2024 CRA CONFERENCE

Government Impacts on (AI) Research and Development

David Danks
University of California, San Diego

Manish Parashar
University of Utah

AI Research & Government Actions

David Danks
Data Science, Philosophy, & Policy
UC San Diego
ddanks@ucsd.edu

Thinking about AI governance

- Harder ↔ Softer
- Sector-specific ↔ Sector-general
- Existing ↔ Novel

- **Current split on last two dimensions**:
  US/UK/Japan/… vs. EU vs. China

Recent US Government actions

- **Feb 2019**: Executive Order (EO) 13859
- **Dec 2020**: EO 13960
- **Oct 2022**: Blueprint for an AI Bill of Rights
- **Jan 2023**: NIST AI Risk Management Framework
- **Oct 2023**: EO 14110
- **March 2024**: OMB M-24-10 (“AI M-memo”)

Note: State governments are also starting to get involved (CA, CO, UT, IL, …)

Recent international actions

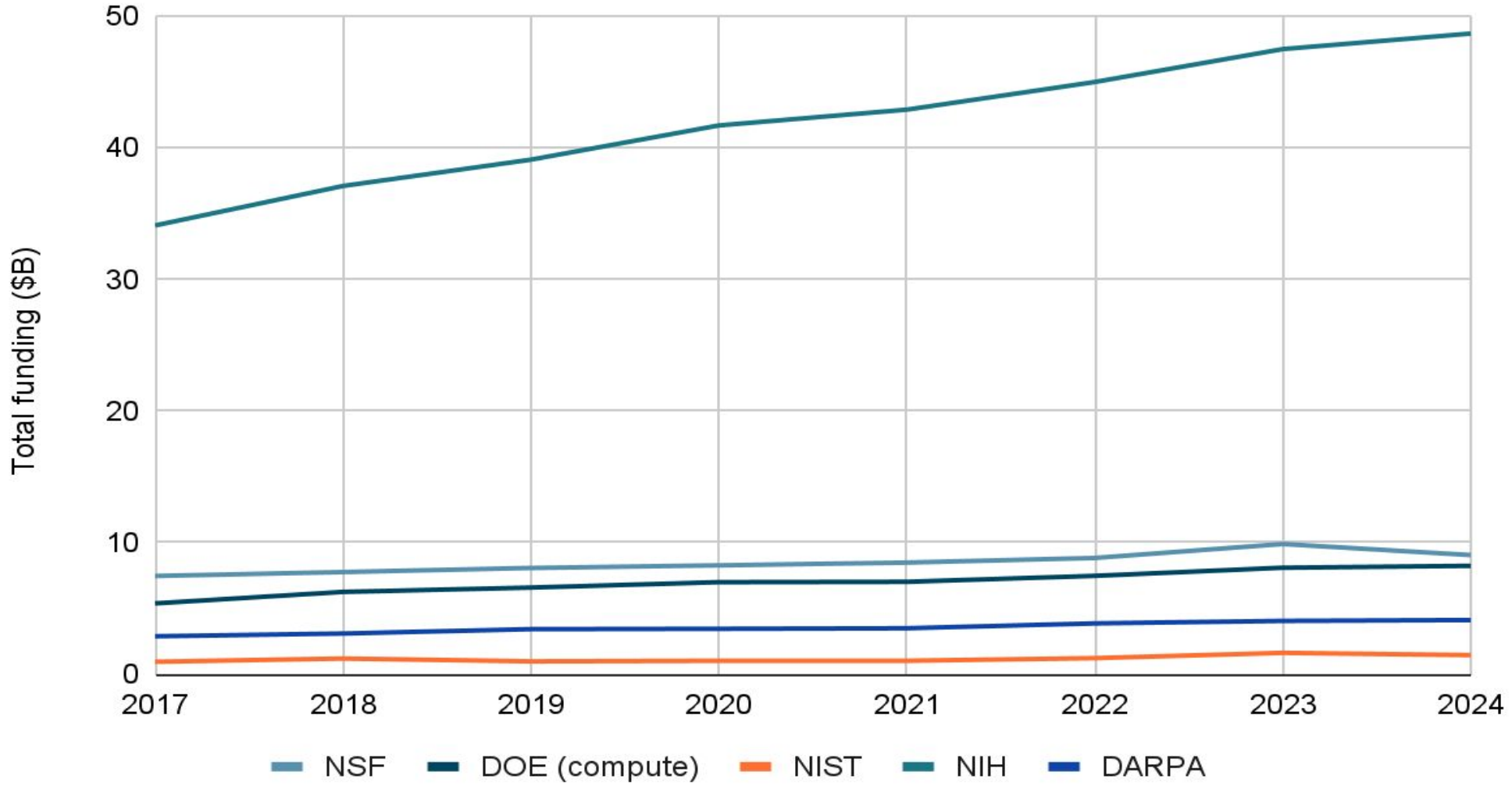
- **2021/22/23:** Series of China AI regulations
- **Nov 2023**: Political Declaration (military AI)
- **Feb 2024:** EU Digital Services Act in full effect
- **Aug 2024 - 26:** EU AI Act goes into effect

