Community-Informed Policies and Best-Practices for the National Artificial Intelligence Research Resource (NAIRR) Workshop Report

July 29–31, 2024
New York University
New York, NY

Executive Summary

The National Artificial Intelligence Research Resource (NAIRR) is envisioned as a shared national cyberinfrastructure whose objective is to strengthen and democratize the AI innovation ecosystem by connecting U.S. researchers to responsible and trustworthy Artificial Intelligence (AI) resources, as well as the computational, data, software, training, and educational resources needed to advance research, discovery, and innovation.[1] An implementation plan for the NAIRR[2], authored by the members of the NAIRR Task Force and published in January 2023, proposes to work towards achieving this objective by pursuing four measurable goals, namely, to (1) spur innovation; (2) increase diversity of talent; (3) improve capacity in AI R&D; and (4) advance trustworthy AI. The White House Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence[3], issued on October 30, 2023, requested that the Director of the National Science Foundation (NSF) launch a pilot program implementing the NAIRR within 90 days, consistent with the recommendations of the NAIRR Task Force. The NAIRR Pilot was launched in January 2024 as a two-year interagency effort led by the NSF to demonstrate the value of the concept, and to prototype infrastructure and operational solutions across the proposed NAIRR architecture.

From July 29-31, 2024, an in-person workshop was convened at New York University, bringing together leading experts in the cyberinfrastructure, AI policy, governance, and responsible AI communities to inform the development of priorities and policies for the NAIRR, with a particular focus on advancing trustworthy AI. By convening these stakeholders to offer their perspectives, the workshop aimed to provide suggestions for improving the trustworthiness of the resources that constitute the NAIRR, and for supporting the equitable use of these resources by a diverse group of researchers, educators, and students. The workshop was convened by Dr. Julia Stoyanovich, Institute Associate Professor of Computer Science and Engineering, Associate Professor of Data Science, and Director of the Center for Responsible AI at New York University, and co-hosted by the NYU Tandon Center for Responsible AI and the NYU Center for Data Science. The workshop was supported by NSF Award No. 2432040 and by Omidyar Network, a non-governmental partner of the NAIRR Pilot.

The workshop brought together over 50 representatives from academia, industry, and government. The agenda included plenary panels and breakout sessions. Participants actively engaged in discussions and provided valuable feedback on advancing the trustworthiness and responsible use of the NAIRR, that could be applied both in the short term–during the NAIRR Pilot phase, and in the longer term–should the NAIRR be established at full scale.

---

[1] https://nairrpilot.org/about

[2] https://www.ai.gov/wp-content/uploads/2023/01/NAIRR-TF-Final-Report-2023.pdf; see also Parashar, Manish, Tess DeBlanc-Knowles, Erwin Gianchandani, and Lynne E. Parker. "Strengthening and democratizing artificial intelligence research and development." *Computer* 56, no. 11 (2023): 85-90. https://doi.org/10.1109/MC.2023.3284568

[3] https://www.whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/

Workshop Goals

1. Obtain community feedback on policies and best practices to help shape the development of priorities and policies for the NAIRR.
2. Provide suggestions for improving the trustworthiness of the resources that make up the NAIRR and support their equitable use by a diverse group of researchers, educators, and students.
3. Foster dialogue among the AI policy, governance, responsible AI, and cyberinfrastructure communities to build synergies around embedding trustworthiness and responsibility into the design and operation of the NAIRR.

Key Takeaways

Through extensive deliberations, workshop participants distilled and made concrete key arguments for positioning the NAIRR as **a top national priority**.

First, the NAIRR is poised to serve as a blueprint for **integrating trustworthy and responsible AI** tools, policies, and best-practices into the design and operation of advanced cyberinfrastructure, which is necessary for maintaining our national leadership in AI.

Second, the NAIRR distinguishes itself from other cyberinfrastructure projects by viewing human expertise as a resource on par with data and computing resources. This approach positions the NAIRR as a means to **lower barriers to entry into AI R&D** and **to train a diverse cadre of AI researchers and practitioners**.

Third, the NAIRR will strengthen the United States AI R&D ecosystem by addressing critical scientific and societal challenges that can only be solved by an integrated **community of researchers, educators, and entrepreneurs** who come from a diversity of disciplinary backgrounds and geographic locations, and represent a broad range of lived experiences.

Fourth, the NAIRR will serve as a unique measurement instrument to **operationally define and then quantify** the impact of democratizing access to data and cyberinfrastructure, education and training, and community engagement on accelerating scientific research, fostering responsible innovation, expanding the AI workforce, and strengthening the national ecosystem of AI R&D.

Key Suggestions

Workshop participants provided concrete suggestions for operational priorities that would enable the NAIRR to achieve its ambitious goal of becoming a trustworthy AI cyberinfrastructure.

First, while computing resources are a critical component of the NAIRR, it should also provide access to data, software, and process resources. Further, the NAIRR should provide access to

human expertise by integrating training, support, and access to a community of like-minded researchers, educators, and students into resource provisioning.

Second, the NAIRR should establish resource allocation policies that prioritize access over selectivity to make the resource as broadly available as possible, reward responsible and trustworthy AI practices, and are informed by a structure of incentives that ensures that both resource consumers and resource providers benefit from participating in the NAIRR.

Third, the NAIRR should operationalize trustworthy and responsible AI principles and primitives as part of the infrastructure. These may include tools and methods for assessing representativeness and fitness-for-use of a dataset or a model, finding datasets or models based on transparency documentation, and generating and maintaining transparency documentation to accompany research outputs.

Fourth, the NAIRR should establish and make publicly available trustworthy AI metrics and measurement protocols, and it should be instrumented to assess progress towards trustworthy AI using these metrics and protocols.

Fifth, the NAIRR should expand its community-building efforts to encourage collaborations between technical and domain experts, facilitate sharing of results and experiences, and maintain a living repository of rich examples and case studies. The NAIRR should also foster interaction between the responsible AI and cyberinfrastructure communities, to further incorporate trustworthiness objectives into the design and operation of cyberinfrastructure.

Figure 1 summarizes the vision for the NAIRR as articulated by workshop participants.

