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

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To whom it may concern,

I write to offer my thoughts on the Implementation Plan for a National Artificial Intelligence Research Resource. I am concerned that this effort will place very little emphasis on mechanism-based models, and will continue to emphasize data-driven, statistical models—a trend seen throughout federal funding programs. In particular, this is an enormous problem in the medical sciences and I think it is a cause for concern. In the biomedical world, artificial intelligence relies on properties of large groups of people that hide characteristics of the individual patient — this is especially problematic for diseases that manifest themselves so differently from person to person. Without a sound mathematical theory built on the underlying physics, chemistry, and biology, it is very difficult to understand the phenomena under investigation at a deep level—and this places fundamental limitations on how to guide interventions (for example, how to treat a cancer patient; see, for example, https://thehill.com/opinion/healthcare/463656-what-if-we-had-a-mathematical-equation-for-cancer?rl=1).

Thus, I would simply suggest (really, beg) that the Task Force consider including mechanism-based modeling as part of this effort.

Thank you for your time and I hope you and yours are happy, healthy, and vaccinated. :)

Sincerely,

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