Implications for research(ers)

- (almost) No AI *research* restrictions
- New funding areas (especially trustworthy AI)
- New opportunities for HCI, hardware, …
- Translational needs for lab → product
- Development of technology-aware standards

  Development of standards-aware technology

Federal (research) funding trajectories



Overall: Good news…about potential

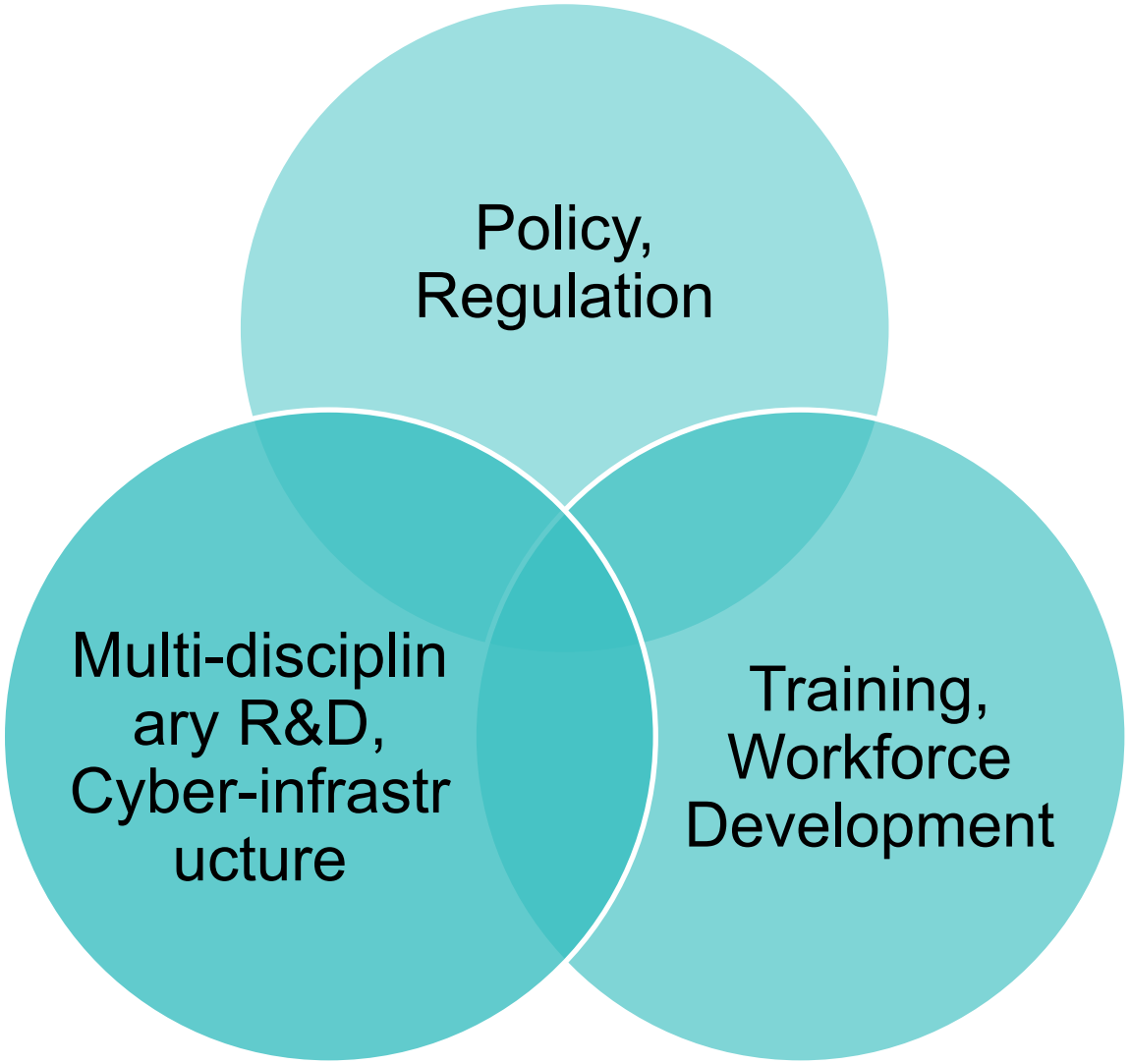
- EO 14110 directed creation of multiple new research funding opportunities
- Lots of RFIs in the past six months
- US Government working to be more AI-ready (including lots of hiring, both junior & senior)

