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Research Article

Ethical Considerations in The Use of AI Tools Like ChatGPT and Gemini in Academic Research

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ABSTRACT

The rapid integration of generative artificial intelligence (AI) tools, such as ChatGPT and Gemini, into academic research has transformed scholarly workflows, offering unprecedented efficiency in tasks like literature reviews, data analysis, and manuscript drafting. However, their adoption raises significant ethical concerns, including issues of authorship, plagiarism, data integrity, and bias perpetuation. This paper explores the ethical implications of using AI tools in research, drawing on Elsevier's Responsible AI Principles, stakeholder theory, and empirical studies. It examines challenges such as the risk of fabricated references, lack of transparency in AI-generated outputs, and potential inequities in access to advanced AI tools. Recommendations are provided for researchers, institutions, and publishers to ensure ethical use, including transparent disclosure of AI involvement, rigorous validation of outputs, and adherence to academic integrity standards. This study underscores the need for balanced integration of AI to enhance research while safeguarding ethical principles.

1. INTRODUCTION

The advent of generative AI tools like Open AI's ChatGPT and Google's Gemini has revolutionized academic research, enabling researchers to streamline processes such as literature synthesis, hypothesis generation, and manuscript preparation. Launched in 2022, ChatGPT rapidly gained popularity, reaching over 100 million users within months, while Gemini and similar tools have followed suit with advanced capabilities in natural language processing and multi-modal data handling. These tools promise to enhance productivity, particularly for non-native English speakers, by assisting with language editing and idea generation. However, their integration into research workflows raises critical ethical questions that challenge the principles of academic integrity, authorship, and transparency.

The ethical use of AI in research is not merely a technical issue but a moral one, rooted in the philosophical frameworks of ethics, such as deontology (duty-based ethics) and consequentialism (outcome-based ethics). Key concerns include the potential for AI to produce fabricated or biased outputs, the risk of plagiarism due to unacknowledged use of AI-generated text, and the "black box" nature of large language models (LLMs), which obscures the reasoning behind their outputs. Additionally, the use of AI tools in peer review and data analysis raises questions about accountability and the authenticity of scholarly work

OBJECTIVES-

This paper aims to:

1. Analyze the ethical challenges associated with using AI tools like ChatGPT and Gemini in academic research.
2. Evaluate existing guidelines from publishers and institutions, such as Elsevier's policies on AI usage.

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3. Propose a framework for the ethical integration of AI tools, emphasizing transparency, accountability, and equity.

By synthesizing insights from recent literature and stakeholder perspectives, this study contributes to the ongoing discourse on responsible AI use in academia, offering practical recommendations for researchers, institutions, and publishers.

2. METHODOLOGY

This narrative review adopts a systematic approach to explore the ethical use of AI tools in research. A literature search was conducted across Scopus, Web of Science, PubMed, and Google Scholar, using keyword combinations such as "ChatGPT AND research ethics," "generative AI AND academic integrity," and "AI tools AND scholarly publishing" for articles published between 2020 and 2025. The inclusion criteria focused on peer-reviewed articles, conference papers, and editorials addressing AI ethics in research, with a preference for studies discussing ChatGPT, Gemini, or similar LLMs. Exclusion criteria included non-English articles and those lacking empirical or theoretical depth.

A thematic analysis was performed to categorize ethical issues into four key areas: authorship and attribution, plagiarism and fabrication, bias and fairness, and access and equity. Data were synthesized using a qualitative approach, drawing on Elsevier's Five Responsible AI Principles and stakeholder theory to frame the discussion. The review also incorporated case studies, such as the use of Scopus AI, to illustrate practical applications and ethical dilemmas. No ethical approval was required, as this study did not involve human participants.

3. ETHICAL CHALLENGES IN USING AI TOOLS

3.1 Authorship and Attribution

The use of AI tools in drafting research papers raises questions about authorship. Many journals, including those under Elsevier, require authors to disclose AI usage in the writing process, distinguishing it from data analysis applications. However, the line between assistance and authorship is blurred when AI generates substantial portions of text. For instance, a study found that 1% of scientific articles in 2023 showed signs of AI involvement, often without acknowledgment. Failure to disclose AI use risks undermining academic integrity and denying human authors due credit.

2 Plagiarism and Fabrication

AI tools like ChatGPT, trained on vast datasets, may inadvertently produce text resembling existing works, raising plagiarism concerns. Moreover, their inability to access pay walled scientific articles can lead to fabricated references or "hallucinations," where AI generates plausible but incorrect citations. A case study on ChatGPT's bibliometric analysis revealed it identified non-existent authors and papers, highlighting its unreliability for scholarly referencing. Tools like Scopus AI, which use curated datasets, mitigate this issue but are limited to abstracts post-2013.

3.3 Bias and Fairness

AI tools can perpetuate biases present in their training data, such as gender or cultural biases, which may skew research outcomes. For example, ChatGPT has been criticized for favoring popular narratives in its responses, potentially marginalizing minority perspectives. This is particularly concerning in fields like social sciences, where nuanced interpretation is critical. Ensuring fairness requires rigorous validation of AI outputs by human researchers

3.4 Access and Equity

Access to advanced AI tools, such as Gemini Advanced or ChatGPT Plus, often requires costly subscriptions, creating disparities between researchers in high- and low-resource settings. This

digital divide exacerbates existing inequities in academic publishing, where non-native English speakers already face barriers.

