Federal Register Notice 86 FR 46278, https://www.federalregister.gov/documents/2021/08/18/2021-17737/request-for-information-rfi-on-an-implementation-plan-for-a-national-artificial-intelligence, October 1, 2021.

Request for Information (RFI) on an Implementation Plan for a National Artificial Intelligence Research Resource: Responses

Dear Joint Task Force Representatives,

The IEEE Standards Association (IEEE SA) acknowledges the White House OSTP/NSF Joint Task Force for its efforts to gather information for an Implementation Plan for a National AI Research Resource. We are pleased to provide input on the endeavor.

As background, the IEEE SA, is a globally recognized standards-setting body within IEEE. We develop consensus standards through an open process that engages industry and brings together a broad stakeholder community. IEEE standards set specifications and best practices based on current scientific and technological knowledge. IEEE SA has a portfolio of over 1,500 active standards and over 650 standards under development, including technical and impact standards relating to Artificial Intelligent Systems, next generation networks, IoT and Cybersecurity.

Thank you for the opportunity to contribute to your process. You may find our comments below.

Best regards,

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1. What options should the Task Force consider for any of the roadmap elements A through I above, and why? [Please take care to annotate your responses to this question by indicating the letter(s) of the item (A through I in the list above) for which you are identifying options.]

Response
Regarding E, F, and G, IEEE SA posits that security and civil rights assessments are ethical assessments and therefore we recommend that the NAIRR conduct a profiling exercise to identify all ethical values likely to be at stake.
As a general comment, the elements identified provide a comprehensive overview of the issues to be addressed when implementing the roadmap. However, as a pre-condition, a comprehensive (regulatory) framework should be in place clearly prescribing NAIRR objectives in terms of ethicality. Such a framework could then be used to assess which data

should be used for what purposes and under what circumstances. The IEEE Ethics Certification Program for Autonomous and Intelligent Systems could be used for this purpose. This program is focused on criteria of Transparency, Accountability, Algorithmic Bias, Privacy and Governance. Each subject criteria set provides stratified criteria associated with adaptive-risk management properties that can be effectively applied to best understand the ethicality and human-centricity associated with AI systems.

2. Which capabilities and services (see, for example, item D above) provided through the NAIRR should be prioritized?

Response
IEEE SA would suggest prioritizing the more strategy-oriented elements (C, E, F, and G) first, and then focusing on the more practical, implementation-oriented aspects (A, B, D, H, and I).
With respect to C and D, the requisite capabilities could be identified through the lens of an AI life cycle model. This would mean focusing on Design, Development, Deployment, Monitoring, and Decommissioning capabilities as appropriate.

3. How can the NAIRR and its components reinforce principles of ethical and responsible research and development of AI, such as those concerning issues of racial and gender equity, fairness, bias, civil rights, transparency, and accountability?

Response
Once the capabilities are defined, a life cycle profiling of ethical aspects should be conducted and independently verified through an outside enterprise (IEEE could perform this function). Once verified, these values such as fairness, equity, bias, transparency etc. should be subject to an evaluation, monitoring, and regular verification regime.
IEEE SA suggests that the NAIRR should consider mandating ethical and responsible research and provide users with a tool. For example, the IEEE Ethics Certification Program for Autonomous and Intelligent Systems. Without an assessment by use case, ethical and responsible research may not be possible, as it may be acceptable to use a given data set for the development of an AI tool in X, but using the same data set for Y could be unacceptable. When data sets with personal data are involved (and perhaps for all data sets), IEEE SA recommends taking into account the following principles for any re-use of the data: • Lawfulness •

Fairness

- Transparency
- Purpose limitation
- Data minimization
- Limitations on further 3rd party use/disclosure
- Right to know/be informed
- Right to refuse
- Accuracy
- Storage limitation
- Integrity and confidentiality (security)
- Accountability

4. What building blocks already exist for the NAIRR, in terms of government, academic, or private-sector activities, resources, and services?

Response
For your consideration, IEEE has various programs and activities that could serve as reference for building blocks for government, academic, or private-sector activities, resources, and services. Please reference: https://standards.ieee.org/initiatives/artificial-intelligence-systems/index.html

5. What role should public-private partnerships play in the NAIRR? What exemplars could be used as a model?

Response
Partnership is essential to enhance credibility and ownership of the agreed approaches and ethical value preservation. At the same time, the use of public data by private parties and vice versa could pose problems if not embedded in a clear and ethical framework. Providing transparency, ensuring accountability, avoiding unfair bias, and offering the chance to opt out will be crucial.

6. Where do you see limitations in the ability of the NAIRR to democratize access to AI R&D? And how could these limitations be overcome?"

Response
Once the policies and processes for fair and equitable access are devised based on a creative profiling of the life cycle, the hazards to democratisation can simultaneously be noted and appropriate control measures identified. IEEE does not recommend having an *ex ante* list of such limitations since the impression would be that all barriers to democratisation are known and risks mitigated.

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