Editorial Article

The Syntax of Smart Writing: Artificial Intelligence Unveiled

[1]*Balaji Arumugam,* [2]*Arun Murugan,* [3]*Kirubakaran S,* [4]*Saranya Rajamanickam*
[1]*Professor and Head, Arunai Medical College and Hospital, Tiruvannamalai.* [2]*Professor and Head, Government Omandurar Medical College, Chennai.* [3]*Senior Assistant Professor, Government Omandurar Medical College, Chennai.* [4]*Assistant Professor, PSG IMSR, Coimbatore.*

Corresponding Author
Dr Balaji Arumugam.
Professor and Head,
Arunai Medical College and Hospital,
Thenmathur, Tiruvannamalai. – 606603
Phone number 9840234857
E-mail – dr.a.balaji@gmail.com

Article info
Received on 14th February 2024
Accepted on 29th February 2024
Published on 31st March 2024

In the ever-evolving landscape of academia, the integration of artificial intelligence (AI) has become a transformative force, reshaping the way we approach various facets of scholarly endeavours. One such area experiencing a profound metamorphosis is manuscript writing. As we stand at the crossroads of traditional methodologies and cutting-edge technologies, it is imperative to explore the dynamic relationship between AI and the craft of composing scholarly manuscripts. The integration of artificial intelligence in manuscript writing represents a pivotal moment in the evolution of scholarly communication.
Key words: Artificial Intelligence, Chatgpt, Chatbot, Grammarly, Manuscript writing, Smart writing, Automated editing

Artificial Intelligence (AI) has become an indispensable tool in the world of scholarly communication, and its impact on manuscript writing has been transformative. With the integration of AI-powered tools in the manuscript writing process, researchers can transcend the boundaries of traditional writing and create a more efficient, creative, and personalized approach to disseminating knowledge.

Unlocking Creativity with AI

Manuscript writing is an intricate dance of creativity and precision, and AI has emerged as a powerful partner in this delicate choreography. The traditional image of an author hunched over a desk, pen in hand, has given way to a collaborative effort where algorithms and human ingenuity intertwine. AI tools aid researchers in generating novel ideas, suggesting alternative structures, and even refining language to enhance the clarity and impact of the message.[1]

Enhancing Efficiency and Accuracy

The demands on researchers are ever-increasing, with pressure to produce high-quality manuscripts within tight deadlines. AI technologies, equipped with natural language processing and machine learning capabilities, can significantly expedite the writing process. Automated proofreading, citation management, and content organization streamline the mundane tasks, allowing scholars to focus more on the intellectual aspects of their work.

Customizing the Writing Experience

Every author possesses a unique voice, and AI empowers individuals to refine and amplify their distinct style. By analyzing patterns in an author's previous work, AI algorithms can offer personalized suggestions, ensuring consistency and coherence throughout a manuscript. This not only saves time but also contributes to the development of a more recognizable and impactful scholarly identity.[2]

Ethical Considerations and Challenges[3]

However, as we embrace the potential of AI in manuscript writing, ethical considerations and challenges loom large. Issues such as bias in algorithmic decision-making, transparency in AI-assisted writing, and the potential commodification of research outputs demand careful scrutiny. The scholarly community must navigate these waters judiciously, ensuring that AI remains a tool for empowerment rather than a source of unintended consequences.

The Collaborative Future

In envisioning the future of manuscript writing in the era of AI, collaboration emerges as a central theme. The synergy between human intellect and artificial intelligence promises not only increased productivity but also the cultivation of new avenues of thought. As

we embark on this collaborative journey, it is crucial to foster a balanced and mindful approach, acknowledging the strengths and limitations of both human and machine.[4]

My personal views and suggestions as a Peer reviewer and Editorial team member for the past of 10 years, the AI has revolutionized the publication and peer review process. So in my POV and experience on AI, the Future of Scientific Publishing Artificial intelligence (AI) has been making waves in the scientific publishing industry in recent years, with many experts predicting that it will revolutionize the way manuscripts are written, reviewed, and published. I would like to add few of my views on three subheadings on the future of AI assisted or automated language editing, AI assisted peer review and manuscript writing.