- But will resources be made available?

Democratizing Responsible AI

Manish Parashar
Scientific Computing and Imaging (SCI) Institute & Kahlert School of Computing
University of Utah

Democratizing Responsible AI



- The quality of research and the pace of innovation are linked to the diversity of the contributions.
- Greater inclusivity in contribution to research and development increases the fairness of the results.

Barriers to Democratizing Access to AI

2024 CRA CONFERENCE

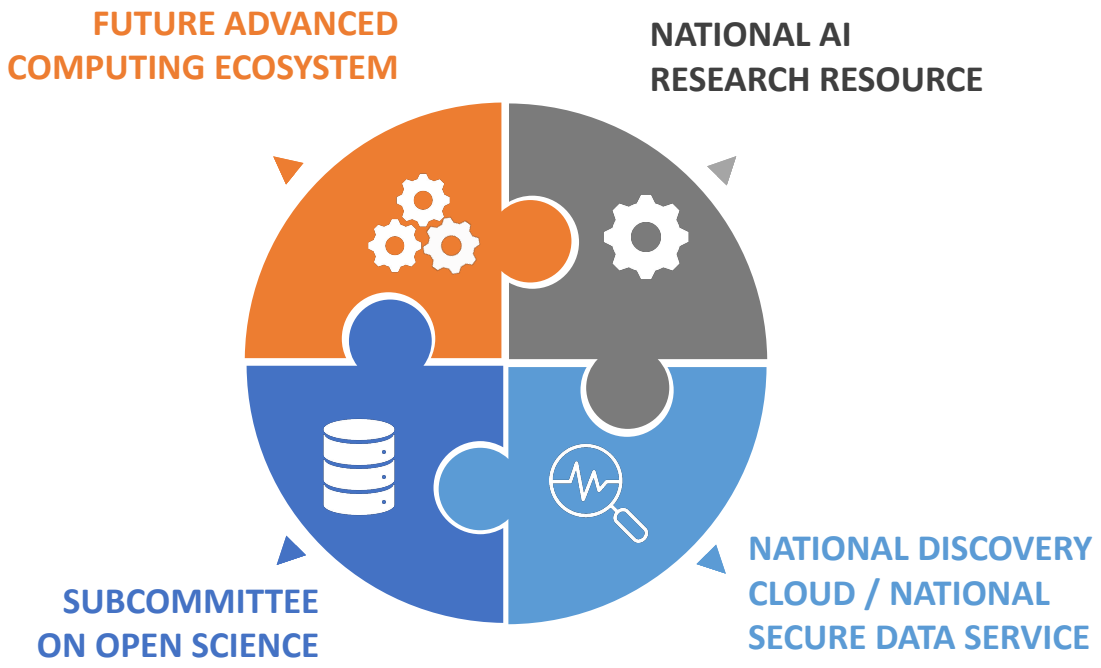
Awareness	• Why is AI important? How is AI relevant to me? What do I need to know about AI?
Ability	• How can I get the skills needed to use AI? Where do I go for help?
Access	• Where do I get the resources to access and use AI?
Association	• How do I find out who else is using the AI and how? How do I become part of a community?
Applications	• What guardrails exist? What could this technology be used for in the future?

