WHY SOCIAL SCIENCE?

Because It Can Help Us Design Trustworthy Artificial Intelligence

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Much has been written about the promise of artificial intelligence (AI) to transform social systems, but as adoption of these new technologies becomes more widespread, so will their impact on society. This leaves us with new and unique questions about the impact of AI, and we will need to turn to social scientists for the answers. Public-sector applications could help address traffic congestion, automate visa applications, monitor disease and wildfire outbreaks, and help automate other time-consuming tasks. The private sector has already deployed AI to great success, using automated processes such as chatbots to help customer service or algorithms that predict when equipment might fail.

Artificial intelligence and machine learning technologies have real, tangible benefits for society, but fully realizing those benefits will require the work of social scientists. Social science researchers are well equipped to evaluate AI technologies for broader social implications of AI uses, as well helping inform the design of algorithms to mitigate long-entrenched biases. For example, take an algorithm that is used by judges to decide whether or not defendants are eligible for bail. These algorithms look at large datasets of which defendants have not reported for scheduled court dates, along with data elements such as income, zip code, family history and criminal records. While race may not be explicitly included in the data used by the algorithm to predict defendants' likelihood to appear for court, social science tells us that the systemic racial disparities in the United States mean these variables become a proxy for race, resulting in Black defendants having their bail requests denied at disproportionate rates to White defendants.

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Being able to successfully research and evaluate the outcomes of AI requires also access to large amounts of high-quality data. These data come from multiple government agencies on different levels of jurisdiction, as well as non-profit or private sector organizations. However, our current data infrastructure is decentralized and fragmented, and large portions of it are out of date, unable to keep up with the technical demands of privacy and data sharing that could be beneficial for research on AI. All these challenges present barriers to social scientists' participation in AI research.

Luckily, a number of efforts are underway at the federal level that aim to improve the quality of the data available for AI researchers. Both the 2016 Commission on Evidence Based Policymaking and the Committee

on National Statistics proposed establishing a new entity in the federal government that would facilitate linking and combining data from across the government, make it easier for researchers to securely access sensitive data, and enhance privacy protections using new and emerging technologies, all of which would benefit AI research.

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Several proposals have been circulated on how to create such an entity. Four such proposals are outlined in a 2020 report from the Data Foundation on design considerations for a National Secure Data Service, including legal authority for privacy protections, ability to access and acquire data, as well as scalability and sustainability. The Advisory Committee for Data for Evidence-Building is also working to make recommendations on how to facilitate data sharing, data linkage and privacy enhancing techniques, with publication expected later in the year. Additional efforts to establish a data service are also underway in Congress, with the introduction of the *National Secure Data Service Act* (H.R. 3133).

In addition to initiatives to improve data across the government more broadly, federal agencies are also working to improve data specifically for AI research. The *National AI Initiative Act of 2020* calls for the National Science Foundation, along with the White House's Office of Science and Technology Policy to form the National AI Research Resource. This resource is envisioned as a shared computing and data infrastructure that will provide researchers with the computing and data resources necessary for AI research. Currently the task force in charge of mapping out the establishment of such a resource is on track to deliver a plan to Congress and the White House in the spring of next year.

It is important that the federal government continue to consider social scientists as they develop and implement resources for AI research—and that social science researchers become active participants in this process. Social scientists have the expertise to answer the critical questions about AI that can ensure the full benefits of AI come to fruition, and it is vital they can responsibly access the data needed.

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