

SKILLS

- Team leadership and mentoring junior engineers
- Scope customer engagements and deliver on budget
- On-prem and Cloud infrastructure administration
- Certified Professional Cloud Architect (Google)
- Terraform/Packer/Ansible/Puppet/Chef
- Python/Go/shell/C/C++/Java

EXPERIENCE

- 2022–present **Senior Software Engineer / Team Lead, Cluster Toolkit**, *Google (Chicago, IL)*
- Designed and implemented Terraform/Packer/Ansible/Python solutions for provisioning and scaling compute clusters, networking and storage
 - Prioritized fast self-serve on-ramp, increasing Toolkit’s monthly revenue from 0 to \$XXM
 - Designed and implemented solutions for provisioning NVIDIA GPUs in Slurm clusters running LLM training models
 - Develop repeatable playbooks for oncall and field support
 - Drove feature development during proof-of-concept engagements resulting in multiple \$XM commitments to Google Cloud
- 2020–2021 **HPC Cloud Consultant**, *Google (Chicago, IL)*
- Scope and design high performance computing migrations to Google Cloud
 - Manage colleague and partner deliverables during migration engagements
 - Created a custom autoscaler for Google Kubernetes Engine to reliably handle Spot pre-emptions at customer’s extreme scale; a similar solution was later integrated into GKE
- 2019–2020 **HPC Cloud Consultant**, *Univa Corporation (Chicago, IL)*
- Led professional services team migrating Univa customers to AWS, Azure, and Google
 - Lead customer demonstrations in series of Meetups to promote Navops Launch
 - Create Puppet and Python-based solutions that can be maintained by customers
- 2012–2019 **Senior Scientist**, *Center for Gravitation, Cosmology and Astrophysics (Milwaukee, WI)*
- Supervise a team providing services in support of LIGO research including software integration/containerization, distributed access to data, wikis, and database portals
 - Responsible for the execution of the NEMO cluster, a CPU and GPU & computing resource on which to detect and analyze multiple sources of gravitational waves
 - Responsible for managing maintenance and operations budget for the group’s data center, including electrical/cooling systems and all contractor supervision and bid solicitation
 - Contributed to the development of several grant applications, including a successful NSF award for a \$900k upgrade of NEMO computing cluster
 - 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
 - Built Puppet-based automation system used by the team to deliver and maintain critical research infrastructure
 - Expertise in virtualization, storage technologies and SAML federated identity management
- 2002–2011 **Graduate Student**, *The University of Chicago* and **Research Associate**, *Caltech*
- Analysis of noise-dominated data to improve our understanding of cosmological history

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*