Moving from **Open & Equal** to **Democratized & Equitable**

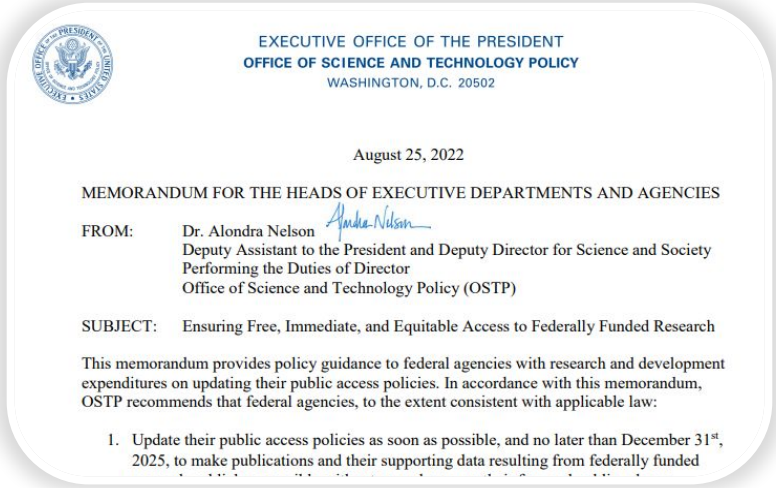
Towards an Equitable National Research Ecosystem

2024 CRA CONFERENCE

Realizing the National Advanced Computing Ecosystem



2022 OSTP memo on Open Science and Public Access



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20502

August 25, 2022

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: Dr. Alondra Nelson
Deputy Assistant to the President and Deputy Director for Science and Society
Performing the Duties of Director
Office of Science and Technology Policy (OSTP)

SUBJECT: Ensuring Free, Immediate, and Equitable Access to Federally Funded Research

This memorandum provides policy guidance to federal agencies with research and development expenditures on updating their public access policies. In accordance with this memorandum, OSTP recommends that federal agencies, to the extent consistent with applicable law:

1. Update their public access policies as soon as possible, and no later than December 31st, 2025, to make publications and their supporting data resulting from federally funded

- Calls for **free**, **immediate**, and **equitable** public access
- Default **zero-embargo** of peer-reviewed articles and underlying data
- New **Public Access/Open Science plans** by Feb 2023 (policies by 2024, released by 2025)

NAIRR: Democratizing the AI R&D Ecosystem

2024 CRA CONFERENCE

Goals: Strengthen and democratize the U.S. AI Innovation ecosystem in a way that protects privacy, civil rights, and civil liberties.

Spur **innovation**

Increase the **diversity** of talent in AI

Improve U.S. **capacity** for AI R&D

Advance **trustworthy AI**

Strengthening and Democratizing Artificial Intelligence Research and Development

Manish Parashar, University of Utah
Tess DeBlanc-Knowles and Erwin Gianchandani, National Science Foundation
Lynne E. Parker, University of Tennessee

This article summarizes the vision, roadmap, and implementation plan for a National Artificial Intelligence Research Resource that aims to provide a widely accessible cyberinfrastructure for artificial intelligence R&D, with the overarching goal of bridging the resource–access divide.

Digital Object Identifier 10.1109/MC.2023.3284568
Date of current version: 18 October 2023

Artificial intelligence (AI) has become an essential engine of innovation that is driving scientific discovery and economic growth. It is increasingly becoming an integral component of solutions that stand to impact everything from routine daily tasks to societal-level challenges. At the same time, there are also concerns that AI could have negative social, environmental, and even economic consequences. To realize the positive and transformative potential of AI, it is imperative to advance the field in a way that protects privacy, civil rights, and civil liberties, while also promoting principles of fairness, accountability, transparency, and equity.

INTRODUCTION

Progress at the current frontiers of AI is often tied to access to large amounts of computational power and data. Such access today is too often limited to those in well-resourced organizations. This large and growing resource divide has the potential to limit and adversely skew our AI

COMPUTER 0018-9162/23©2023IEEE PUBLISHED BY THE IEEE COMPUTER SOCIETY NOVEMBER 2023 85

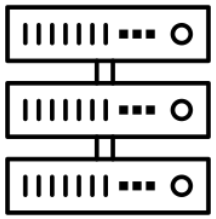
https://www.ai.gov/nairrtf/

Computer, vol. 56, no. 11, pp. 85-90, Nov. 2023, doi: 10.1109/MC.2023.3284568.

