, and full lifecycle research support.
- **University of Tennessee** Knoxville, TN  
*Master and Bachelor of Science in computer science* 2002 and 1999
  - Experience with data mining, artificial intelligence, graph theory, and image processing.
  - Software implementation methodologies, programming, and algorithm analysis practices.
  - Member of Computer Science department's Labstaff group responsible for systems administration of departmental servers, storage, and research clusters.