Descriptive AI Ethics: Collecting and Understanding the Public Opinion

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There is a growing need for data-driven research efforts on how the public perceives the ethical, moral, and legal issues of autonomous AI systems. The current debate on the responsibility gap posed by these systems is one such example. This work proposes a mixed AI ethics model that allows normative and descriptive research to complement each other, by aiding scholarly discussion with data gathered from the public. We discuss its implications on bridging the gap between optimistic and pessimistic views towards AI systems’ deployment.

1 INTRODUCTION

In light of the significant changes artificial intelligence (AI) systems bring to society, many scholars discuss whether and how their influence can be positive and negative [21]. As we start to encounter AI systems in various morally and legally salient environments, some have begun to explore how the current responsibility ascription practices might be adapted to meet such new technologies [19, 33].

A critical viewpoint today is that autonomous and self-learning AI systems pose a so-called responsibility gap [27]. These systems’ autonomy challenges human control over them [13], while their adaptability leads to unpredictability. Hence, it might infeasible to trace back responsibility to a specific entity if these systems cause any harm.

Considering responsibility practices as the adoption of certain attitudes towards an agent [40], scholarly work has also posed the question of whether AI systems are appropriate subjects of such practices [15, 29, 37] — e.g., they might “have a body to kick,” yet they “have no soul to damn” [4].

The dilemma of the responsibility gap is not restricted to moral domains but extends to legal practices [5, 9]. Current legal institutions are not capable of dealing with these questions [36]. The nature of self-learning algorithms challenges the proximate causal connection between these systems’ designers and possible damages [29]. There makes no sense to hold these systems themselves liable for their actions if they cannot remedy those harmed or learn from mistakes. The punishment of AI systems is hence an open and controversial question [3].

We focus on the limitation of current normative efforts that address the responsibility gap. They discuss how AI systems could and should be embedded into our responsibility practices. Viewing responsibility as a relational concept in which one holds a wrongdoer responsible for a specific action or consequence [13], or in which an agent is responsible to a patient [18], existing research disregards the opinion of the individuals involved in this practice. There lacks empirical work understanding how the general public, those who might suffer damages by AI systems, perceives these gaps and believes how these issues could be solved. Some studies exist in the domain of autonomous vehicles [8, 25], yet the broader understanding of how people assign responsibility, blame, and punishment for the actions of autonomous systems is missing: AI is deployed in diverse forms and environments, and little work [26, 39] has addressed other morally salient situations.

The ethics of AI have been gaining much traction in the last years [38]. Many of the issues raised by the deployment of algorithms have been extensively debated in academia and industry. There have been attempts to understand how people perceive AI systems’ ethical issues, such as bias/fairness [23, 35] and privacy [43]. However, the public opinion is yet to be captured and understood at a larger scale. In the following sections, we defend that the public opinion is precious and indispensable when discussing AI ethics, with a focus on responsibility gaps, and propose how...
normative work on the topic should embed data-driven research in their discussion so that those who do and do not believe these gaps can be bridged can find common ground.

2 IMPORTANCE OF THE PUBLIC OPINION

Although normative work on the responsibility gaps might seem to provide a “correct” answer, these issues should be discussed publicly, especially when so much is at stake [13]. The general public is an essential stakeholder in the deployment of these systems, and their opinion should be weighed against all other entities in society so that the “algorithmic social contract” can be crafted and maintained [32]. “The ascription of moral and legal responsibility is always mediated through the folk-psychological understanding of agency,” i.e., the assignment of responsibility depends on whether the general public perceives AI systems as agents [10].

Public organizations have called for more participatory development of AI [14]. The AI4People initiative [21], composed of leading scholars in AI ethics, has recommended the elicitation of the public opinion and understanding of AI and its applications. Moreover, the same proposal defends that existing legal institutions’ capacity to compensate those harmed by AI should be assessed based on majority-agreed foundations. In the field of big data, scholars have also proposed to adopt “participatory design” with a focus on democratic participation in the development and deployment of algorithms [41].

