

Responsible AI for Science: Assessing Potential Benefits vs. Risks

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Abstract

How can we best harness rapidly advancing AI capabilities to accelerate scientific discovery? Because the use of AI can bring both benefits & risks, responsible AI governance advocates for assessing risks as well as benefits that could stem from AI adoption. Moreover, rather than react to such harms after they have already occurred, we should anticipate, prevent, and mitigate such harms whenever possible. In general, potential benefits should be assessed to outweigh the risks before pursuing AI adoption, similar to how institutional review boards (IRBs) similarly require proposed human subjects research to justify potential benefits outweigh risks prior to study approval. After briefly introducing foundations of responsible AI governance, I will highlight potential benefits vs. risks posed by greater adoption of AI in scientific practice. My talk bridges ongoing work in UT Austin's campus-wide responsible AI initiative, Good Systems, with that of our NSF-Simons AI Institute for accelerating discovery, CosmicAI.