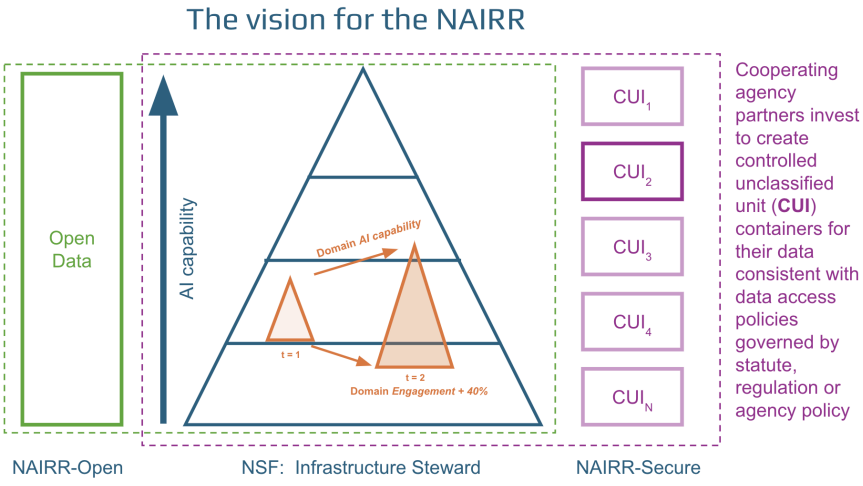

Figure 1: *Workshop participants envision the NAIRR as a national cyberinfrastructure that operationalizes the principles of trustworthy and responsible AI. The NAIRR will support researchers, educators, students, and entrepreneurs coming from diverse disciplinary backgrounds and geographic locations, and representing a broad range of lived experiences, in solving scientific and societal problems of national importance. Participants will leverage education, training, and other kinds of support, state-of-the-art computing infrastructure, and a range of open (NAIRR-Open) and secure (NAIRR-Secure) datasets to expand domain-specific AI R&D capabilities over time.*

Workshop Overview

The workshop agenda featured plenary panels with members of the NAIRR Task Force, representatives from the NSF Office of Advanced Cyberinfrastructure (OAC) in the Directorate for Computer and Information Science and Engineering (CISE), who have been leading the NAIRR Pilot, and NAIRR Pilot partners and contributors, with active discussions following all presentations. The majority of the event was devoted to breakout sessions designed to foster interactive discussions. See **Appendix 1** for details.

Plenary Presentations

The workshop host, Dr. Julia Stoyanovich, welcomed participants and introduced the goals of the workshop. She summarized the vision for the NAIRR, as articulated in the January 2023 NAIRR Task Force report[4], to serve as a national cyberinfrastructure that helps democratize and accelerate AI Research & Development, in a way that leverages, links and augments the nation's existing cyberinfrastructure resources, and gives U.S.-based researchers and educators access to computational power, datasets, software, and training and collaboration resources. She then went on to underscore the importance of advancing trustworthy AI as an integral part of the vision for the NAIRR.

Next, workshop participants heard from members of the NAIRR Task Force, namely, Dr. Daniela Braga, Founder and CEO of Defined.ai, Dr. Fred Streitz, Chief Computational Scientist at Lawrence Livermore National Lab and Deputy Associate Director for Strategic Partnerships in the Computing Directorate, Dr. Julia Lane, Professor at the NYU Wagner Graduate School of Public Service, and Dr. Manish Parashar, Director of the Scientific Computing and Imaging Institute and Presidential Professor in the University of Utah's Kahlert School of Computing. They articulated their shared vision for the NAIRR as a national cyberinfrastructure that will democratize access to AI R&D by offering access to researchers and educators from a broad range of institutions and disciplinary backgrounds, "raise the floor" for the innovation that happens in small and medium-sized businesses, and provide a blueprint for operationalizing the principles of trustworthy and responsible AI. The NAIRR will help tackle problems of national importance, while at the same time building a large and diverse cadre of AI researchers and practitioners of the future. Realizing this ambitious vision will require interagency collaboration and broad national participation and support.

To conclude the morning session, Dr. Alejandro Suarez, Program Director at NSF OAC and Dr. William Miller, Senior Advisor for Cyberinfrastructure at NSF OAC, gave an update on the NAIRR and the NAIRR Pilot. Specifically regarding the Pilot, they noted that it involves direct investment from the NSF, with many other federal agencies and non-government partners providing support towards many concurrent activities. Dr. Suarez and Dr. Miller encouraged workshop participants to provide feedback about operational policies and procedures, user

[4] https://www.ai.gov/wp-content/uploads/2023/01/NAIRR-TF-Final-Report-2023.pdf; see also Parashar, Manish, Tess DeBlanc-Knowles, Erwin Gianchandani, and Lynne E. Parker. "Strengthening and democratizing artificial intelligence research and development." *Computer* 56, no. 11 (2023): 85-90. https://doi.org/10.1109/MC.2023.3284568

training and support mechanisms, as well as to identify key questions and issues to be considered, and the range of possible implementation approaches to advance trustworthy and responsible AI within the scope of the NAIRR.

The final day of the workshop began with a plenary panel, followed by a discussion. During this session, several NAIRR Pilot partners and contributors discussed their experiences with the project. This panel included presentations by Dr. Bronson Messer, Distinguished Scientist and Director of Science at the Oak Ridge Leadership Computing Facility at Oak Ridge National Laboratory and Joint Faculty Professor in the Department of Physics & Astronomy at the University of Tennessee, Dr. Carol Song, Chief Scientist at the Rosen Center for Advanced Computing at Purdue University, Dr. Christine Cutillo, Health Data Scientist for AI Ethics in the Office of Data Science Strategy (ODSS), within the Integrated Infrastructure and Emerging Technologies (IIET) unit of the National Institutes of Health (NIH), Dr. Govind Shivkumar, Director of the Responsible Technology Team at Omidyar Network, and Dr. Yacine Jernite, who leads the Machine Learning and Society team at Hugging Face.

Panelists underscored the importance of allocating sufficient computing resources for the operation of the NAIRR Pilot, and continuing to build out and incorporate curated, interoperable, AI-ready data assets, including those that are sensitive and require secure access and computation capabilities. They discussed concrete examples of projects that have been using NAIRR Pilot resources, highlighting that these projects span diverse applications, and have different requirements in terms of scale and support needs. Panelists also spoke to the importance of creating a national ecosystem of AI innovation that would be able to meet the rapidly growing demands for computing and data capabilities, while lowering barriers to infrastructure access for researchers, educators, and students–especially those currently underrepresented in AI research. Several panelists highlighted the importance of stakeholder engagement, noting that it is both critically important and difficult, due to existing disparities in institutional capacity and technical expertise, particularly when considering outreach to minority-serving institutions.

Breakout Sessions

The core of the event consisted of working sessions structured around eight mutually reinforcing themes. These were conducted by breakout groups, with four sessions running concurrently on each of the two full days of the workshop. The discussion topics, along with a preliminary set of questions, were identified ahead of time by the workshop organizer with input from session co-moderators. Breakout session themes and discussion are summarized below (see **Appendix 2** for additional details). Each session included experts in cyberinfrastructure and responsible AI, and was designed to be diverse—wherever possible—in terms of participants' institutional affiliations and demographics.

