AI & SOCIETY 2021
Journal of Knowledge, Culture and Communication

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Many hands make many fingers to point: challenges in creating accountable AI

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Received: 30 May 2021 / Accepted: 4 October 2021 / Published online: 5 November 2021
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Abstract

Given the complexity of teams involved in creating AI-based systems, how can we understand who should be held accountable when they fail? This paper reports findings about accountable AI from 26 interviews conducted with stakeholders in AI drawn from the fields of AI research, law, and policy. Participants described the challenges presented by the distributed nature of how AI systems are designed, developed, deployed, and regulated. This distribution of agency, alongside existing mechanisms of accountability, responsibility, and liability, creates barriers for effective accountable design. As agency is distributed across the socio-technical landscape of an AI system, users without deep knowledge of the operation of these systems become disempowered, unable to challenge or contest when it impacts their lives. In this context, accountability becomes a matter of building systems that can be challenged, interrogated, and, most importantly, adjusted in use to accommodate counter-intuitive results and unpredictable impacts. Thus, accountable system design can work to reconfigure socio-technical landscapes to protect the users of AI and to prevent unjust apportionment of risk.

Keywords Socio-technical landscapes · Distributed agency · Accountable AI · AI and power

1 Introduction

Artificial Intelligence (AI) is increasingly deployed at a variety of professional and policy scales (Stone et al. 2016) and its impacts can often be difficult to trace, let alone challenge (Kitchin 2014). Often relying on the secondary use of data outside the context of its initial collection, AI systems often occlude the underlying data from which their outcomes arise. The methods through which these outcomes are derived are similarly incomprehensible to the vast majority of those impacted by a given AI system. AI is, itself, embedded in a complex socio-technical landscape (Rip 2012; Rip and Kemp 1998) of infrastructures of data curation and description, information technology, and organizational realities. Creating accountable AI becomes a significantly challenging prospect considering the distributed, collaborative nature of its development, and the relative lack of control on the part of its designers as to how AI, once deployed, is understood and used. Similarly, the data resources and infrastructures that support AI technology impact exactly what outcomes are created but are challenging to evaluate outside the methods and epistemology of AI and its underlying disciplines.

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Slota, S. C., Fleischmann, K. R., Greenberg, S., Verma, N., Cummings, B., Li, L., & Shenefiel, C. (2023). Many hands make many fingers to point: challenges in creating accountable AI. AI & Society, 38(4), 1287–1299. https://doi.org/10.1007/s00146-021-01302-0