Introduction to NAIRR and ACCESS – Empowering Research & Education with Advanced Computing Resources

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Have you ever asked yourself…

- Are you afraid that you could lose your job because it could be done faster, better, and more efficiently?

  Annoying and ambitious co-worker

- Do you feel like you have no control over decisions being made anymore?

  Advertising

- Do you wonder if your own personal data is being used against you?

  My phone is listening to me

Why are you here?

- FOMO?
- Research Enablement
- Teaching
- Workforce development
- Resource discovery
- Collaboration and networking
- Fear
- My boss/spouse/kid/mom told me to come

Source: ChatGPT

Why is everything suddenly about AI?

- Technology leaps became visible
- The "wow" factor is immediate
- Consumer interface
- Infrastructure caught up
- Large industry investments

iSeeCars.com

This is a lot easier than I expected.

AI and Advanced Computing

- Data-driven research and AI are transforming every discipline
- AI and High Performance Computing (HPC) are converging
- AI depends on HPC
- HPC benefits from AI
- National programs are making these capabilities more accessible than ever
  - NAIRR
  - ACCESS

What is NAIRR?

- AI resource access for all
- Government and non-government partners
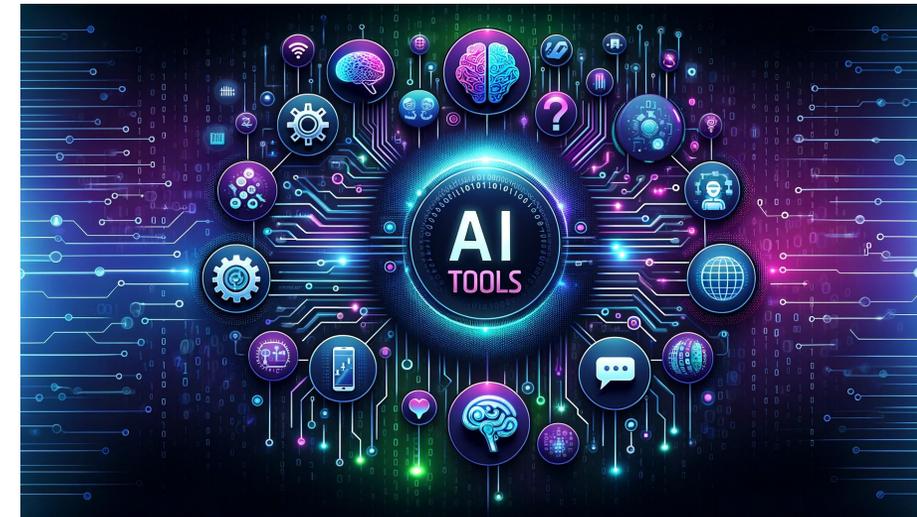- Focused on enabling research, education, and workforce development

What is available?

- Access to some of the premier AI resources in the country
  - Computational infrastructure
  - Tools, models, and software
  - Datasets
  - Training and educational resources

Source:
https://edure.in/top-ai-tools-for-freshers-to-get-a-job-in-2025/

What is ACCESS?

- Advanced compute, data, networking, software
- Combines resources and expertise
- Supports scientific discovery
- Some of the largest systems in the country

ADVANCING SCIENCE WITH ACCESS

How can ACCESS supercharge your research?

GET STARTED

ACCESS is a program established and funded by the U.S. National Science Foundation to help researchers and educators, with or without supporting grants, to utilize the nation's advanced computing systems and services – **at no cost to you.**

ACCESS vs. NAIRR

NSF | ACCESS

- Many similarities
  - Share many resources
  - Structure
  - Operational teams
- Provide ability to share knowledge and processes

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Who are these resources for?

You!

No experience necessary!
No cost to you!