Session 1: NAIRR operations

The NAIRR is envisioned as a national cyberinfrastructure to democratize and accelerate AI Research and Development. Its success is predicated on an effective operational strategy which

must align with the four measurable goals of the NAIRR, and, specifically, with advancing trustworthy AI—both through its own operations and by serving as an enabler of trustworthy AI research. Participants in this breakout session discussed **specific goals** that should be pursued by the NAIRR to support trustworthy and responsible AI, the **metrics** to measure progress towards these goals, and how the NAIRR's **operational model** should differ from existing models used by major research instrumentation, such as microscopes, telescopes, particle accelerators, and high-performance computing centers. The discussion revolved around the concepts of a **resource**, with questions about **what** should be considered a resource, **who** should receive resource access, and **how** access can be democratized. Participants spoke about three categories of resources in the operational allocation space: (1) compute; (2) data and models; and, uniquely important for the NAIRR, (3) human expertise.

Unique **operational considerations** included the need to create an acceptance criteria for proposed projects, develop more streamlined capabilities to match projects with appropriate technical and human resources during proposal review, and offer recommendations for alternative resources to those whose requests were not approved. Such a mechanism should **prioritize simplifying the resource request process, which helps democratize access.** Participants also highlighted the importance of community building to lower the barrier to entry, of helping to establish collaborations, and of supporting sharing of use cases and expertise. Operationally, they suggested that the NAIRR could establish a matchmaking process between researchers and educators with similar interests, on an opt-in basis.

Other operational suggestions included conducting an **ongoing, periodic review of allocation and usage policies and metrics** to ensure that the NAIRR meets the needs of individual projects and reaches its overall goal of equitable resource allocation. This ongoing review is important because the AI landscape is rapidly evolving, requiring NAIRR policies to be dynamic and subject to continual review and fine-tuning.

To support transparency and accountability, **the NAIRR infrastructure should be regarded as a research instrument,** and equipped to collect system measurements and generate metrics related to NAIRR Pilot Key Performance Indicators. Data onNAIRR usage should be collected and shared to support analysis. Finally, participants highlighted the importance of disclosing information about the research products—such as data, models, and software—generated through the use of the NAIRR, along with information to support their responsible reuse. A key challenge is developing a new form of **AI disclosure review** for research products resulting from NAIRR allocations. In terms of governance and transparency, since the NAIRR places a high priority on responsible and trustworthy AI, investigators should disclose, among other factors, what data is being used in their research, and identify any risks associated with the research or resulting system, such as privacy concerns or regulatory compliance.

Session 2: Assessing progress towards trustworthy AI

The NAIRR Task Force report presents a theory of change and proposes key performance indicators (KPIs) to assess progress towards its four measurable goals. Yet, progress towards trustworthy AI is particularly challenging to assess due to complex socio-technical dynamics and

the broad—and often unforeseen—impacts of AI systems. Developing assessment methodologies and defining performance indicators requires a robust dialogue between the responsible AI and cyberinfrastructure communities.

Participants in this breakout session proposed multiple interpretations of the term “trustworthy AI” as it relates to the NAIRR, questioning whether the NAIRR should serve as (1) a trustworthy resource for AI R&D or (2) a resource for R&D focused on trustworthy AI, and agreeing that it should serve both purposes. Participants also agreed that the NAIRR should be seen as a resource that broadens access to the AI ecosystem. Participants then discussed the important role that standards, operational policies, training, and community engagement can play in promoting trustworthy and responsible AI as part of the NAIRR. Participants underscored the importance of assessing progress towards trustworthy and responsible AI with the help of **concrete metrics**, and saw potential for the NAIRR to serve as a measurement instrument. Further, they highlighted the need to assess the **process** of resource allocation and use, the **outcomes** of activities supported by the NAIRR, and the overall **impact** of the NAIRR infrastructure.

Session participants discussed the importance of assessments of trustworthiness designed to support the **humans** relying on the NAIRR for AI research, system development, and AI education. Without a clear understanding of the data, models, and impacts of technology by AI researchers, developers and educators—the primary stakeholder groups for the NAIRR—such systems cannot be considered trustworthy. For this reason, it was deemed crucial to prioritize education and training, and to augment these efforts with community engagement. Consequently, participants stressed that a proper assessment of trustworthiness of the NAIRR should incorporate estimation of the effectiveness of education, training, and community engagement activities.

Further, it was observed that progress towards trustworthy AI, while necessary, should not introduce unnecessary burdens on researchers, educators, and students. This is particularly important in light of the goals of the NAIRR to broaden and democratize access to AI R&D. Thus, when trustworthy AI standards, metrics, and measurement protocols are mandated by the NAIRR, care should be taken to **reduce barriers to entry** at the proposal stage, and to ensure that instrumentation and compliance training, and support are available to proposers and awardees. A lightweight application process can be supplemented with opportunities for documentation and mitigation of harms, and reflecting about any unintended consequences of AI throughout the research and development lifecycle. Another important theme of this session concerned the incentives for measurement and reporting, with the recognition that the NAIRR should implement **positive incentive strategies** such as leader boards and other types of recognition.

Session 3: Community engagement

The NAIRR aims to democratize access to the AI innovation ecosystem. The NAIRR Task Force report identifies US-based researchers, educators, students, and small and medium-sized businesses as its primary constituency. In line with prior findings, it is essential to involve and engage a geographically and democratically diverse set of researchers, educators, and

students, both to accelerate the responsible design, development and use of AI, and to lower the barriers to economic opportunity across geographic and socioeconomic boundaries.[5] Additionally, in alignment with the goals of protecting privacy, civil rights, and civil liberties, and of ensuring that AI development benefits society at large, there is a need to give a voice to the individuals and groups whose data fuels the ecosystem.

Participants of this break-out session discussed **which communities the NAIRR should serve**, how to encourage members of these communities to use the infrastructure, and how to assess the effectiveness of community engagement strategies. Participants began their discussion by proposing different ways to conceptualize the "community" the NAIRR is intended to serve. They identified researchers, educators, and students from underserved institutions as the primary intended users of the NAIRR, and thus the primary community with which the NAIRR should engage. Furthermore, participants discussed ways to engage industry stakeholders, both as providers of resources—including data, compute, and expertise—and as resource consumers, particularly when thinking about start-up companies and other small and medium-sized businesses. Finally, individuals whose data is used in AI research and development, and who may be impacted—positively or negatively—by the research supported by the NAIRR were identified as an important stakeholder group.[6]

A substantial part of this discussion revolved around **the difference between the NAIRR and existing data and cloud computing** resources like Amazon Web Services (AWS). Participants agreed that **the NAIRR is different from existing resources and platforms** specifically because—in addition to data and computing resources—it focuses on human expertise and community engagement, as an enabler of democratization of the AI R&D ecosystem. Another critical difference between the NAIRR and existing resources is the **opportunity to conceptualize and operationalize trustworthy and responsible AI requirements through the cyberinfrastructure** on a large scale.

Participants underscored the importance of anticipating that stakeholders may have competing or even contradictory interests, and to develop processes that could be used to resolve any conflicts and provide **positive incentives** for participation and engagement, with the goal of building a cohesive community of diverse voices.

