

SKILLS

- Scope customer engagements and deliver on budget
- Manage equipment acquisition and support (>\$1M)
- Public speaking at variety of technical levels
- Administer and support HPC clusters
- Terraform resources on AWS/GCP/Azure
- Identity management (SAML/OIDC)
- Continuous integration/deployment
- Configuration automation via Puppet, Chef
- Operation of VMWare cluster
- Python/shell/C/C++/Java/Go

EXPERIENCE

- 2020–2021 **Professional Services HPC Cloud Consultant**, *Google (Chicago, IL)*
- Scope and design high performance computing migrations to Google Cloud
 - Manage colleague and partner deliverables during migration engagements
 - Create re-usable designs and Terraform-based solutions for common HPC use cases
- 2019–2020 **Professional Services HPC Cloud Consultant**, *Univa Corporation (Chicago, IL)*
- Facilitate installations of Navops Launch, a rules-based automation engine and management tool for bursting Univa Grid Engine (UGE) into major cloud providers.
 - Create Infrastructure-as-Code solutions that can be maintained by customers.
 - Lead customer demonstrations in series of Meetups to promote Navops Launch.
 - Created Consul-based solution to burst several thousand UGE nodes on GCP in 5 minutes.
- 2015–2019 **Senior Scientist**, *Center for Gravitation, Cosmology and Astrophysics (Milwaukee, WI)*
- Supervise a team that provides services in support of LIGO research including software integration/containerization, distributed access to data, wikis, and database portals.
 - Contributed to the development of several grant applications, including a successful NSF award for a \$900k upgrade of NEMO computing cluster.
 - Designed upgrade to NEMO computing cluster, including adoption of CephFS
 - Manage group's relationship with campus information technology staff to ensure that its infrastructure and security requirements are met.
 - Lead LIGO's relationship with developers of the HTCondor cluster orchestration software.
 - Migrated on-premises web portal to highly-available solution using Kubernetes on AWS
 - Continued duties listed under succeeding section.
- 2012–2015 **Associate Scientist**, *Center for Gravitation, Cosmology and Astrophysics (Milwaukee, WI)*
- Lead team responsible for computing services in support of LIGO and CGCA researchers.
 - Provide Icinga-based monitoring / alerting solution for LIGO's computing services.
 - Responsible for managing maintenance and operations budget for the group's data center, including electrical/cooling systems and all contractor supervision and bid solicitation.
 - Responsible for the execution of the NEMO cluster, a 6,000 CPU-core & 50,000 GPU-core computing resource on which to detect and analyze multiple sources of gravitational waves.
 - Designed, installed, and maintained group's VMWare platform and storage area network.
 - Developed expertise in configuration automation, virtualization, large-scale storage technologies and SAML federated identity management.
 - Serve on collaboration committees and working groups to establish computing policies.
- 2002–2011 **Graduate Student**, *The University of Chicago* and **Research Associate**, *Caltech*
- Deploy astronomical instruments in Hawaii/Chile and analysis of noise-dominated data

EDUCATION

- 2002–2009 THE UNIVERSITY OF CHICAGO, KAVLI INSTITUTE FOR COSMOLOGICAL PHYSICS
PhD Physics, MS Physics
- 1997–2002 UNIVERSITY AT BUFFALO – THE STATE UNIVERSITY OF NEW YORK
BS Physics, BS Computer Science, minor mathematics *summa cum laude*