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Analysis and Use of ChatGPT in Research Area



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Abstract

ChatGPT, an artificial intelligence-based conversational system, has emerged as a significant tool in the field of academic and scientific research. Its ability to understand and generate natural language enables researchers to use it for a wide range of activities, including literature exploration, topic identification, brainstorming, summarization, language improvement, research planning, and preliminary data interpretation. ChatGPT can assist researchers in organizing ideas, developing research questions, preparing outlines, explaining complex concepts, and improving the clarity and structure of academic writing. It can also support researchers from different disciplines by providing rapid access to general knowledge and facilitating interaction with technical and interdisciplinary concepts. However, the use of ChatGPT in research requires careful evaluation because AI-generated responses may contain inaccurate information, fabricated references, biased interpretations, or outdated knowledge. Excessive dependence on the tool may also reduce critical thinking and compromise academic originality. Issues related to research ethics, data privacy, authorship, transparency, and academic integrity are therefore important considerations. Researchers should verify AI-generated information through reliable scholarly sources and clearly disclose the use of AI when required by institutional or publication guidelines. The responsible integration of ChatGPT can improve research efficiency without replacing human judgment, expertise, and critical analysis. This study provides an overview of the applications, benefits, limitations, and ethical considerations associated with ChatGPT in research, emphasizing the importance of using artificial intelligence as a supportive tool within a rigorous research methodology.

Keywords: ChatGPT, Artificial Intelligence, Academic Research, Research Methodology, Literature Review, Academic Writing, Research Ethics, Generative AI, Academic Integrity, Natural Language Processing.

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