The discussion about how the NAIRR community should be conceptualized immediately led to the question about **how these communities will benefit from the NAIRR**. By **"meeting people where they are"**—with the help of ongoing training, support, and monitoring of engagement—the resource will enable people with different levels of technical and socio-technical expertise to conduct cutting-edge AI R&D. At the same time, the NAIRR will

---

[5] Gershenfeld, Joel E. Cutcher, Alan Blatecky, Damian Clarke, Deborah Dent, Rebecca Hipp, Ana Hunsinger, Al Kuslikas, and Lauren Michael. "The missing millions: Democratizing computation and data to bridge digital divides and increase access to science for underrepresented communities." (2021). https://www.rti.org/publication/missing-millions/fulltext.pdf

[6] Loftus, Tyler J., Jeremy A. Balch, Kenneth L. Abbott, Die Hu, Matthew M. Ruppert, Benjamin Shickel, Tezcan Ozrazgat-Baslanti et al. "Community-engaged artificial intelligence research: A scoping review." *PLOS Digital Health* 3, no. 8 (2024). https://doi.org/10.1371/journal.pdig.0000561

help enrich the AI ecosystem by bringing the diversity of backgrounds, lived experiences, and geographies to bear on the breadth and depth of the projects being supported.

Participants proposed to **measure the impact of community engagement** by quantifying the diversity of topics, the rate of applications by institution type (e.g., R1, R2, D/PU universities; community colleges, etc) and geographic location, the rate of attendance and diversity of participants at community engagement events, as well as with the help of more traditional impact metrics such as publication and citation counts, and the number of downloads of research products (e.g., software, datasets and other data products), disaggregated by topic, institution type, geographic location, and self-reported demographics of the researchers.

Session 4: Engaging industry partners

The White House Executive Order directs the NSF to promote innovation by developing and strengthening "public-private partnerships for advancing innovation, commercialization, and risk-mitigation methods for AI" and by helping promote "safe, responsible, fair, privacy-protecting and trustworthy AI systems." Thus, engaging industry partners is both a priority and a necessity for the NAIRR, but it raises a critical tension: while industry participation is viewed as necessary for obtaining access to resources, fostering productive collaborations, spurring commercialization, and addressing real-world risks; researchers and educators must also maintain independence from industry influence. This prompted a **nuanced discussion** among the group about **the incentives and the disincentives for industry, researchers, and educators** to take part in the NAIRR. This discussion moved beyond the simplistic conceptualization of industry as "resource providers" and researchers and educators as "resource consumers."

Participants observed that "industry" is not a monolith, and that technology platforms, industry consortia, and small and medium-sized businesses may all have different reasons to engage with the NAIRR. Further, there are substantial differences by sector. For example, technology companies may have different reasons to engage as compared to healthcare providers. These differences have to be recognized in deliberations about the structure of incentives.

The group identified a range of incentives for **industry stakeholders** to participate in the NAIRR: advancing basic science, especially in areas of interest to industry; increasing their own visibility; gaining access to talent; familiarizing potential users with their tools and services; and gathering feedback and ideas for new products and services. Finally, industry partners may be motivated to participate if involvement in the NAIRR is seen as **a seal of approval—an endorsement of the industry partner as a provider of trustworthy and responsible services or resources**.

Importantly, many of these industry incentives can be seen as potential **disincentives for researchers and educators**. Directing academic researchers to solve industry-inspired problems can be seen as co-opting, particularly in cases where industry releases a product without appropriate safety or reliability guardrails, and leaves it up to academia to find ways to make the use of this product responsible and socially sustainable. Amplifying industry access to

academic talent can lead to brain-drain from academia. Sustained exposure to an industry solution can lead to vendor lock-in.

Participants identified several **opportunities for resolving tensions between stakeholder incentives, and making the NAIRR a trustworthy resource**. One of them was to publicly release criteria for matching projects with industry partners, in the service of accountability. Further, towards the goal of democratizing access to resources, participants suggested limiting the power of private sector partners to decide on the kind of an academic requestor or project they are willing to provide services to. They also suggested that an academic researcher or educator should be able to decline resources from a partner if their values are misaligned, with the NAIRR then offering an alternative matching. Additionally, it was seen as important to recognize that the NAIRR has a responsibility to only accept services from providers that can be considered trustworthy. Finally, it was suggested to instrument the NAIRR to benchmark resources for energy consumption, to help inform research on energy efficiency and sustainability, and to ultimately issue energy efficiency guidelines.

Session 5: Transparency as an enabler of trustworthy AI

Transparency is concerned with providing the information that stakeholders need to make informed, responsible, and ethical decisions for data and model development, sharing, and reuse. Transparency is a big-tent concept that may be interpreted differently depending on the stakeholders, the context of use, and the applicable legal and ethical considerations. Transparency is an essential enabler of trustworthy and responsible AI, because it can enhance accountability, support reproducibility, incentivize scientific rigor and integrity, which improves the reliability of systems, foster appropriate levels of trust, and enhance human agency.

In the context of the NAIRR, an actionable interpretation of transparency centers on the role of **data, model, and lifecycle documentation** as an enabler of trustworthy AI. Transparency-as-documentation builds on the efforts to make data **FAIR (findable, accessible, interoperable, and reusable)**[7], but its scope must be expanded beyond data to be responsive to the needs of trustworthy and responsible AI. For example, when it comes to reusability, transparency metadata should help determine **fitness for use of datasets**, models and other data products for a particular task in a particular sociotechnical context.

Participants briefly recalled existing **transparency-as-documentation frameworks**, including Datasheets for datasets[8], Model cards for model reporting[9], and Nutritional labels for data and

---

[7] Wilkinson, Mark D., Michel Dumontier, IJsbrand Jan Aalbersberg, Gabrielle Appleton, Myles Axton, Arie Baak, Niklas Blomberg et al. "The FAIR Guiding Principles for scientific data management and stewardship." *Scientific data* 3, no. 1 (2016): 1-9. https://www.nature.com/articles/sdata201618

[8] Gebru, Timnit, Jamie Morgenstern, Briana Vecchione, Jennifer Wortman Vaughan, Hanna Wallach, Hal Daumé Iii, and Kate Crawford. "Datasheets for datasets." *Communications of the ACM* 64, no. 12 (2021): 86-92. https://dl.acm.org/doi/10.1145/3458723

[9] Mitchell, Margaret, Simone Wu, Andrew Zaldivar, Parker Barnes, Lucy Vasserman, Ben Hutchinson, Elena Spitzer, Inioluwa Deborah Raji, and Timnit Gebru. "Model cards for model reporting." In *Proceedings of the conference on fairness, accountability, and transparency*, pp. 220-229. 2019. https://dl.acm.org/doi/10.1145/3287560.3287596

models[10]. They noted that, to enable reflection, documentation should happen early and often throughout the development lifecycle, and that it should consider the sociotechnical—rather than just the technical—context around datasets, models, and systems. They underscored the importance of **documenting the process**—not just the outputs—and of keeping the metadata up-to-date as datasets, models, and other data products evolve, and are processed and reused. They also noted that documentation need not take the form of static documents but may be interactive.