- Faculty and researchers across disciplines
- Students and educators integrating AI and data science
- Any application domain of AI
- Any — or no — source of funding for the research

Example use cases

- Earth system science
  - Detect extreme events, predict wildfire spread
- Genomics and biomedical data analysis
  - Identify genetic risk factors and accelerate drug discovery
- Social science data mining and NLP
  - Analyze historical archives, legal documents
- AI integration into courses and curricula
  - Build hands-on curricula

What do you need to get started?

- Apply for an allocation
- The idea for the work
- The ability to carry it out
- Information about your project

NAIRR Pilot Community Resources

http://www.nairrpilot.org

This is the primary source of information about all things NAIRR Pilot!

Slide Courtesy of Layla Freeborn, CU Boulder Research Computing

NAIRR Pilot Community Resources

YouTube

@NAIRRPilot

http://www.youtube.com/@NAIRRPilot

Recordings of past events (e.g., Showcases)

Attend an upcoming event or training session

https://nairrpilot.org/pilotevents

You or someone you're supporting has a NAIRR Pilot allocation and a question about your resource.

Where can you turn for help?

Slide Courtesy of Layla Freeborn, CU Boulder Research Computing
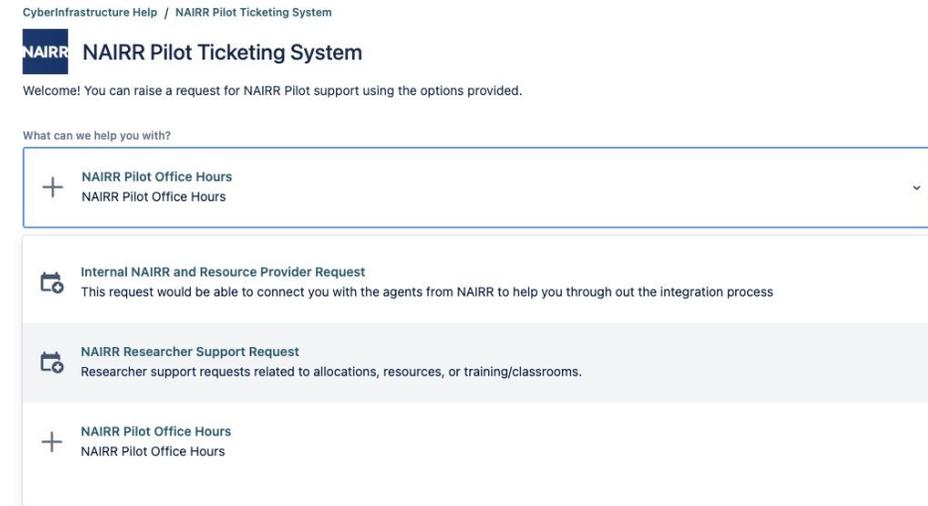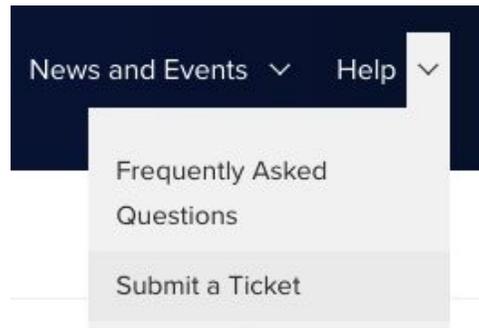
Getting Help with NAIRR Pilot Resources

