U.S. NATIONAL SCIENCE FOUNDATION
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NSF 24-051

Dear Colleague Letter: Request for Information on Researcher and Educator Use Cases for the National Artificial Intelligence Research Resource (NAIRR) - Deadline Extended to March 31, 2024

January 24, 2024

Dear Colleagues:

Artificial Intelligence (AI) resources and tools are rapidly advancing and becoming vital to science and engineering research and education. Progress at the AI research frontiers and effective use of AI in other research domains and in education often requires access to research infrastructure resources that may be difficult to find, access, and utilize, such as large-scale computing resources, AI-ready datasets, pre-trained models, and software tools. This accessibility challenge poses risks to the health of the U.S. AI research ecosystem and our nation's ability to responsibly harness AI to drive innovation and discovery.

As directed by the National AI Initiative Act of 2020, NSF and the White House Office of Science and Technology Policy (OSTP) led a Task Force that established a high-level implementation plan for a National AI Research Resource (NAIRR). The NAIRR is envisioned as a shared national research infrastructure to connect U.S. researchers and educators to computational, data, models, software, and training resources needed to advance both AI research and research employing AI. The primary motivation is to ensure that AI resources and tools are equitably accessible to the broad research and education communities in a manner that advances trustworthy AI and protects privacy, civil rights, and civil liberties.

As a first step toward realizing this vision, and as directed in President Biden's Executive Order on the Safe, Secure and Trustworthy Development and Use of AI, NSF and other federal agencies are now collaborating on a pilot implementation of the NAIRR over the next two years. The NAIRR pilot will bring together government-supported and non-governmental-contributed resources to demonstrate the NAIRR concept and to deliver early capabilities to the U.S. research and education community.

The NAIRR pilot is anticipated to facilitate researcher access to the large-scale computing resources, data infrastructure, AI-ready datasets, pre-trained models, software and tools, and

related skill training resources required to advance AI research and to use AI in scientific research and education.

Objective of this Request for Information (RFI). This Dear Colleague Letter (DCL) encourages response from the broad U.S. science and engineering research and education community to an RFI that is being conducted on behalf of the NAIRR Pilot federal interagency working group. The goal is to gather current and anticipated research and education use cases for the NAIRR Pilot and to also identify current and anticipated challenges and barriers that researchers and educators may face in accessing and using AI resources and tools for their activities. **This DCL and the RFI do not invite research proposals.**

Use of the information gathered. The information gathered in this request will be used by federal agencies participating in the NAIRR pilot to better target and shape the design of the NAIRR pilot, its complement of resources, and future activities related to AI infrastructure for research. Participating agencies reserve the right to publicly post aggregate analyses on a government website; personally identifiable information from the individual responses will not be disclosed. It is recommended not to include proprietary or other sensitive information in the response. The primary submitter may be contacted for more information or clarification.

How to respond to this RFI. Individuals and groups of individuals in all research and education domains are invited to **submit responses using the online submission form.**

The online submission form requests the following information:

1. Primary information about the submitting author(s): *Primary submitter's name, affiliation, and valid contact email address (to be used only by the agencies for potential follow-up contact to the submitters); any additional submitting authors and affiliations; the research/R&D or education discipline(s) being represented or of relevance to this response; and your roles(s) in the research and/or educational activities to be described in this response.*
2. Research and education use cases for the NAIRR: *The research and/or educational activities that you are pursuing or anticipate pursuing that require/would require the use of AI infrastructure resources and tools that the NAIRR may provision (such as computing, AI-ready datasets, pretrained models, software and tools, skill training resources, and other resources); indicate how you currently use or anticipate using AI resources in the research and/or education activities you described above (for instance, in performing research to advance or understand AI methods, using AI to advance your disciplinary research, or using AI in your classroom).*
3. Barriers and challenges to accessing and using AI resources and tools: *Please describe the challenges and barriers that you have encountered or anticipate encountering in employing AI resources to perform the current or anticipated activities you identified in Question 2. (For instance, access to data and materials, computing and other technical*

resources, need for training or skills development, etc.).

4. Priorities for accessing and using AI resources: *The NAIRR intends to provide access to the following categories of AI-related resources [a list is presented that can be ordered]. Please rank these categories in order of importance and urgency for your research or education activities. In the accompanying textbox for each category, optionally enter examples of what you currently use or anticipate needing. Please comment here on your selections and on the extent to which you need training and user support to use AI tools and/or resources, including access to experts.*

5. Other comments: *Please comment on anything else you would like to tell us regarding AI and NAIRR.*

Submission deadline. Please complete all required questions **on or before 5:00 PM Eastern time on March 31, 2024.**

For questions concerning this RFI or the NAIRR, please contact nairr_pilot@nsf.gov.

Sincerely,

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