

Guest Editorial

Research Integrity Enhancement: Integration of Post-Publication Peer Review to Alleviate Artificial Intelligence-Generated Research Misconduct

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Introduction

Artificial Intelligence (AI) has become a powerful force in the growing field of scientific research, reshaping the ways in which data is collected and analyzed. ChatGPT, an innovative open-source natural language processing technology, was launched by OpenAI in November 2022. ChatGPT, an advanced artificial intelligence system, has acquired the capability to replicate human conversation by responding to prompts and inquiries. The acronym GPT stands for "generative pretrained transformer."¹ ChatGPT excelled at crafting academic articles thanks to its rich language modeling capabilities. In January 2023, Nature published a report that included ChatGPT as a credited author in two preprints and two articles in the scientific and medical domains.²

The AI revolution has unquestionably accelerated scientific advancement and broadened the limits of what was previously deemed attainable. However, the ethical considerations due to public access to artificial intelligence have changed throughout time, deviating dramatically from those in previous eras. The application of artificial intelligence as a non-human writer carries the inherent risks of prejudice, such as algorithmic bias and manipulation, data bias, and privacy problems.

Data privacy monitoring is a significant issue since the data provided to large language models as a prompt can also be used as a set for data. The artificial intelligence paper mill generates questions regarding transparency and accountability. The apprehensions and risks to the scholarly community is deeply a matter of concern about data security, intellectual property rights violations, and instances of plagiarism. The maintenance of the scientific community's integrity hinges on ensuring the precision and dependability of research findings produced by AI.³⁻⁵

This work suggests employing post-publication peer review (PPPR) as an innovative strategy to address certain issues, specifically related to research misconduct arising from artificial intelligence. Before being published, a critical step in assessing the thoroughness and accuracy of a study is the traditional practice of peer review. However, the progressive nature of algorithms and data sets in the age of AI-generated academic papers pose a contemporary dilemma that conventional peer review solely may not fully rectify. Post-publication peer review refers to the appraisal of a journal article that occurs after it has been published, as opposed to the traditional peer review process. This offers an iterative feedback process that significantly enhances honesty and integrity of research by allowing the worldwide scientific committee to assess and provide input on the quality and transparency of the academic papers' content.⁶

The combination of PPPR with AI-generated research



Production and Hosting by KEMU

<https://doi.org/10.21649/akemu.v30i1.5692>
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offers significant benefits, emphasizing the avoidance of shallow compliance of ethical rules in the work and inquiry carried out by the academic writers. Artificial intelligence algorithms are always evolving. To keep up with this development, dynamic validation guarantees that they are constantly reviewed and that any new issues are immediately resolved. Post Publication Peer Review ensures the integrity of academic papers to avoid artificial intelligence related misconduct of research by reducing likelihood of fabrication, falsification and plagiarism. Furthermore, PPPR fosters research community interaction, providing researchers and academics with an instant opportunity to improve AI-generated research.

The implementation of PPPR enhances both accountability and transparency in artificial intelligence research hence, ultimately leading to an enhancement in the work's quality by aiding in the identification and rectification of any potential biases, errors, or ethical considerations. The post publication peer review provide opportunity of developing a community of researcher who collaborate with each other to scout for the ethical consideration and ultimately fostering more community reach of research paper if it's valid and transparent. The scientific community provides constructive and unvarnished criticism. To guarantee the transparency and credibility of research in this digital era of artificial intelligence, we should consider post publication peer review as a proactive measure. Moreover, in our context where there is a lack of prompt policy making about AI related misconducts about research integrity, post publication review is direly required to safgaurd transparency in research and publications.

Key Words: Artificial intelligence, Post Publication Peer Review, Research

References

1. OpenAI. ChatGPT [Internet]. OpenAI; 2022 [cited 2024 Jan 23]. Available from: <https://openai.com/blog/chatgpt>.
2. Stokel-Walker C. ChatGPT listed as author on research papers: many scientists disapprove. *Nature*. 2023; 613 (7945):620-1.
3. Anderson N, Belavy DL, Perle SM, Hendricks S, Hespanhol L, Verhagen E, Memon AR. AI did not write this manuscript, or did it? Can we trick the AI text detector into generated texts? The potential future of ChatGPT and AI in Sports & Exercise Medicine manuscript generation. *BMJ open sport & exercise medicine*. 2023;9(1):e001568.
4. Miller R, editor. Holding Large Language Models to Account. In: *Proceedings of the AISB Convention 2023; 2023*. Society for the Study of Artificial Intelligence and the Simulation of Behaviour
5. Zielinski C, Winker MA, Aggarwal R, Ferris LE, Heine mann M, Lapeña Jr JF, Pai SA, Citrome L, Alam M, Voight M, Habibzadeh F. Chatbots, generative AI, and scholarly manuscripts: WAME recommendations on chatbots and generative artificial intelligence in relation to scholarly publications. *Colombia Médica*. 2023; 54(3):62-69.
6. O'SULLIVAN LY, Ma L, Doran P. An Overview of Post-Publication Peer Review. *Scholarly Assessment Reports*. 2021;3(1):1-9.