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UTAH'S AI SUPERCOMPUTER

REDTAIL Takes Flight

Utah's new AI Factory supercomputer
for research, education and innovation

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Agenda

- About Redtail
- Redtail/URAISE Enablement Program
- Using Redtail. First call for challenge projects

@THEU

APRIL 02, 2026

State-backed AI supercomputer set to expand research capacity across Utah this summer

A new artificial intelligence supercomputing system managed by the University of Utah is slated to come online this summer, supported by $15 million in one-time funding approved by the Utah Legislature during the 2026 session.

"Our goal is ensuring the state is awash in computing power by building a robust and scalable AI ecosystem that benefits our entire higher education system, powers research to find new healthcare cures, and ignites Utah's entrepreneurial spirit."

- Taylor Randall, President, U of Utah

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An advanced AI resource for researchers, educators, and innovators across Utah

- $50 million 5-year public-private partnership among State of Utah, U of U, and the Huntsman Family Foundation, with technologies from HPE and NVIDIA.
  - $15M from UT Legislature in 2027 appropriation.
- SCI/CHPC will conduct operations, allocations, & enablement.
- Enablement program of training, access, and facilitation for all levels of users; student and professional development, entrepreneurship.
- Initial operations in late July 2026 followed by full operations in the fall 2026.

THE UNIVERSITY of UTAH

HUNTSMAN FAMILY FOUNDATION

Hewlett Packard Enterprise

NVIDIA

https://chpc.utah.edu/resources/utah-ai-supercomputer.php

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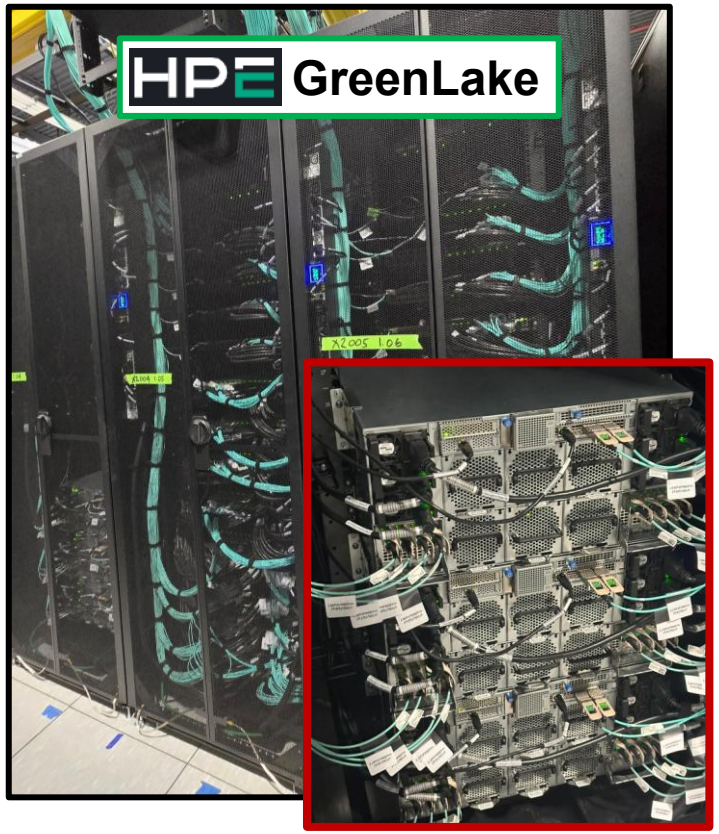
In the box…

https://chpc.utah.edu/resources/utah-ai-supercomputer.php



Compute:

- 33 HPE Cray XD670 nodes. Each node has:
  - 8 NVIDIA H200 SXM5 GPUs, each with 141 GB VRAM; 2 Intel Xeon-P 8570 56-core CPUs, and 2 TB DDR5-5600 RAM.
  - 96 Intel Xenon Platinum 8568Y CPUs
- In aggregate: 264 GPUS, 3,696 CPU cores, 66 TB of RAM.
- Interconnectivity: 900 Gbs GPU-to-GPU bidirectional. 3.2 Tbit/s internal non-blocking InfiniBand connectivity - 8 400Gbit/s links, one per each GPU, for efficient multi-node projects.

