Science, Society Transformed by AI

Democratizing Data, Cyberinfrastructure essential to Democratizing Responsible AI

Policy, Regulation

Multi-disciplinary R&D, Cyber-infrastructure

Training, Workforce Development
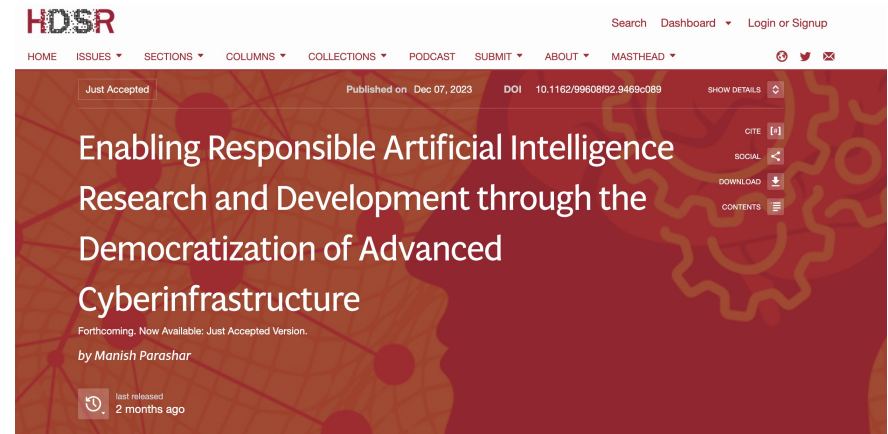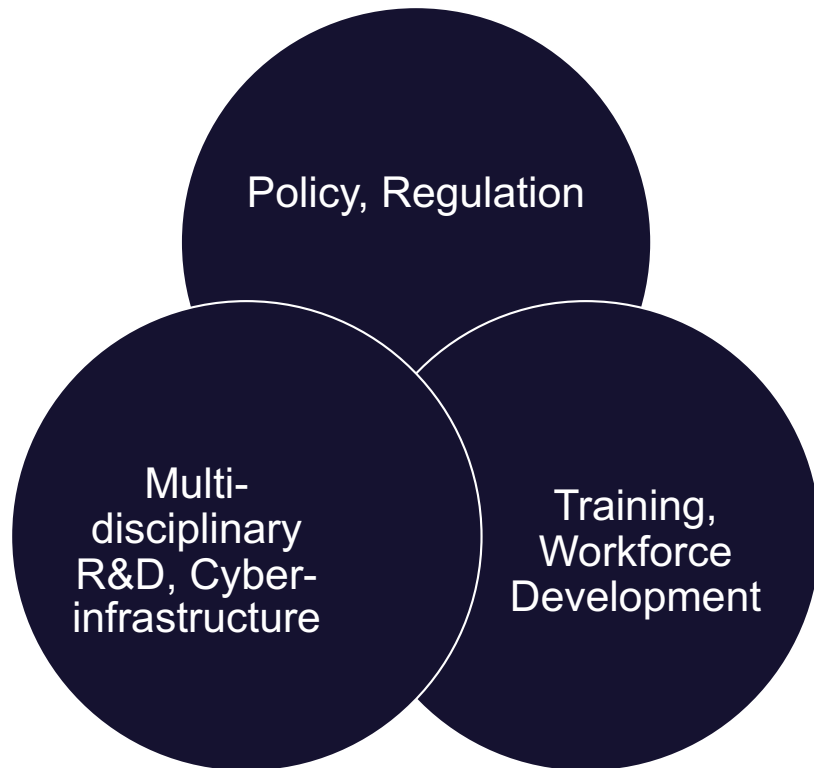
- The quality of research and the pace of innovation are linked to the diversity of the contributions.

- Greater inclusivity in contribution to research and development increases the fairness of the results.

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Some Barriers to Democratizing Data, CI, Responsible AI

Awareness
- Why is it important? How is it relevant to me? What do I need to know about it?

Ability
- How can I get the skills needed to use it? Where do I go for help?

Access
- Where do I get the resources to access and use it?

Association
- How do I find out who else is using the it and how? How do I become part of a community?