Participants discussed **the incentives and the disincentives for transparency-as-documentation**, noting that documentation should provide a clear, demonstrable benefit as an enabler of trustworthy AI. To lower the barriers to adoption, it was seen as essential to integrate the generation and maintenance of documentation into existing organizational processes and workflows. To support this, participants identified a need for a suite of usable and interoperable **transparency generation and tracking tools** that would be recommended for use and supported by the NAIRR. They also saw a need for **education and training on transparency**, explaining both why it is important and how it can be practically implemented, with concrete examples and case studies.

Participants agreed on the need to establish **guidelines and best-practices** for transparency-as-documentation as part of the NAIRR, underscoring that these should draw on the extensive work that has already been done in the research community [8,9,10,11,12] and that has been applied, with varying degrees of success, in industry. A prominent example is the recommendation—and the support—to associate models with model cards on Hugging Face[13]. Another example is following IEEE standards for applying more rigorous documentation and risk management practices to systems when the probability and severity of possible consequences are higher[14]. The NAIRR could provide additional positive incentives by highlighting projects that follow transparency best-practices, which would lead to community recognition and incentivize reuse.

Session 6: The NAIRR as a data equity infrastructure

The NAIRR aims to democratize access to datasets and data products (most prominently, models) to accelerate AI R&D while facilitating their responsible sharing and use. Data equity is concerned with the identification and, when possible, mitigation of biases in data and models.

---

[10] Stoyanovich, Julia, and Bill Howe. "Nutritional labels for data and models." *A Quarterly bulletin of the Computer Society of the IEEE Technical Committee on Data Engineering* 42, no. 3 (2019). http://sites.computer.org/debull/A19sept/p13.pdf

[11] Chmielinski, Kasia, Sarah Newman, Chris N. Kranzinger, Michael Hind, Jennifer Wortman Vaughan, Margaret Mitchell, Julia Stoyanovich et al. "The CLeAR Documentation Framework for AI Transparency." (2024). https://shorensteincenter.org/wp-content/uploads/2024/05/CleAR_KChmielinski_FINAL.pdf

[12] Heger, Amy K., Liz B. Marquis, Mihaela Vorvoreanu, Hanna Wallach, and Jennifer Wortman Vaughan. "Understanding machine learning practitioners' data documentation perceptions, needs, challenges, and desiderata." *Proceedings of the ACM on Human-Computer Interaction* 6, no. CSCW (2022): 1-29. https://dl.acm.org/doi/10.1145/3555760

[13] https://huggingface.co/docs/hub/en/model-cards

[14] Matthews, Jeanna. “How should we regulate AI? Practical Strategies for Regulation and Risk Management from the IEEE 1012 Standard for System, Software, and Hardware Verification and Validation”, August 2023. https://ieeeusa.org/product/how-should-we-regulate-ai/

Importantly, because data and models are created by complex multi-step processes, and are often repurposed, bias detection and mitigation requires lifecycle-wide support.

Session participants underscored that **community engagement** is an essential enabler of **data equity**—both to support diverse and equitable access to NAIRR resources, and also to advise on continuing practices for mitigating bias in data and models. Participants spoke about the need to establish a community advisory board as part of NAIRR governance, to facilitate the work of community engagement and contribute to the educational, training and literacy mission of the NAIRR. One data equity goal is to empower communities to own their data, and formulate and assert their preferences and expectations with respect to data collection, access and use. To support data equity, the NAIRR should enforce—and data owners should be able to verify—that the use of their data aligns with consensus preferences and expectations, and with data use restrictions and limitations such as those due to licensing or privacy and security requirements. It was noted that community engagement is valuable for researchers, and that it would be helpful to establish **an infrastructure of community engagement within the NAIRR**.

Participants also discussed the role that the NAIRR should play in vetting datasets for representativeness and other dimensions of data equity.[15] They agreed that the resource should play a vetting and "gatekeeping" role in support of responsible data use. Participants underscored the importance of establishing **policies and best-practices for data documentation**, along with **cyberinfrastructure support for associating meta-data with datasets**, and for keeping metadata up-to-date as datasets are processed and reused. They highlighted that all NAIRR data should be "AI ready": that it should be accompanied by documentation like Datasheets[16] or Nutritional labels[17] to make datasets **FAIR** (findable, accessible, interoperable, and reusable)[18] and support reasoning about their **fitness for use** (and potential biases) for specific tasks in specific sociotechnical contexts. Participants suggested that the NAIRR should require appropriate meta-data, and manage it through the cyberinfrastructure, to help make the datasets useful in the long term.

In addition to data equity concerns, participants discussed the need to **match data, expertise, and other resources to the research or engineering questions being considered, seeing this matching as an important dimension of community building.** They underscored the need to develop and curate use-inspired workloads, and to offer mechanisms for **new users to learn from others in the community**, for example by maintaining a repository of domain-specific training on common use cases and workflows.

---

[15] Jagadish, H., Julia Stoyanovich, and Bill Howe. "The many facets of data equity." *ACM Journal of Data and Information Quality* 14, no. 4 (2022): 1-21. https://dl.acm.org/doi/10.1145/3533425

[16] Gebru, Timnit, Jamie Morgenstern, Briana Vecchione, Jennifer Wortman Vaughan, Hanna Wallach, Hal Daumé Iii, and Kate Crawford. "Datasheets for datasets." *Communications of the ACM* 64, no. 12 (2021): 86-92. https://dl.acm.org/doi/10.1145/3458723

[17] Stoyanovich, Julia, and Bill Howe. "Nutritional labels for data and models." *A Quarterly bulletin of the Computer Society of the IEEE Technical Committee on Data Engineering* 42, no. 3 (2019). http://sites.computer.org/debull/A19sept/p13.pdf

[18] Wilkinson, Mark D., Michel Dumontier, IJsbrand Jan Aalbersberg, Gabrielle Appleton, Myles Axton, Arie Baak, Niklas Blomberg et al. "The FAIR Guiding Principles for scientific data management and stewardship." *Scientific data* 3, no. 1 (2016): 1-9. https://www.nature.com/articles/sdata201618

Finally, session participants discussed the challenging question of **assessing progress towards data equity**. They suggested quantifying resource allocation across scientific domains and researcher demographics, and to also measure the diversity of beneficiaries of the research supported by the NAIRR.

Session 7: Education and training

Education and training are essential for meeting all four measurable goals of the NAIRR. As a cyberinfrastructure, the NAIRR will offer training capabilities to ensure that its users have the skills to use the resources. However, to advance the goals of trustworthy AI, it is crucial to train researchers and students on the principles and techniques of responsible data engineering, algorithmic fairness, transparency, and privacy and data protection. This type of training should also be offered to current data scientists, particularly those who work in small and medium-sized businesses, which typically cannot afford the necessary upskilling of their staff.