Data: 1 PB scratch and local node storage. WEKA filesystem for high-throughput AI pipelines and scalable high-speed input-output.

External connectivity: 100 and 400 Gbs to UETN & UofU for rapid data transfer at scale across Utah.

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Soaring to new heights: Redtail makes the Top500 list of most powerful computing systems in the world

Just announced!!

- Redtail ranks **#159** on the June 2026 TOP500 list
  - In the top 10 of U.S. academic systems and ~ top 5 "self-funded" (not agency supported) systems.
- Redtail also ranks #76 on the Green500 list, which considers performance per unit of power.
- Details: https://top500.org/system/180463/

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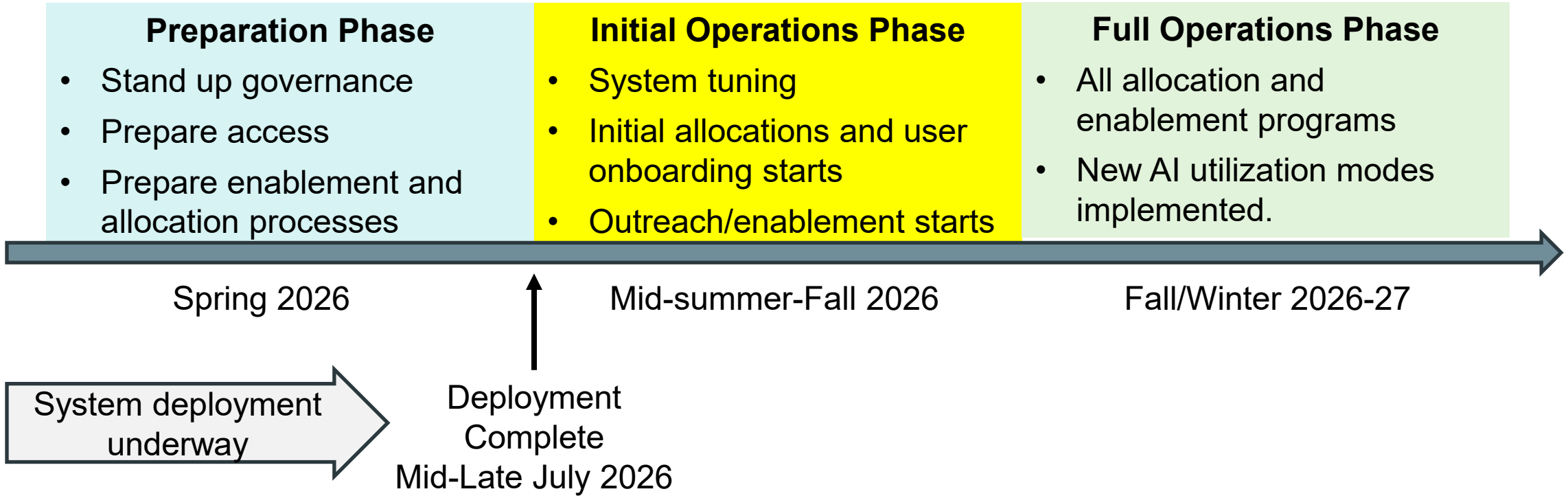
Timeline



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Enablement: A coordinated effort with USHE Institutions and state entities

Goals	• Ensure broad **access** for Utah researchers, educators, and innovators to Redtail. • Facilitate **readiness** and provide **support** throughout a project's lifecycle. • Leverage & uplift **institutional expertise** and mutual **workforce development** goals. • Inclusive **governance** to address needs and gaps: USHE Executive Committee.
Access	• Defined opportunities to propose challenge projects and request allocations through a broad-based, fair and equitable process. • Onboarding processes targeted to different user experience levels and project needs. • Connectivity, security, and access management will be enabled via U of U and UETN.
Training & support	• Some users and institutions are ready to use AI infrastructure at scale, others will need assistance. • Training resources, "AI ambassadors", and liaisons to "meet users where they are" and disseminate expertise for Utah-wide learning and workforce development.