4. Existing Guidelines and Policies

Publishers like Elsevier and the American Psychological Association have developed guidelines encouraging transparent AI use, particularly for language editing and literature synthesis. Elsevier's Scopus AI, launched in 2024, adheres to five Responsible AI Principles, emphasizing data privacy, transparency, and curated content. However, institutional policies vary, and many lack formal frameworks for AI integration, leading to inconsistent standards. The Committee on Publication Ethics (COPE) warns against AI use in peer review due to its analytical limitations, highlighting the need for human oversight.

5. RECOMMENDATIONS FOR ETHICAL AI USE

1. Transparency and Disclosure: Researchers must clearly disclose AI tool usage in manuscripts, specifying the extent and purpose (e.g., drafting, editing, or analysis). Journals should enforce standardized reporting protocols.
2. Validation of Outputs: AI-generated content, especially references and data interpretations, must be rigorously verified by human researchers to prevent fabrication and bias.
3. Training and Education: Institutions should provide training on ethical AI use, emphasizing its role as a complementary tool rather than a substitute for human expertise.
4. Equitable Access: Publishers and institutions should explore open-access AI tools or subsidies to ensure equitable access for researchers in low-resource settings.
5. Policy Development: Academic bodies should collaborate to establish universal guidelines, addressing authorship, peer review, and data integrity in the context of AI.

6. CONCLUSION -

The integration of AI tools like ChatGPT and Gemini into academic research offers significant opportunities but demands careful ethical consideration. Challenges such as authorship disputes, plagiarism risks, bias perpetuation, and inequitable access underscore the need for robust guidelines and human oversight. By adhering to principles of transparency, accountability, and fairness, researchers can harness AI's potential while upholding academic integrity. Future research should explore the long-term impacts of AI on research quality and equity, ensuring that technological advancements align with the ethical foundations of scholarship.

REFERENCES

1. Parthiban, M. (2025). *Ethical frameworks for AI development*. Retrieved from https://www.researchgate.net/publication/387659278_Ethical_Frameworks_for_AI_Development
2. Arrieta, A. B., Díaz-Rodríguez, N., Del Ser, J., Bennetot, A., Tabik, S., Barbado, A., ... & Herrera, F. (2020). Explainable artificial intelligence (XAI): Concepts, taxonomies, opportunities, and challenges toward responsible AI. *Information Fusion, 58*, 82–115. https://www.nature.com/articles/s41599-023-02464-6
3. Hua, H., et al. (2024). Investigating generative AI models and detection techniques: Impacts of tokenization and dataset size on identification of AI-generated text. *Frontiers in Artificial Intelligence*. https://pmc.ncbi.nlm.nih.gov/articles/PMC11611853/
4. Cotton, D. R., Cotton, P. A., & Shipway, J. R. (2023). Chatting and cheating: Ensuring academic integrity in the era of ChatGPT. *Innovations in Education and Teaching*

International, 61(4), 1–12. https://www.tandfonline.com/doi/full/10.1080/14703297.2023.2190148

5. Dwivedi, Y. K., Kshetri, N., Hughes, L., Slade, E. L., Jeyaraj, A., Kar, A. K., ... & Wright, R. (2023). "So what if ChatGPT wrote it?" Multidisciplinary perspectives on opportunities, challenges, and implications of generative conversational AI for research, practice, and policy. *International Journal of Information Management, 71*, 102642. https://www.sciencedirect.com/science/article/pii/S0268401223000233
6. European Commission, Directorate-General for Education, Youth, Sport and Culture. (2022). *Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for educators*. Publications Office of the European Union. https://op.europa.eu/en/publication-detail/-/publication/d81a0d54-5348-11ed-92ed-01aa75ed71a1/language-en
7. Hu, K. (2023, February 2). ChatGPT sets record for fastest-growing user base. *Reuters*. https://www.reuters.com/technology/chatgpt-sets-record-fastest-growing-user-base-analyst-note-2023-02-02/
8. Kaplan, A., & Haenlein, M. (2020). Rulers of the world, unite! The challenges and opportunities of artificial intelligence. *Business Horizons, 63*(1), 37–50. https://www.sciencedirect.com/science/article/pii/S0007681319301260
9. Liebrenz, M., Schleifer, R., Buadze, A., Bhugra, D., & Kunzler, A. (2023). Generating scholarly content with ChatGPT: Ethical challenges for medical publishing. *The Lancet Digital Health, 5*(3), e105–e106. https://www.thelancet.com/journals/landig/article/PIIS2589-7500(23)00019-5/fulltext
10. Lund, B. D., & Wang, T. (2023). Chatting about ChatGPT: How may AI and GPT impact academia and libraries? *Library Hi Tech News, 40*(3), 26–29. https://www.emerald.com/insight/content/doi/10.1108/lhtn-01-2023-0009/full/html
11. OpenAI. (2023). *GPT-4 technical report*. https://cdn.openai.com/papers/gpt-4.pdf
12. Van de Poel, I. (2020). Embedding values in artificial intelligence (AI) systems. *Minds and Machines*. https://link.springer.com/article/10.1007/s11023-020-09537-4
13. Logan, S. W. (2024). Generative artificial intelligence users beware: Ethical concerns of ChatGPT use in publishing research. *Human Kinetics Journals, 12*(3), 429–435. https://journals.humankinetics.com/view/journals/jmld/12/3/article-p429.xml
14. Thesify. (2025). *Ethical use cases of AI in academic writing: A 2025 guide for students and researchers*. https://www.thesify.ai/blog/ethical-use-cases-of-ai-in-academic-writing-a-2025-guide-for-students-and-researchers
15. UK Government. (2025). *AI opportunities action plan: Response to AI safety and regulation*. https://www.gov.uk/government/publications/ai-opportunities-action-plan-.