Applications
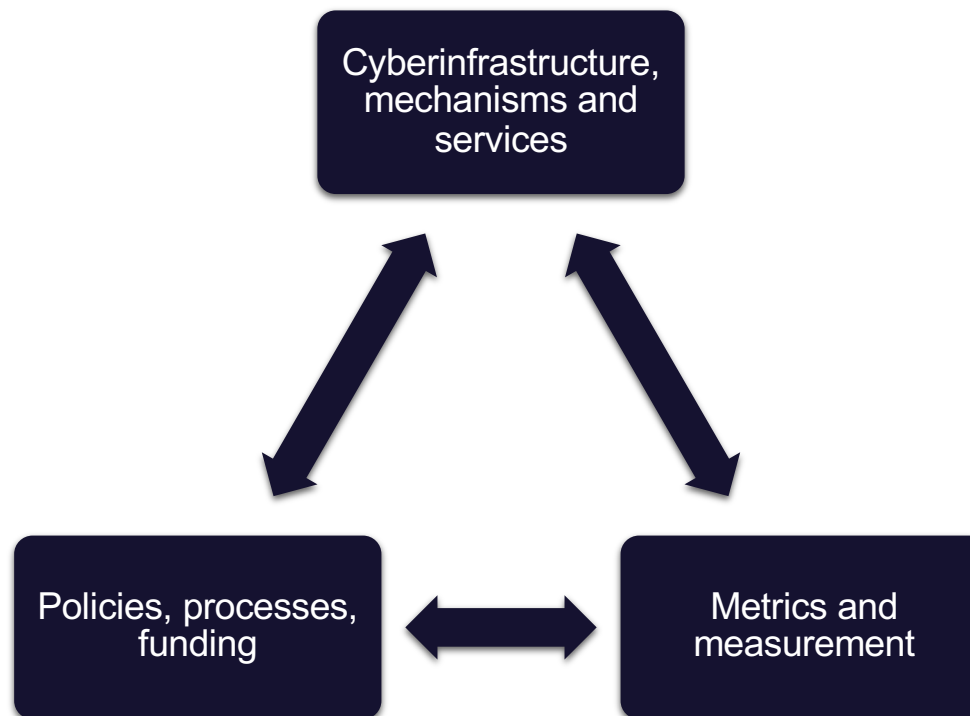- What guardrails exist? What could the technology be used for in the future?

Moving from **Open & Equal** to **Democratized & Equitable**
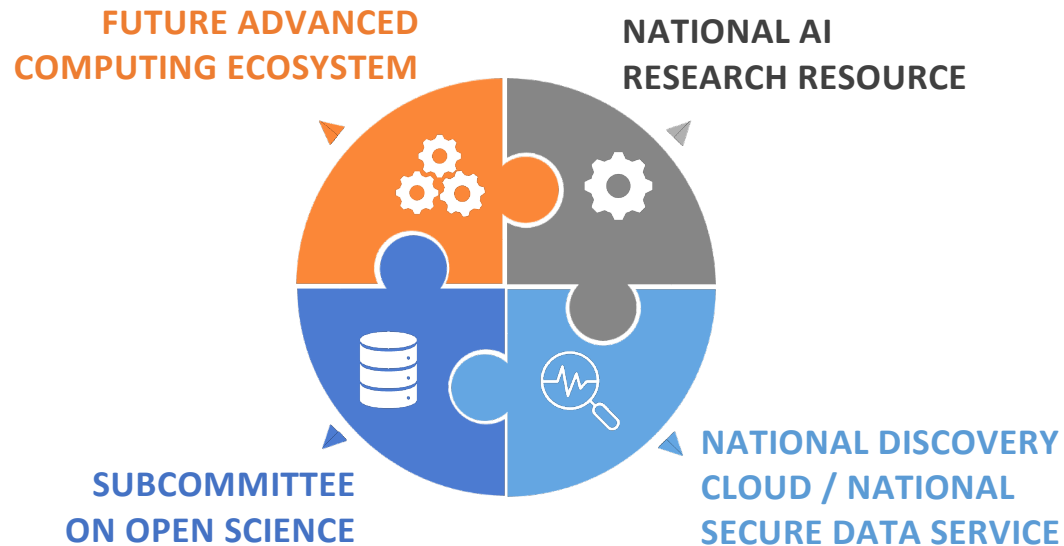
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Towards Democratizing Responsible AI