Vision for the NAIRR

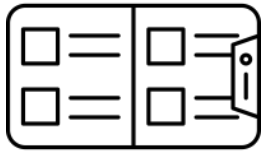
2024 CRA CONFERENCE

A widely-accessible, national cyberinfrastructure that will advance the U.S. AI R&D environment, discovery, and innovation by empowering a diverse set of users through access to:



Secure, high-performance, privacy-preserving **computing**

High-quality **datasets**



Catalogs of **testbeds** and **educational materials**

Training tools and **user support** mechanisms

Rationale: Democratize access to the cyberinfrastructure that fuels AI research and development, enabling all of America's diverse AI researchers to participate in the AI research and development ecosystem.


THE WHITE HOUSE

OCTOBER 30, 2023

Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence

BRIEFING ROOM › PRESIDENTIAL ACTIONS

More information:
https://www.ai.gov/

2024 CRA CONFERENCE

Within 90 days of the date of this order, in coordination with the heads of agencies that the Director of NSF deems appropriate, launch a pilot program implementing the National AI Research Resource (NAIRR), consistent with past recommendations of the NAIRR Task Force. The program shall pursue the infrastructure, governance mechanisms, and user interfaces to pilot an initial integration of distributed computational, data, model, and training resources to be made available to the research community in support of AI-related research and development. The Director of NSF shall identify Federal and private sector computational, data, software, and training resources appropriate for inclusion in the NAIRR pilot program. To assist with such work, within 45 days of the date of this order, the heads of agencies whom the Director of NSF identifies for coordination pursuant to this subsection shall each submit to the Director of NSF a report identifying the agency resources that could be developed and integrated into such a pilot program. These reports shall include a description of such resources, including their current status and availability; their format, structure, or technical specifications; associated agency expertise that will be provided; and the benefits and risks associated with their inclusion in the NAIRR pilot program. The heads of independent regulatory agencies are encouraged to take similar steps, as they deem appropriate.

NAIRR Pilot (Launched 01/24/2024)

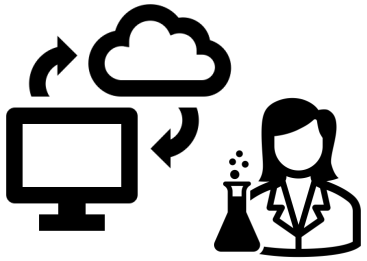
2024 CRA CONFERENCE

NAIRR Pilot National Artificial Intelligence Research Resource Pilot

- Access to computing hardware, systems and testbeds
- Cloud computing credits and access to associated models, data and software platforms
- Software/platform licenses for NAIRR Pilot users
- Open large language models, datasets, software libraries and privacy-enhancing platforms
- API access and research collaborations on closed models
- Educational platforms 'notebooks' for classrooms and students
- Enhanced training, expertise and user support.