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Alignment with State of Utah AI initiatives

Utah Pro-Human AI INITIATIVE

https://prohumanai.utah.gov/

- **The Nucleus Institute** convenes universities, industry leaders, entrepreneurs, and policymakers to create real-world solutions.
- **A statewide higher education directive** by the Utah Board of Higher Education to integrate AI across Utah's public institutions.
- A new state award program recognizing **top "pro-human" AI companies**.
- The new **Office for AI Policy, Regulation & Innovation** is the first of its kind in the nation.

Utah's Partnership with NVIDIA

- A public-private partnership to equip universities, community colleges, and adult education programs across Utah with the resources to develop skills in generative AI
- Utah's educators can gain certification through the NVIDIA Deep Learning Institute University Ambassador Program

Center for High Performance Computing (CHPC)

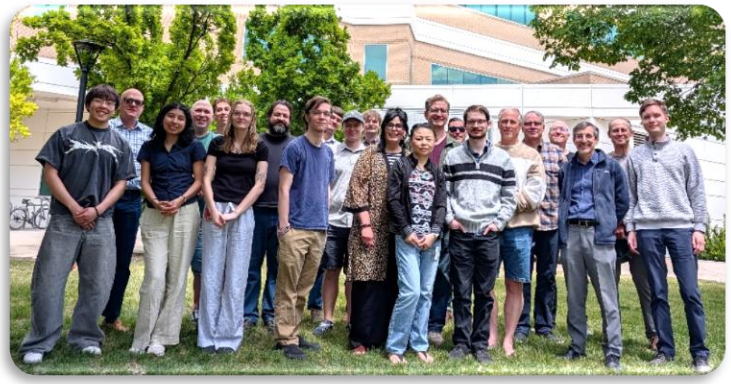
Mission *Deliver advanced computing and data systems and services to accelerate discovery and innovation across the University and state, regionally and nationally.*

2000+ Users & Collaborators

Research Computing, Data, & AI Environments

- Open HPC
- Regulated Environments
- Virtual Environs
- Data Systems & Services
- Expertise & Facilitation
- Connectivity, Integration & Interoperability

