About Me

- samforeman.me
 - Data Science @ ALCF
- Undergrad (2010 2015):
 - UIUC:
 - Engineering Physics
 - Applied Mathematics
- Grad School (2015 2019):
 - University of Iowa
 - PhD. Physics
 - "A Machine Learning
 Approach to Lattice Gauge
 Theory"
- Postdoc (2019-2022) @ ALCF

• Current Research:

- AI + Science:
 - GenSLMs: Genome-scale language models reveal SARS-CoV-2 evolutionary dynamics*
 - Building better sampling methods for Lattice QCD
 - Foundation models for long term climate forecasting
- Scaling Large Language Models
 - Optimizing distibuted training across thousands of GPUs
 - Building new parallelism techniques for efficient scaling
- You can get a live view of some of my recent talks <u>here</u>

^{*}ACM Gordon Bell Special Prize for HPC-Based COVID-19 Research

Argonne Leadership Computing Facility (ALCF)

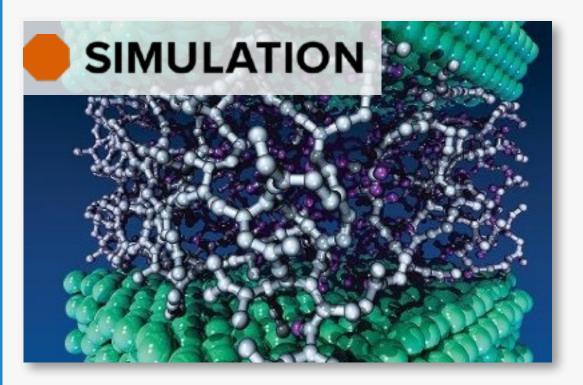


The ALCF provides world-class computing resources to the scientific community.

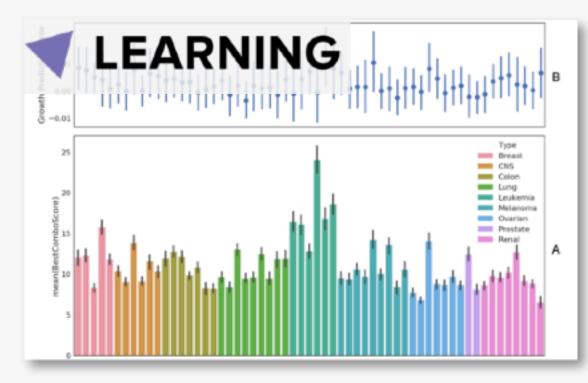
- Users pursue scientific challenges
- In-house experts help maximize results
- Resources fully dedicated to open science



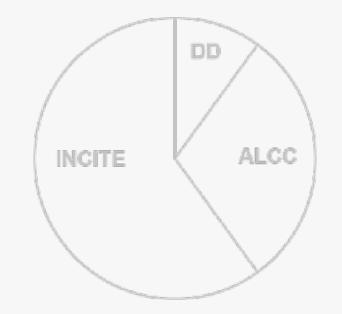
Architecture supports three types of computing:







ALCF offers different pipelines based on your computational readiness.



1. Large-scale Simulation

- PDEs, traditional HPC
- 2. Data Intensive Applications
- 3. Deep Learning and Emerging Science AI
 - Training + inference
 - Scalable pipelines



(Apply to the allocation program that fits your needs)