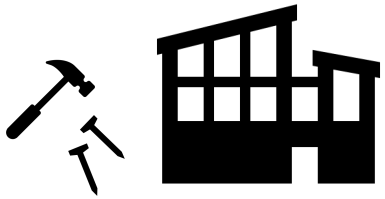
https://nairrpilot.org/

NAIRR Pilot Opportunities Available to Community



Apply to use NAIRR Pilot resources

Access to computing, data, model, collaboration resources – nairrpilot.org



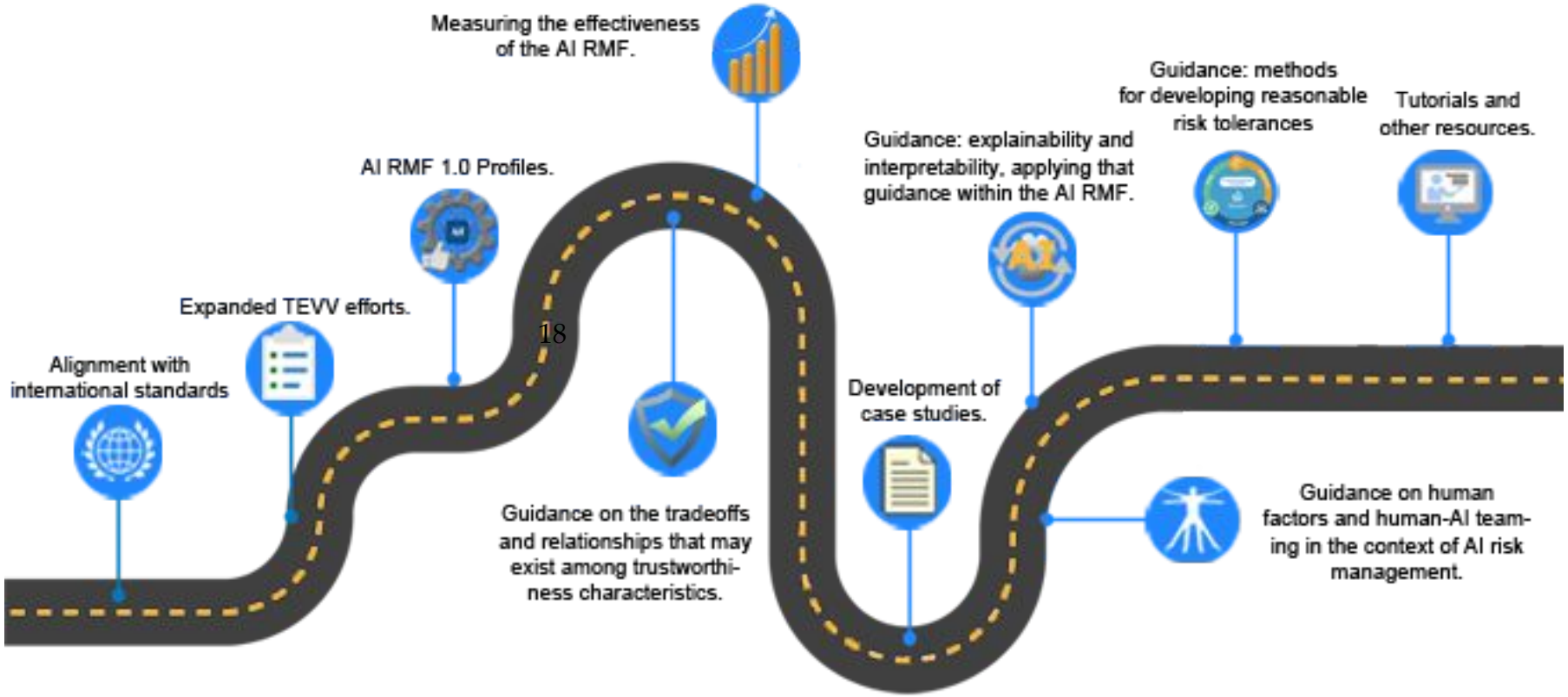
Contribute to the NAIRR Pilot with a demonstration project

Funding opportunity: Demonstration Project DCL – concept outline required

Train, educate and/or build community around NAIRR pilot resources

Funding opportunity: NAIRR Pilot Expansion DCL – concept outline required

NIST AI Risk Management Roadmap



NIST AI Resource Center: https://airc.nist.gov/Home

LEGISLATIVE GENERAL COUNSEL
₵ Approved for Filing: S. Elder ₵
₵ 01-25-24 12:06 PM ₵