Participants of this session discussed the mandate of the NAIRR for education and training, agreeing that the resource should offer training on the **core service functionality**, to enable researchers and educators from a variety of backgrounds to use the cyberinfrastructure effectively, correctly and responsibly. Based on prior experience, many participants underscored the importance of allocating resources to technical support staff to provide custom consultation and other kinds of assistance to less-experienced infrastructure users.

Beyond resource access support, participants agreed that training should speak to the **functional role of AI in a specific domain,** to help researchers and educators understand how AI can be helpful in their work, analyze the requirements, and assess the risks that may be associated with AI use. For example, the NAIRR Pilot is already supporting several astrophysics research projects. To train current and future astrophysics researchers, there is a need to develop domain-specific guides that would present information about commonly used datasets, tooling and other resources, and also highlight aspects of trustworthy and responsible AI that are relevant to astrophysics research. Participants also noted that **data providers need training and guidance** about the benefits and the risks that may be associated with their datasets in a specific context of use. Participants recommended establishing an interactive process to determine an appropriate level of training as part of applying for NAIRR resources, customizing entry questions and guidance depending on the use case and the domain.

Session participants spoke to the **role of community building in education and training**, taking social work—a domain with rich datasets and abundant research questions, but with limited computational and AI expertise—as an example. In this and other domains, trailblazers within the community can help answer technical questions, while at the same time building collaborations, identifying interesting new questions, and helping transform and grow the field. An advantage of a **community-driven training is that it can support continuous learning** for those who are no longer part of a formal learning environment, such as small- and medium-sized businesses. Participants suggested that ongoing trustworthy AI education, and ongoing reflection on the impacts of the work supported by the NAIRR in its context of use could be mandated as a condition for continued use of the resource.

Success of education and training can be assessed by evaluating learning outcomes based on the core training materials, and on the experiences of the NAIRR users who took part in the training. Participants suggested engaging with the users to gather input about their experiences post-training, the challenges they faced, and their current or future training needs. Finally, participants suggested to track project outcomes with regard to trustworthiness, for example, through a community-run benefits and risks database[19].

Session 8: Responsible development and use of generative AI

Generative AI is experiencing increasing research activity and broader commercial adoption. To put generative AI into safe use as part of the NAIRR, it is essential to articulate robust policies and best practices for assessing its performance, in terms of veracity, safety, fairness, reproducibility, and legal compliance. Further, it is crucial to develop technical support for evaluating systems that incorporate generative AI models, rather than assessing these models in isolation, to better understand their impacts within the context of design, development, and use.

Session participants discussed the **policies and best-practices** that should govern data use (input requirements) and model release (output requirements, transparency documentation). Several participants highlighted that defining clear data use agreements and ethical guidelines, particularly for high-impact datasets, is essential. This could involve adopting **tiered access levels or differential constraints on data use**. A standardized ethical questionnaire was proposed as a potential screening tool to ensure that any dataset used meets minimum ethical standards. Participants also raised the technical challenge of providing **transparency documentation for multi-modal data**.

Part of the discussion focused on **AI assurance**, where the goal is to certify that a model is legally compliant, safe and reliable. Participants suggested that exploring the feasibility of operationalizing an AI assurance framework as part of the NAIRR would present a substantial opportunity, but also that this would be challenging. Participants underscored the importance of surfacing the actual or potential risks of generative AI, and of mapping them to existing assessment, reporting and mitigation requirements, such as those articulated by the NIST AI Risk Management Framework[20]. Beyond risk, it was noted that generative AI systems have far reaching societal impacts that go beyond their direct misuse.

Consequently, the importance of developing an actionable risk monitoring framework within the NAIRR that extends beyond traditional oversight was highlighted. Specifically, it was recommended that the NAIRR consider a **tiered approach to monitoring and risk tolerance**, where high-impact projects undergo additional scrutiny. Participants suggested that establishing traceability mechanisms for generative AI projects could enable effective incident reporting and accountability. Further, participants agreed that, while requirements may vary by project and context, it is important to involve constituencies in conversations about the impacts of research or system, and to agree on dataset and model documentation standards in alignment with the severity of potential impact.

---

[19] https://incidentdatabase.ai/
[20] https://www.nist.gov/itl/ai-risk-management-framework

Conclusion

The NAIRR is envisioned as a cyberinfrastructure whose objective is to strengthen and democratize the AI innovation ecosystem. This report summarized key findings from a workshop convened at New York University in Summer 2024, which brought together leading experts in the cyberinfrastructure and responsible AI, to inform the development of priorities and policies for the NAIRR with a focus on advancing trustworthy AI.

Through extensive deliberations, workshop participants distilled the key arguments for viewing the NAIRR as a **top national priority** and provided concrete suggestions for operational priorities that would enable the NAIRR to fulfill its ambitious goal of becoming a **blueprint for a trustworthy AI cyberinfrastructure.** One of the suggestions was that the NAIRR should continue fostering interactions between the responsible AI and cyberinfrastructure communities, as part of its necessary and difficult work to incorporate trustworthiness objectives into the design and operation of the resource.

Appendix 1: Agenda

July 29, 2024

- 4:00 - 4:30 PM: Arrival, registration
- 4:30 - 6:30 PM: Opening reception

July 30, 2024

- 9:00 am - 9:30 am: Arrival, registration, breakfast
- 9:30 am- 9:45 am: Welcome and opening remarks
    - Julia Stoyanovich
- 9:45 am - 10:30 am: Introductions
- 10:30 am - 11:00 am: NAIRR Task Force panel
    - Daniela Braga, Fred Streitz, Julia Lane, and Manish Parashar
- 11:00 am - 11:15 am: Open discussion
- 11:15 am - 11:30 am: Update on the NAIRR
    - William Miller and Alejandro Suarez
- 11:30 am - 11:45 am: Overview of afternoon activities, open discussion
- 11:45 am - 12:00 pm: Break
- 12:00 pm - 2:30 pm: Breakout sessions, with lunch
    - Session 1: NAIRR operations
    - Session 2: Assessing progress towards advancing trustworthy AI
    - Session 3: Community engagement
    - Session 4: Engaging with industry partners
- 2:30 pm - 3:00 pm: Coffee break
- 3:00 pm - 4:00 pm: Plenary readout and discussion
- 4:00 pm - 4:15 pm: Summary remarks
- 6:00 pm - 8:00 pm: Group dinner

July 31, 2024

- 9:00 am - 9:30 am: Arrival, breakfast
- 9:30 am - 9:45 am: Welcome back, recap, and overview of the day's activities
- 9:45 am - 10:15 am: NAIRR Pilot partner and contributor panel
    - Bronson Messer, Carol Song, Christine Cutillo, Govind Shivkumar, Yacine Jernite
- 10:15 am - 10:30 am: Open discussion
- 10:30 am - 12:30 pm: Breakout sessions
    - Session 5: Transparency as an enabler of trustworthy AI
    - Session 6: The NAIRR as a data equity infrastructure
    - Session 7: Education and training
    - Session 8: Responsible development and use of generative AI
- 12:30 pm - 1:30 pm: Plenary readout and discussion, with lunch
- 13:30 pm - 1:45 pm: Open discussion
- 1:45 pm - 2:00 pm: Workshop closing, adjourn

Appendix 2: Breakout Session Summaries

Session 1: NAIRR operations

Moderators: Dr. Anita Nikolich, Director of Research and Technology Innovation and Research Scientist at the University of Illinois Urbana-Champaign; and Dr. Pete Beckman, Senior Scientist at the Argonne National Laboratory.

