

Chapter 8

Human–Centric Ethical AI in the Digital World

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ABSTRACT

The importance of the Human-centric ethical AI in the current digital landscape cannot be overstated. This chapter explores the critical necessity, emphasizing how ethical AI development is integral to aligning technological advancements with societal values. This chapter outlines the essential ethical principles of transparency, fairness, accountability, privacy and security and offers practical methods for their implementation. This chapter also addresses significant risks like bias, discrimination, and privacy breaches, proposing strategies to mitigate these issues through ethical practices. By presenting real-world case studies, the chapter demonstrates successful applications of ethical AI, bridging theoretical concepts with practical execution. This comprehensive guide equips readers with the knowledge and tools to foster AI development that prioritizes human welfare, ensuring technology serves as a force for good in society.

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1. INTRODUCTION

As the digital world continues to evolve at a rapid pace, the integration of artificial intelligence (AI) into everyday life becomes increasingly prevalent (Emmanuel Adjei Damfeh*, 2022). AI technology promises to revolutionize industries, from healthcare to finance, and even the way we interact socially (Herrmann & Pfeiffer, 2023). However, with these advancements comes a significant responsibility to ensure that AI development and deployment are guided by ethical principles that prioritize human well-being. The concept of human-centric ethical AI emerges as a crucial framework to address these concerns, emphasizing the importance of aligning AI systems with human values and rights.

Human-centric ethical AI places humans at the forefront of AI development ensuring that the technology serves to enhance rather than undermine human capabilities and societal norms. This approach involves designing AI systems that are transparent, fair, and accountable, while also being mindful of privacy and security concerns (Chen Youand Clayton, 2023; Elahi et al., 2021). By prioritizing the interests and rights of individuals, human-centric ethical AI seeks to mitigate potential risks such as bias, discrimination, and the erosion of personal freedoms that could arise from unchecked AI advancements. For example, in clinical application, the big health data is reshaping the landscape of modern diagnosis (Tse et al., 2023), and the management of chronic disease like diabetes (We et al., 2024), while the data security warrants more attention in the context of internet-of-medical-things (IoMT).

Moreover, the implementation of human-centric ethical AI requires collaboration across multiple sectors, including government, academia, industry, and civil society (Nabizadeh Rafsanjani & Nabizadeh, 2023; Pisoni et al., 2021; Usmani et al., 2023; Yang et al., 2021). Policymakers play a critical role in establishing regulations and standards that promote ethical AI practices, while AI researchers and developers must focus on creating technologies that adhere to these guidelines. Additionally, public engagement and education are essential to fostering a border understanding of AI and its implications, ensuring that society can contribute to and benefit from ethical AI solutions. The objective of this chapter is presented below,

- To provide a comprehensive understanding of what constitutes human-centric ethical AI, highlighting the importance and relevance in the present-day digital landscape.
- To discuss the core ethical principles that should guide AI development, including transparency, fairness, accountability, privacy, and security, and explain how these principles can be practically applied.

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