


Chapter 12

Ethics in AI and Computation in Automated Decision–Making

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ABSTRACT

This chapter examines the ethical complexities of Artificial Intelligence (AI) and automated decision-making systems, now integral to fields like healthcare, finance, criminal justice, and education. While AI presents immense opportunities for innovation and efficiency, it also introduces significant ethical challenges. The chapter explores foundational ethical frameworks—Utilitarianism, Deontological Ethics, and Virtue Ethics—offering insight into the moral duties guiding AI development. It examines global and international perspectives, emphasizing the cultural and

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regulatory variations shaping AI governance. Key ethical issues such as bias, transparency, privacy, and global impacts are explored, supported by case studies across various sectors. Emerging concerns, including deepfakes, autonomous weapons, and AI's impact on employment and inequality, are also addressed. The chapter calls for continuous dialogue and proactive governance to ensure responsible AI development for societal benefit, providing a roadmap for ethical AI governance.

1. INTRODUCTION

Artificial Intelligence (AI) refers to the development of computer systems capable of performing tasks that typically require human intelligence, such as visual perception, speech recognition, decision-making, and language translation. Automated decision-making systems are a subset of AI technologies designed to make decisions or recommendations autonomously, often based on large data sets and complex algorithms.

Artificial Intelligence (AI) and automated decision-making systems have become significant components of modern technological landscapes, influencing a wide array of sectors from healthcare to finance. These technologies, designed to simulate human reasoning and decision-making, promise significant advancements in efficiency, accuracy, and innovation. However, there are some ethical challenges that must be considered for secure development and implementation of AI.

The ethical considerations surrounding AI are multifaceted, involving questions of fairness, accountability, transparency, and privacy. As AI systems increasingly take on decision-making roles that were traditionally human, the potential for bias, misuse, and unintended consequences also increased. These issues are multiplied by the global nature of AI development, where cultural, legal, and ethical norms can vary significantly across borders.

AI ethics is not a rigid concept; it varies widely based on cultural contexts and societal values. For instance, in Western countries, AI ethics often revolves around individual rights, such as privacy and freedom of choice. In contrast, in some Asian countries, the collective good and societal harmony may take precedence over individual autonomy (Luciano Floridi, 2018). These differences highlight the complexity of establishing universal ethical standards for AI.

Ethics provide a framework for addressing the moral questions that arise from AI's impact on society. In technology, ethics guide the development of responsible AI, ensuring it aligns with human values and societal norms. Major ethical discourse originates from academic institutions, corporate AI research centers, and governmental regulatory bodies, where multidisciplinary collaboration shapes AI standards and principles.

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