Scribe: Lucius Bynum, Graduate Research Assistant at the Center for Data Science at New York University.

Summary: The NAIRR is envisioned as a national cyberinfrastructure to democratize and accelerate AI R&D. Its success is predicated on an effective operational strategy, which must align with the four measurable goals of the NAIRR, and, specifically, with advancing trustworthy AI through its own operations and also as an enabler of trustworthy AI research. In this breakout session, participants were prompted to discuss the following questions:

- What is unique or specific to NAIRR and the goals of trustworthy and responsible AI that might require departure from existing operational models?
- What are the concrete goals of the NAIRR and the metrics by which to measure progress towards those goals?
- What are the guidelines and policies to responsibly manage hosting, provision, and use of resources made available to the research community through the NAIRR?
- How can resource provision and use policies promote diversity of talent and facilitate equitable access?

Session 2: Assessing progress towards trustworthy AI

Moderators: Dr. Ilkay Altintas, Research Scientist, University of California San Diego, Chief Data Science Officer, San Diego Supercomputer Center, Founding Fellow, Halıcıoğlu Data Science Institute, and Founding Director, Workflows for Data Science Center of Excellence and the WIFIRE Lab; and Dr. Stefaan Verhulst, Co-Founder and Chief Research and Development Officer, and Director of Data Program at the Governance Lab.

Scribe: Lucas Rosenblatt, Graduate Research Assistant in the Department of Computer Science and Engineering, Tandon School of Engineering at New York University.

Summary: The NAIRR Task Force report presents a theory of change and proposes key performance indicators (KPIs) to assess progress towards the four measurable goals. Yet, progress towards trustworthy AI is particularly challenging to assess, due to the complex socio-technical dynamics, and to the impacts that a cyberinfrastructure has that are outside the system's direct control. Developing assessment methodologies and defining performance indicators requires a robust dialogue between the responsible AI and cyberinfrastructure communities. In this breakout session, participants were prompted to discuss the following questions:

- What KPIs are appropriate for a cyberinfrastructure that aims to accelerate and democratize AI R&D?
- How do these KPIs align with the goal of advancing trustworthy AI?
- What are some successful examples of the use of KPIs to measure and facilitate progress towards equity, diversity and inclusion, and how can they be applied to the NAIRR?

Session 3: Community engagement

Moderators: Dr. Dawn Thurman, Associate Professor in the School of Social Work at Morgan State University; and Dr. Danaë Metaxa, Assistant Professor of Computer and Information Science at the University of Pennsylvania.

Scribe: Venetia Pliatsika, Graduate Research Assistant in the Department of Computer Science and Engineering, Tandon School of Engineering at New York University.

Summary: The NAIRR aims to democratize access to the AI innovation ecosystem. The NAIRR Task Force report identifies US-based researchers, educators, students, and small and medium-sized businesses as its primary constituency. Additionally, in alignment with the goals of protecting privacy, civil rights and civil liberties, and of ensuring that AI development benefits society at large, there is a need to give a voice to the individuals and groups whose data fuels the ecosystem. In this breakout session, participants were prompted to discuss the following questions:

- With which stakeholders should the NAIRR engage, and what are some effective mechanisms for engagement?
- What has worked in the past, and what are some known barriers to community engagement?
- How can the NAIRR measure the success of its community engagement strategy?
- How should the engagement strategy evolve as the Pilot scales, and as it transitions to the full NAIRR?

Session 4: Engaging industry partners

Moderators: Dr. Solon Barocas, Principal Researcher at Microsoft Research in New York City, Adjunct Assistant Professor in the Department of Information Science at Cornell University; and Dr. Julia Stoyanovich, Institute Associate Professor in the Department of Computer Science and Engineering at the Tandon School of Engineering, Associate Professor of Data Science at the Center for Data Science, and Director of the Center for Responsible AI at New York University.

Scribe: Andrew Bell, Graduate Research Assistant in the Department of Computer Science and Engineering, Tandon School of Engineering at New York University.

Summary: The White House Executive Order directs the NSF to promote innovation by developing and strengthening “public-private partnerships for advancing innovation,

commercialization, and risk-mitigation methods for AI" and by helping promote "safe, responsible, fair, privacy-protecting, and trustworthy AI systems." Thus, engaging industry partners is both a priority and a necessity for the NAIRR. In this breakout session, participants discussed the following questions:

- How can industry partners be engaged in a way that aligns with the four measurable goals of the NAIRR, with a particular focus on trustworthy AI?
- What are some examples of effective industry engagement policies?
- What are the downsides and the risks, and how can these be mitigated?
- Do we expect there to be differences between the Pilot and the full NAIRR when it comes to policies for engaging industry partners?

Session 5: Transparency as an enabler of trustworthy AI

Moderators: Dr. Jennifer Wortman Vaughan, Senior Principal Researcher at Microsoft Research in New York City; and Dr. Julia Stoyanovich, Institute Associate Professor in the Department of Computer Science and Engineering at the Tandon School of Engineering, Associate Professor of Data Science at the Center for Data Science, and Director of the Center for Responsible AI at New York University.

Scribe: Andrew Bell, Graduate Research Assistant in the Department of Computer Science and Engineering, Tandon School of Engineering at New York University.

Summary: Transparency is concerned with providing the information that stakeholders need to make informed, responsible, and ethical decisions for data and model development, sharing, and reuse. Transparency is a big-tent concept that may be interpreted differently depending on the stakeholders, the context of use, and the applicable legal and ethical considerations. In the context of the NAIRR, an actionable interpretation of transparency centers on the role of data, model, and lifecycle documentation as an enabler of trustworthy AI. In this breakout session, participants were prompted to discuss the following questions:

- What data, model, lifecycle documentation policies and practices should the NAIRR adopt?
- What has worked well in the past and what are the gaps?
- What are the organizational, cultural, and technical incentives for transparency?
- What are the barriers to transparency?
- What are the technical / cyberinfrastructure requirements for transparency, and how well can they be addressed today?