Towards an Equitable National Research Ecosystem

ACDEB
Advisory Committee on Data
for Evidence Building

**Advisory Committee on Data
for Evidence Building:
Year 2 Report**

October 14, 2022

Realizing the National Advanced Computing Ecosystem

FUTURE ADVANCED COMPUTING ECOSYSTEM

NATIONAL AI RESEARCH RESOURCE

SUBCOMMITTEE ON OPEN SCIENCE

NATIONAL DISCOVERY CLOUD / NATIONAL SECURE DATA SERVICE

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 research publicly accessible without an embargo on their free and public availability

- 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)

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NAIRR: Democratizing the AI R&D Ecosystem

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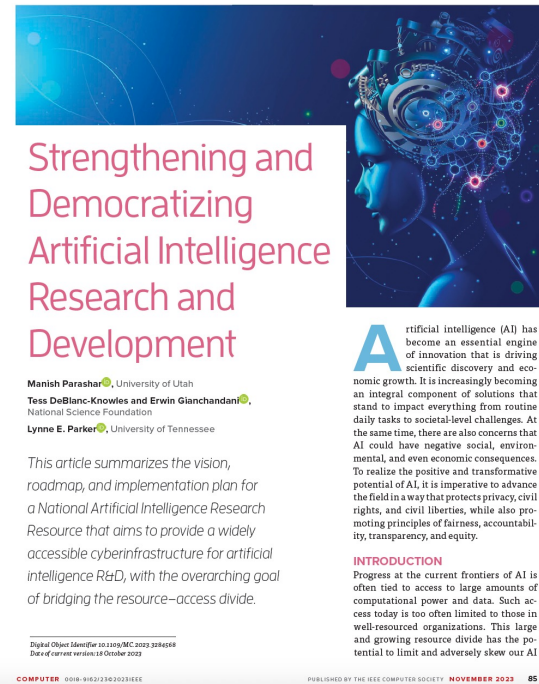
Spur **innovation**

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.

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

Strengthening and Democratizing the U.S. Artificial Intelligence Innovation Ecosystem

An Implementation Plan for a National Artificial Intelligence Research Resource

January 2023

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

**NAIRR Pilot:** (launched on 01/24/2024) https://nairrpilot.org/

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Democratizing Data: National Data Platform Pilot

NATIONAL DATA PLATFORM

Services for equitable access to data

- A federated data ecosystem to promote collaboration, innovation through the equitable use of data
  - Build an equitable, broadly accessible data ecosystem
  - Foster scientific understanding, decision-making, policy formation and societal impact
  - Facilitate data discovery and usage
  - Leverage existing CI capabilities
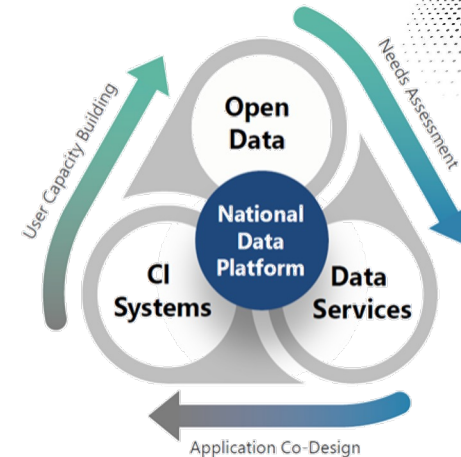
Interconnected data hubs that facilitate data discovery and use

Application areas: Wildfire, earthquakes, food security

WWW: http://www.nationaldataplatform.org

Part of the National Discovery Cloud for Climate (NDC-C)

M. Parashar and I. Altintas, "Toward Democratizing Access to Science Data: Introducing the National Data Platform," *2023 IEEE 19th International Conference on e-Science (e-Science)*, Limassol, Cyprus, 2023, pp. 1-4, doi: 10.1109/e-Science58273.2023.10254930. **Link to the:** https://www.nsf.gov/awardsearch/showAward?AWD_ID=2333609
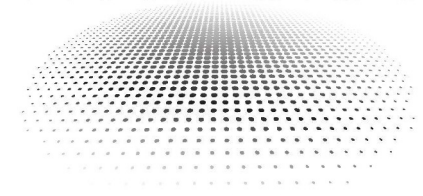
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Thank you!

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