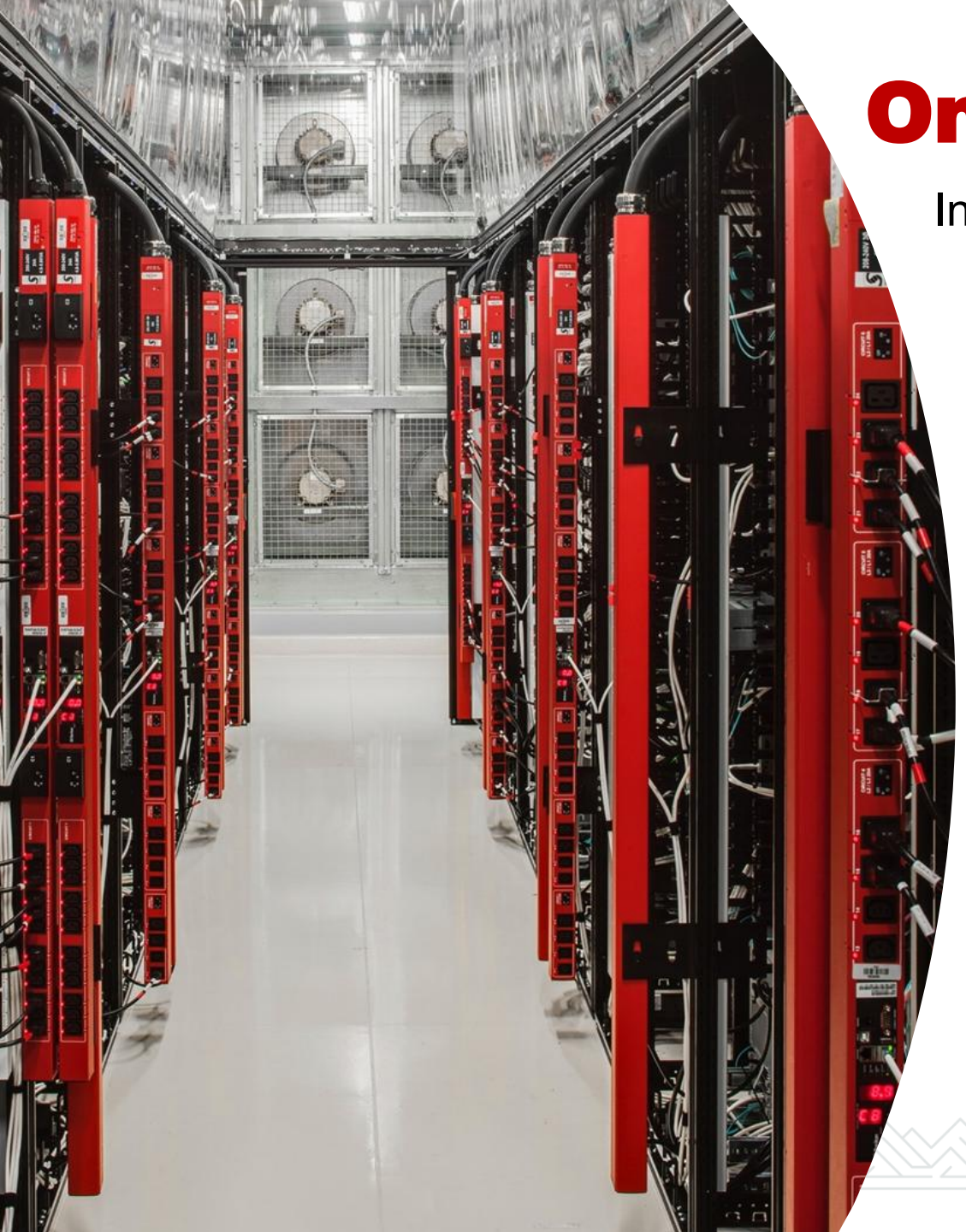
Innovation Continuum
Research → Piloting & Development → Production



We're hiring!

https://chpc.utah.edu/

- 45 staff, students, and interns
- CPU & GPU, data, and connectivity across scales
- Serves researchers, classes, and innovation



One-U RAI AI Infrastructure

Investing $15M spread over three $5M installments

FIRST $5M UPGRADE

CHPC

- **9X** high-end GPUs
- **4X** mid-range GPUs
- **+3PB** storage

SCI

- **3X** GPU compute
- **4X** storage
- **10X** networking speed

FUTURE UPGRADES

2–4X capability increase every two years
as new generations of GPUs become available

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First Call for Projects: Challenges for Research and Societal Impact

Launches today!

Summary

- This first call seeks AI-ready, novel research and education projects that can benefit from Redtail's large computational scale during the initial operations phase.
- Open to USHE faculty, staff, instructors, …. Not limited to current HPC users.
- Projects focused on near-term critical milestones and impacts are particularly welcome.

Motivations

- Execute a first cohort of USHE projects during Redtail's initial operations phase.
- Support **challenge projects** with defined, ambitious goals and outcomes for research, education and/or or societal impact … that we can all celebrate.
- Ensure that Redtail use is inclusive, fair, orderly, and demonstrates impact for Utah.

First Call for Projects: Challenges for Research and Societal Impact

Launches today!