The public might also have conflicting views that must be addressed by future policymaking. For instance, empirical findings indicate that people assign blame [8] and responsibility [25] to automated systems, although to a lesser extent than their human counterparts. They also desire to punish these systems, although they are aware that doing so is not possible or successful [26], following the scholarly work raising doubt on the viability of AI systems’ punishment [11, 37]. These contradictions should be solved proactively rather than reactively so that these systems and policymaking reflect public expectations.

Scholars have defended that designers should promote public discussion regarding the accountability for AI systems [1]. However, corporations, which are often the designers and manufacturers of these systems, have incentives to ignore public input and shift regulation. These interest groups have an extreme influence on policymaking [17]. The designers of AI systems might utilize their creations as liability shields [11] and for agency laundering, by transferring deserved blame to the system [34]. Corporations might choose to implement superficial measures to appear more ethically aligned than they are [20]. Previous research has argued that corporate (social) responsibility has failed in current oligopolistic business practices [16]. This conflict of interest might indicate that academic and public organizations should take the lead in understanding how to embed public values into AI and their regulation.

There lacks empirical work on the public perception of AI ethics. Nonetheless, the few studies addressing the public perception of algorithmic fairness exemplify the importance of the public opinion on their design and regulation. Public preference toward fairness metrics is dependent on the environment where these systems are deployed [35]. There exists much disagreement on which features are fair to use in AI-assisted bail decisions [23]. Those most affected by AI systems must have a say in how they are regulated and designed so that their social impact can be improved [42] by embedding the general public’s values and opinions [32, 41].

3 NORMATIVE AND DATA-DRIVEN AI ETHICS

As we have demonstrated above, understanding public opinion is vital to the successful and beneficial deployment of autonomous systems. Responsibility attribution is not an exception, as its practices are dependent on how the general public perceives the agents and patients of such interaction [10]. To obtain and make sense of people’s opinions on the responsibility gap, we
propose that “interactive and discursive fora and processes” that include all relevant stakeholders, including the general society, are necessary [12].

A previous attempt to propose a method to crowdsource the public opinion on the moral dilemmas has proposed adding the "society to the loop.” [7] However, much criticism has been given to its focus on dilemmas, as they are not necessarily representative of most of the situations where AI is expected to influence society. It might not be possible to transfer the ethics of moral dilemmas, such as the trolley problem [28, 31], to the ethics of AI systems.

Previous work has also proposed to mathematically model moral judgments so that people’s choices can be translated into policy statements [6]. Although extremely valuable, it does not address the multiplicity of choices that an AI system might have when acting, or the plurality of judgments that the public might make. Modeling complex moral judgment mathematically as objective truths might also disregard society’s social and cultural aspects, possibly re-enforcing harmful discrimination and societal problems [38]. Both quantitative and qualitative research methods should be applied in this domain so that the public opinion’s intricacy on these issues can be successfully captured and analyzed.

We propose that the normative view on AI ethics, particularly the one dealing with the ascription of responsibility for automated systems’ actions, should be augmented by a data-driven research agenda. Borrowing the concept from descriptive ethics, we advance a similar approach: descriptive AI ethics. We defend that an iterative model, in which empirical and normative research influence each other, is critical for the development and regulation of future AI systems (see Figure 1).

Philosophical research on the responsibility gaps should raise questions and hypotheses that the descriptive approach to AI ethics should answer and test. With the public opinion on the topic provided by the data-driven approach, the normative agenda can deepen its analysis on how AI systems’ development and regulation should move forward, making such results interpretable to non-experts and policymakers. Such findings should also set directions for the development of future systems. Those who lead AI development also play an important role in how these systems are regulated through various manners, such as lobbying and self-regulation.

We defend that such a model can contribute to bridging the gap between those who pose the responsibility gap can be solved [24, 30] and those more pessimistic about a solution [2, 15]. By aiding normative ethics research with data gathered from the public, more pragmatic approaches
to the ethical issues of AI systems can be developed so that they are not only aligned with our values [22, 44], but also our solutions to their legal and moral questions.

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