S.B. 149

2024 CRA CONFERENCE

ARTIFICIAL INTELLIGENCE AMENDMENTS

2024 GENERAL SESSION

STATE OF UTAH

Chief Sponsor: Kirk A. Cullimore

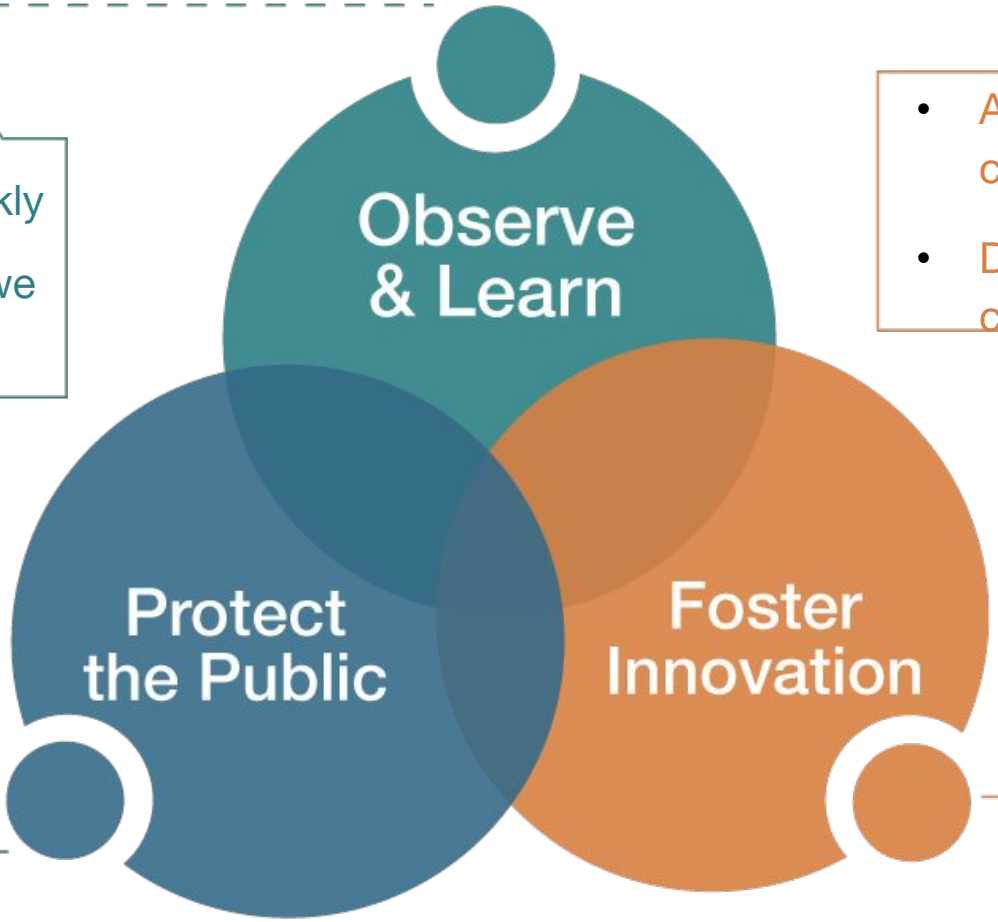
House Sponsor: Jefferson Moss

- Creates the Artificial Intelligence Policy Act.
- Highlighted provisions:
  - establishes liability for use of artificial intelligence (AI) that violates consumer protection laws if not properly disclosed;
  - creates the Office of Artificial Intelligence Policy (office) and a regulatory AI analysis program;
  - enables temporary mitigation of regulatory impacts during AI pilot testing;
  - establishes the Artificial Intelligence Learning Laboratory Program to assess technologies, risks, and policy;
  - requires disclosure when an individual interacts with AI in a regulated occupation; and
  - grants the office rulemaking authority over AI programs and regulatory exemptions.

Key Objectives in AI Tech Policy

- Industry is evolving quickly
- We can't regulate what we don't understand

- Protect consumers from harm
- Examples: deception, fraud, data privacy threats



- Attract innovative companies
- Demonstrate collaborative regulation

One-U Responsible AI Initiative

2024 INFERENCE

University of Utah's $100M AI Research Initiative Led by SCI

"As one of the nation's leading research universities, we have an opportunity and responsibility to use our resources in ways that can impact and serve our community. From being the fourth node of the original internet to performing the world's first artificial heart transplant, we hope to continue the U's pioneering legacy by investing to become a national leader in responsible artificial intelligence. This research has the potential to unlock solutions to issues that affect Utah, the nation and the world."

-- Taylor Randall, President, University of Utah

Advance translational AI to achieve societal good while protecting privacy, civil rights and civil liberties, and promoting fairness, accountability, transparency, and equity.