How the process works

1. You and your team submit a short project proposal with the goal(s), intended impact, and technical needs (website link in a moment).
2. A panel of reviewers will assess submissions on a rolling basis until a first cohort is selected. CHPC will also perform a technical assessment of recommended projects.
3. If you are selected for this first cohort, you will receive 6 months of access to Redtail AND assistance from AI engineers and CHPC consultants to prepare and run your project.

Advice: READ the call carefully. Compose your answers in a temporary doc and paste into the form. Contact us with questions at redtail@utah.edu. Have patience – it is new for us too!

Also note…

- The regular Redtail allocations process will start in the fall after this initial call (~quarterly review). If your project was not selected for this first cohort and is appropriate for Redtail, it will be moved to the regular allocations process.

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First Call for Projects: Challenges for Research and Societal Impact

ONE-U RESPONSIBLE AI INITIATIVE

Home > Opportunities > Utah Redtail AI Factory: Call for Challenge Projects for Research and Societal Impact

Utah Redtail AI Factory: Call for Challenge Projects for Research and Societal Impact

Proposals reviewed on a rolling basis

Overview of the Program

The University of Utah is leading a landmark $50 million public-private initiative to deploy an AI Factory supercomputer, called Redtail, to accelerate state-wide high-impact research, education, and innovation. This advanced AI computing resource will be complemented with a host of education and facilitation services designed to power the next generation of foundational and applied research. The University of Utah's Center for High Performance Computing (CHPC) will conduct user access, operations and enablement activities in collaboration with the Scientific Computing and Imaging (SCI) Institute and the Responsible AI Initiative (RAI), and in coordination with Utah System of Higher Education (USHE) institutions as well as other state entities.

Initial availability of Redtail is anticipated for mid-summer 2026, during an initial operating period followed by full user operations to start in late fall 2026.

To jump-start early use of Redtail, this first call invites researchers and educators from USHE institutions to propose AI **challenge projects**—A high-impact research and education projects or other ambitious ideas that could be benefitted by access to Redtail's computational power. P that are focused on achieving a defined near-term critical milestone are of particular interest.

Supported projects and their project teams will be recognized publicly and showcased as exemplars enabled by the Redtail AI Factory.

Once full operations begin, Redtail access will be primarily managed via an open request-based allocation process on a periodic basis.

rai.utah.edu/opportunities/redtail-challenge/

redtail@utah.edu

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What will be available in terms of software and tools on Redtail

- NVIDIA Catalog (NVIDIA container registry)
- CHPC software stack
  - AI modules, e.g. Deeplearning
  - LLM inference, e.g. Ollama
  - HPC applications, e.g. VASP
- Your own environment (e.g. Python environment with PyTorch)
- Ask in your proposal for what you want and need.

CHPC's AI resources and tools

Computational and data resources

- **GPUs available by allocation request**
  - RAI Nvidia H200 GPUs plus storage.
  - General GPUs – Many options by allocation.
- **Guest access** to ~400 GPUs on "owner" nodes.
- **Reserved computing** - purchased dedicated service over a multi-year period (replaces owner purchases).
- **Storage** – high-performance storage for purchase.
- **Virtual Machines** – customized for specific needs.

Classroom resources

- **Support for classrooms needing GPUs –** 20–25 classes/semester
- **Classroom-specific environment setup**
  - Web interface to Linux systems; remote desktop
  - Jupyter with custom Python environment
- **General GPU reservations**
  - Modern and older GPUs Modern GPUs
- **More AI resources coming**
  - Inference - LLMs, instructor-run multi-tenant apps

AI tools and applications

- **Tools and models** – Deep learning, User interface tools, Generative AI inference (Ollama, vLLM), Hugging Face generative AI models, NVIDIA Cosmos-Predict, and growing
- **Coding agent tools** – pending approval from AI Office

Free AI learning opportunities

- **CHPC AI trainings** – GPU programming, deep learning, coding agents. And many other live and recorded trainings.
- **Upcoming In-Person**: **Fundamentals of Deep Learning**, Mike Ramshaw, NVIDIA AI Ambassador, August 20, 2026.

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Questions?

redtail@utah.edu

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