


Chapter 7

Ethical Framework for AI in Education: Navigating Challenges and Building Solutions

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ABSTRACT

Artificial Intelligence (AI) is revolutionizing education by enhancing learning and administrative processes. However, ethical concerns such as data privacy, algorithmic bias, transparency, and equity must be addressed. AI relies on vast student data, posing risks of breaches and bias that can reinforce educational disparities. Opaque decision-making further challenges accountability and trust. Ethical frameworks are essential for responsible AI deployment. Privacy measures, explainable AI, and human-centered design ensure fairness, transparency, and inclusivity. Collaboration among educators, policymakers, and developers is crucial to align AI innovation with ethical standards. By addressing these challenges, AI can enhance education while safeguarding fundamental values.

1. INTRODUCTION

The rise of AI technology is changing education for the better. It customizes the student's learning experience, manages administrative work, and offers insights after analyzing data. For example, AI offers real-time lesson modifications, provides timely assessments regarding a student's performance, and performs timely gap analyses. This adds more responsiveness and adjustability in the educational

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system. Teaching professionals are able to foster and facilitate active participation of learners in the learning process (Zhai et al., 2021).

Nonetheless, the implementation of advanced AI technologies in education raises a number of ethical and practical issues. One of the most notable includes the handling of the school children's personal information. Academic records, behavior patterns, and even emotional states are examples of sensitive information that AI systems could utilize, making the system a potential target for abuse if not monitored correctly. In this regard, schools must adhere to the GDPR (General Data Protection Regulation) and FERPA (Family Educational Rights and Privacy Act) frameworks by employing privacy-centered techniques like user-controlled data anonymization, federated learning, and encryption (Salloum, 2024).

The possibility of lacking transparency and algorithmic discrimination is another challenge they face. Existing data is used with the AI in question. Their biases may be social or cultural. This results in discrimination, posing significant challenges to equity, for example, in accessing assistance or educational resources. Moreover, decision-making in many AI systems can be opaque, and as a result, these systems are often referred to as black boxes. As a result, trust in the society, educators, and learners is lost without transparency in the processes and systems. These gaps can be filled with attention to fairness algorithms and frameworks of bias accountability, XAI tools, together with active educator supervision in AI instruction and review processes (Shahriar et al., 2023).

This chapter attempts to resolve the ethical issues and offer a rationale of AI in education that balances practicality with intricacies. In doing so, it draws on educational literature and practice as well as models concerning the management of private bias, data, transparency, equability of access, and other constituents of performance enhancement. The Framing AI In Education Systems chapter seeks to enhance the education stakeholder's and system contributors' ability to design AI systems which elevate learning in a way that adheres to principles of equity, access, educational inclusion, and responsibility accountability. The blend of technological innovation and ethical boundaries along with policies tailored to the distinct learning settings highlight the responsibility in which AI must be integrated.

Figure 1 outlines the chapter structure as follows: Section 2 reviews the relevant literature; Section 3 details the adopted methodological approach; Section 4 presents the results derived from the applied framework; Section 5 offers a critical analysis of these results; and Section 6 concludes with a summary of key findings and suggestions for future research.

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