Initial research focus on regionally important applications

- Environment
- Healthcare and wellness
- Future of teaching and learning

One-U Responsible AI Initiative: Foundations

2024 CRA CONFERENCE

- Ethical development of technology

- Interdisciplinary collaboration to address technical and societal challenges

- Knowledge and skill sharing to effectively navigate the AI world

- Community engagement for societal impact

- Advocating for policy and responsible AI practices

Thank you

2024 CRA CONFERENCE

Manish Parashar

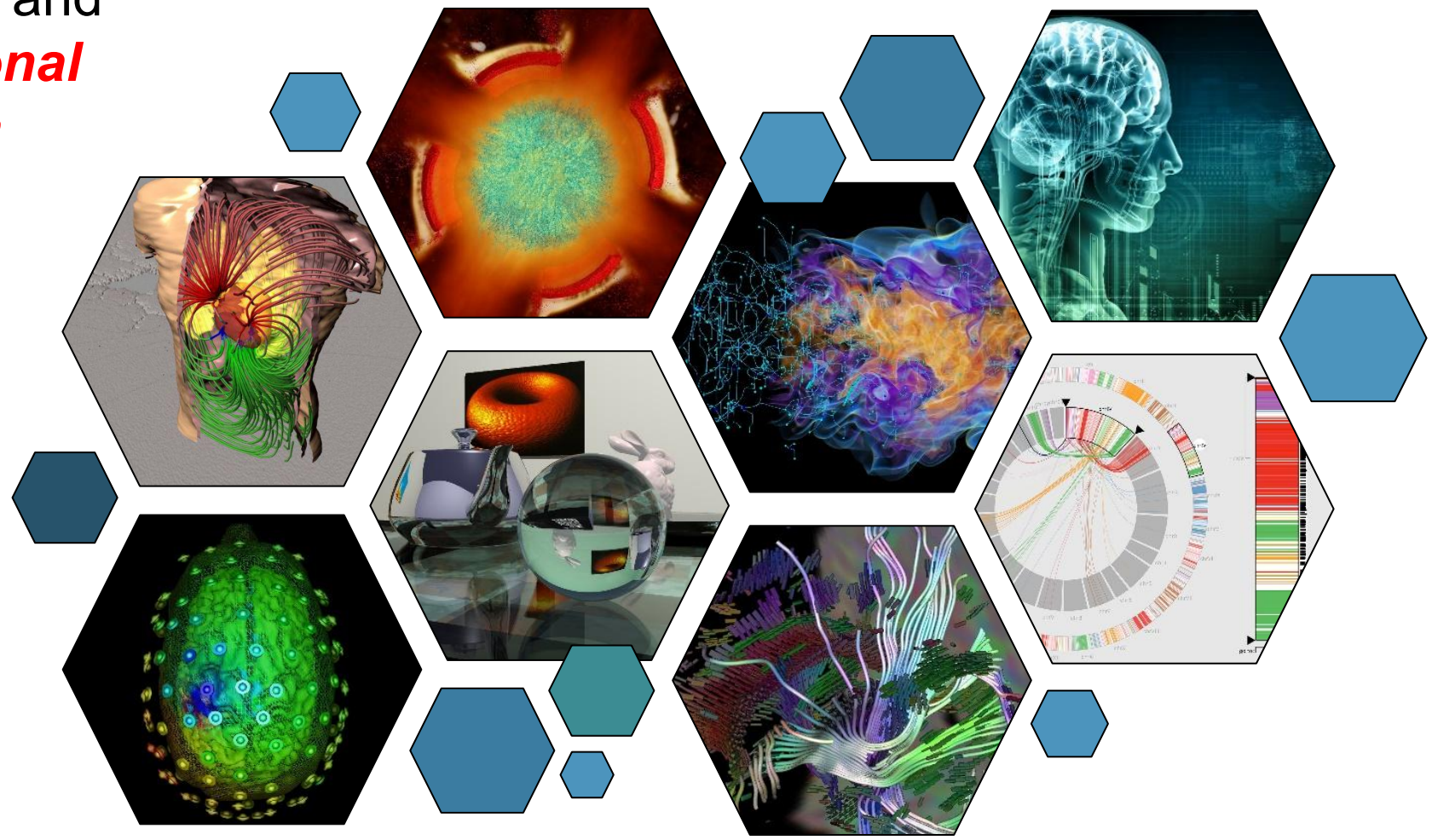
manish.parashar@utah.edu

Scientific Computing & Imaging (SCI) Institute

2024 CRA CONFERENCE

Transformation of science and society through ***translational research and innovation***

- Inter/transdisciplinary, collaborative, convergent
- Core strengths in: Visualization & imaging; Scalable analytics; Advanced computing & data
- Software/system development and distribution integral to our research processes

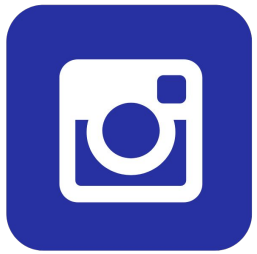


2024 CRA CONFERENCE

Stay connected!

Follow CRA on social media

@computing-research-association



@computingresearch

@computingresearch