Session 6: The NAIRR as a data equity infrastructure

Moderators: Dr. H.V. Jagadish, Director of the Michigan Institute for Data and AI in Society (MIDAS), University of Michigan; and Dr. Katie Shilton, Professor and Program Co-Director of the Bachelor's Program in Social Data Science at the University of Maryland.

Scribe: Lucius Bynum, Graduate Research Assistant at the Center for Data Science at New York University.

Summary: The NAIRR aims to democratize access to datasets and data products (most prominently, models) to accelerate AI R&D while facilitating their responsible sharing and use. Data equity is concerned with the identification and, when possible, mitigation of biases in data and models. Importantly, because data and models are created by complex multi-step processes, and are often re-purposed, bias detection and mitigation requires lifecycle-wide support. In this breakout session, participants were prompted to discuss the following questions:

- What policies and best practices should the NAIRR adopt with respect to the creation, sharing and reuse of data and models to identify under- and misrepresentation of groups that have been historically suppressed in the data record (representation equity)?
- What are the technical / cyberinfrastructure requirements for the identification, documentation, and mitigation of this type of inequity, and how well can they be addressed today?
- How can the NAIRR provide equitable and participatory access to data and models, across domains and levels of expertise (access equity)?
- How can the NAIRR assess its progress towards these and other data equity requirements?

Session 7: Education and training

Moderators: Dr. Kristian Hammond, Bill and Cathy Osborn Professor of Computer Science and Director of CASMI, Northwestern University; and Dr. Sergiu Sanielevici, Director, Support for Scientific Applications, Pittsburgh Supercomputing Center (PSC), Carnegie Mellon University.

Scribe: Venetia Pliatsika, Graduate Research Assistant in the Department of Computer Science and Engineering, Tandon School of Engineering at New York University.

Summary: Education and training are essential for meeting all four measurable goals of the NAIRR. As a cyberinfrastructure, the NAIRR will offer training capabilities to ensure that its users have the skills to use the resources. However, to advance the goals of trustworthy AI, it is crucial to train researchers and students on the principles and techniques of responsible data engineering, algorithmic fairness, transparency, and privacy and data protection. This type of training should also be offered to current data scientists, particularly those who work in small and medium-sized businesses, which typically cannot afford the necessary upskilling of their staff. In this breakout session, participants were prompted to discuss the following questions:

- What should be the mandate of the NAIRR for education and training?
- Who do we need to train and what kinds of training do we need for them?
- What education and training should be supported to align with the goals of trustworthy AI?
- How can the NAIRR support continuous learning for small and medium sized businesses?

- How can the NAIRR assess the effectiveness of its education and training?

Session 8: Responsible development and use of generative AI

Moderators: Dr. Jeanna Matthews, Professor of Computer Science, Clarkson University; and Dr. Yacine Jernite, Machine Learning and Society Team Lead, Hugging Face.

Scribe: Lucas Rosenblatt, Graduate Research Assistant in the Department of Computer Science and Engineering, Tandon School of Engineering at New York University.

Summary: Generative AI is experiencing increasing research activity and broader commercial adoption. To put generative AI into safe use as part of the NAIRR, it is essential to articulate robust policies and best practices for assessing its performance, in terms of veracity, safety, fairness, reproducibility, and legal compliance. Further, it is crucial to develop technical support for evaluating systems that incorporate generative AI models, rather than assessing these models in isolation, to better understand their impacts within the context of design, development, and use. In this breakout session, participants were prompted to discuss the following questions:

- What policies and best-practices should the NAIRR adapt to facilitate the responsible development and use of generative AI?
- What are the technical / cyberinfrastructure requirements in support of these policies and best practices?
- What training and education is needed to respond to the unique complexities of the responsible development and use of generative AI?

Appendix 3: Workshop Participants

* Workshop Chair
** Breakout Moderator
*** Local Organizer

Name	Organization
* Julia Stoyanovich	New York University
Alan R. Blatecky	RTI International
Alejandro Suarez	NSF
Alondra Nelson	Institute for Advanced Study
**Anita Nikolich	University of Illinois Urbana-Champaign
Bronson Messer	Oak Ridge National Laboratory / University of Tennessee
Carol Song	Purdue University

Chaitanya K. Baru	National Science Foundation
Christine Cutillo	National Institutes of Health
**Danaë Metaxa	University of Pennsylvania
Daniela Braga	Defined.ai
David White	RTI International
**Dawn Thurman	Morgan State University
Fred Streitz	Lawrence Livermore National Lab
Govind Shivkumar	Omidyar Network
Helen Nissenbaum	Cornell Tech
**H V Jagadish	Michigan Institute for Data and AI in Society, University of Michigan
Ilan Strauss	Social Science Research Council
**Ilkay Altintaş	University of California San Diego
**Jeanna Matthews	Clarkson University / DuckDuckGo
**Jennifer Wortman Vaughan	Microsoft Research
Joshua A. Tucker	New York University
Joshua M. Greenberg	Alfred P. Sloan Foundation
Julia Lane	New York University
**Katie Shilton	University of Maryland
**Kristian J. Hammond	Northwestern University
Laura Courchesne	Frontier Model Forum
Leo Peyronnin	Omidyar Network
Manish Parashar	University of Utah
Michael Garris	MITRE
Michael Holland	University of Pittsburgh
Michael E. Papka	Argonne Leadership Computing Facility / University of Illinois Chicago
Paola Buitrago	Carnegie Mellon University
**Pete Beckman	Argonne National Laboratory / Northwestern University
Rayid Ghani	Carnegie Mellon University
Robert Beverly	National Science Foundation

Rebecca Boyles	University of North Carolina at Chapel Hill
Rumman Chowdhury	Humane Intelligence and the United States Envoy for AI
Russel Wald	Stanford University
**Sergiu Sanielevici	Carnegie Mellon University
**Solon Barocas	Microsoft Research / Cornell University
Srinivasan Parthasarathy	Ohio State University
**Stefaan Verhulst	The Governance Lab's Data Program
Susan Aaronson	George Washington University
Suzette Kent	Kent Advisory Services
Tim O'Reilly	O'Reilly Media
Tom Goldstein	University of Maryland
Travis Hoppe	White House Office of Science and Technology Policy
Varun Chandola	National Science Foundation
William D. Gropp	National Center for Supercomputing Applications / University of Illinois Urbana-Champaign
William L. Miller	National Science Foundation
**Yacine Jernite	Hugging Face
***Andrew Bell	NYU Tandon School of Engineering
***Caterina Fuligni	NYU Tandon School of Engineering
***Chastity Hidalgo	NYU Tandon School of Engineering
***Lucas Rosenblatt	NYU Tandon School of Engineering
***Lucius Bynum	NYU Tandon School of Engineering
***Sarah Lawson	NYU Tandon School of Engineering
***Venetia Pliatsika	NYU Tandon School of Engineering