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The Use of Artificial Intelligence Large Language Models in Scientific Research: Blessing or Curse? Ethical or Immoral?

TREO Talk Paper

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Abstract

Artificial intelligence large language models (AI LLMs), such as ChatGPT, have revolutionized many fields since their introduction. Scientific research (generally or in the IS domain specifically) is not an exception. LLMs can provide new and powerful tools for brainstorming research ideas, generating hypotheses, providing guidelines for analyzing data, or even analyzing data automatically, and helping understand complex phenomena. However, the use of AI LLMs also raises many ethical concerns. There is a lot of debate in the scientific research communities about this subject, which one can consider a positive sign. Nevertheless, such discussions should result in a clear, published framework that guides researchers to the acceptable usage of AI LLMs in research.

Information systems research, for both theoretical and applied research, is a process that involves many stages. Each phase/stage includes many tasks, and many of these tasks, if not all, may invite the use of AI LLMs. Examples include but are not limited to the following: problem identification, literature review, data collection, data analysis, results reporting, and conclusion drawing. Therefore, this paper aims to emphasize the importance of examining the ethical implications of using AI LLMs in IS scientific research and the need to propose a framework for determining what is appropriate and not appropriate in their use.

From another perspective, AI LLMs can also play a role in enhancing non-native speakers' research by assisting with grammar, vocabulary, and syntax. This can help non-native speakers overcome language barriers, express their ideas more effectively, and let them compete fairly with native-speaker researchers based on the quality of their research rather than judged by their language skills. Non-native speakers can use, for example, LLMs tools to understand complex concepts in papers, rewrite/rephrase their writing, summarize research articles, or even generate and translate the writing of the ideas they initially wrote in their languages into English. However, the question is again: which usage can be classified as appropriate, and which usage can be classified as inappropriate? Hence, there is a need for a framework in this regard.

Further, professional IS organizations, such as the Association for Information Systems (AIS), can play a major role in developing a framework and guidelines for appropriately using AI LLMs in IS scientific research. Such a framework should consider ethical concerns related to every research stage/task in both applied and theoretical IS research and provide guidelines for researchers to ensure the responsible use of AI LLMs. Such a framework should be updated and revised regularly since some of what the research community considers initially unacceptable can be acceptable later.

References

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