Attend NAIRR Pilot Office Hours

Resource Provider Office Hours
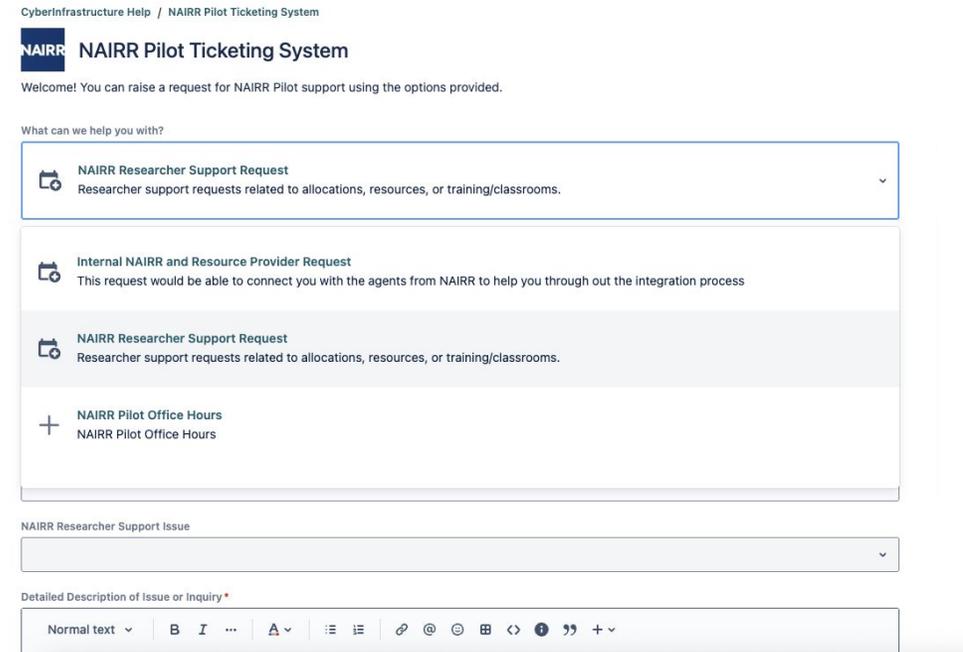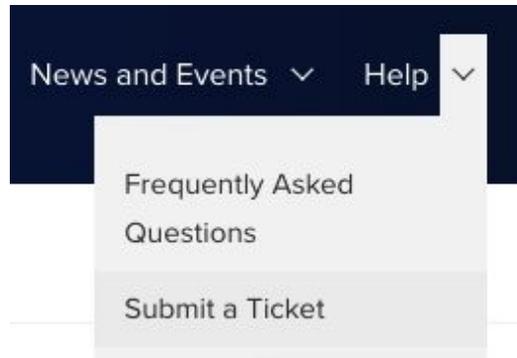
Industry Partner Office Hours

Slide Courtesy of Layla Freeborn, CU Boulder Research Computing

Getting Help with NAIRR Pilot Resources

Ask questions or request a consultation by <u>submitting a ticket</u>

Slide Courtesy of Layla Freeborn, CU Boulder Research

NAIRR Pilot User Experience

User Experience Working Group

Marisa Brazil (ASU)

* Shelley Knuth (CU Boulder)

* Alana Romanella (CU Boulder)

Nitin Sukhija (SRU)

User Experience Team

Ewa Deelman (USC)

Lori Flora (CU Boulder)

Layla Freeborn (CU Boulder)

James Griffioen (UK)

* Shelley Knuth (CU Boulder)

Alana Romanella (CU Boulder)

Barbara Schnell (CU Boulder)

Address questions such as
- What is the user experience like?
- What recommendations do we have to best meet user needs?
  - Office hours, consultations, ticketing
  - Trainings & webinars

Work with Resource Providers, other NAIRR Pilot WGs and teams.

Slide Courtesy of Layla Freeborn, CU Boulder Research Computing

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Work with other NAIRR Pilot teams (Allocations, Ticketing System, Website, SCIPE teams) to coordinate and implement recommendations.

Slide Courtesy of Layla Freeborn, CU Boulder Research Computing

What have we learned so far?

- AI is the gateway drug
- Tools and research
- New people – more help
- Design your own!

- National and Regional workshops
    - April - Denver
    - August - RMACC
    - October - Kentucky   **You are here**
    - January – USC
    - April - OSC
- Researcher showcases

Questions?

- https://nairrpilot.org/

- knuths@colorado.edu