Automated Language Editing

One of the most promising applications of AI in manuscript writing is automated language editing. With the help of machine learning algorithms, AI-powered software can now analyze manuscripts and detect grammatical errors, spelling mistakes, and punctuation errors in a matter of seconds. This can save researchers a lot of time and effort in the editing process, allowing them to focus more on the content of their manuscript. Intelligent Referencing Tools Another exciting development in the field of manuscript writing is the use of intelligent referencing tools. These tools use AI algorithms to automatically identify and annotate references in a manuscript, making it easier for researchers to build and maintain a bibliography. This can save a lot of time and effort during the writing process, allowing researchers to focus on their research and analysis.

AI-assisted Peer Review

AI is also being used to improve the peer review process. For example, some publishers are now using AI algorithms to automatically assign manuscripts to suitable reviewers based on their research interests and expertise. This can help to speed up the review process and improve the quality of feedback that authors receive.

The Future of Manuscript Writing

As AI continues to evolve and improve; it is likely that we will see many more applications of this technology in the field of manuscript writing using chatgpt, chatbots, grammarly etc. From automated language editing to intelligent referencing tools and AI-assisted peer review, the potential benefits of AI in scientific publishing are enormous.[5]

While some experts are concerned about the potential impact of AI on jobs in the industry, there is no doubt that this technology has the potential to revolutionize the way we think about scientific publishing.

The studies conducted to assess the suitability of AI in enhancing the scientific writing process. It found that while AI reduced the time required for writing a review article, it also demanded extensive fact-checking. With an AI-only approach, a considerable portion of the cited references—up to 70%—were found to be inaccurate. Interestingly, the AI-assisted method showed higher similarity indices, indicating a potential risk of plagiarism. Moreover, limitations in technology, particularly ChatGPT 4.0's cutoff date of September 2021, hindered access to recent articles, necessitating manual provision of newer literature.[6,7] Consequently, for topics like COVID-19 and musculoskeletal health, one approach was abandoned due to extensive overlap with another. Ultimately, the study underscores that while AI can expedite writing processes, its current limitations necessitate human oversight to ensure accuracy and ethical integrity in scientific review articles. [8,9]

Incorporating AI into healthcare represents a promising avenue for enhancing disease diagnosis, treatment selection, and clinical laboratory testing. AI tools harness extensive datasets to identify patterns, often surpassing human performance in various healthcare realms. The benefits of AI include heightened accuracy, cost reduction, time efficiency, and decreased human errors. Moreover, AI holds the potential to revolutionize personalized medicine, optimize medication dosages, bolster population health management, and inform clinical guidelines. Additionally, AI can provide virtual health assistants, support mental health care initiatives, enhance patient education efforts, and foster trust between patients and physicians.[10]

Conclusion

The integration of artificial intelligence in manuscript writing represents a pivotal moment in the evolution of scholarly communication. By harnessing the capabilities of AI, researchers can transcend the boundaries of traditional writing, paving the way for a more efficient, creative, and personalized approach to disseminating knowledge. As we navigate this uncharted territory, let us do so with a commitment to ethical considerations, mindful collaboration, and an unwavering dedication to advancing the frontiers of knowledge.

References

1) Salvagno M, Taccone FS, Gerli AG. Can artificial intelligence help for scientific writing? Crit Care. 2023 Feb 25;27(1):75. doi: 10.1186/s13054-023-04380-2. Erratum in: Crit Care. 2023 Mar 8;27(1):99. PMID: 36841840; PMCID: PMC9960412.

2) Altmäe S, Sola-Leyva A, Salumets A. Artificial intelligence in scientific writing: a friend or a foe? Reprod Biomed Online. 2023 Jul;47(1):3-9. doi: 10.1016/j.rbmo.2023.04.009. Epub 2023 Apr 20. PMID: 37142479.

3) Čartolovni A, Tomičić A, LazićMosler E. Ethical, legal, and social considerations of AI-based medical decision-support tools: A scoping review. Int J Med Inform. 2022 May;161:104738. doi: 10.1016/j.ijmedinf.2022.104738. Epub 2022 Mar 14. PMID: 35299098.

4) Májovský M, Černý M, Kasal M, Komarc M, Netuka D. Artificial Intelligence Can Generate Fraudulent but Authentic-Looking Scientific Medical Articles: Pandora's Box Has Been Opened. J Med Internet Res. 2023 May 31;25:e46924. doi: 10.2196/46924. PMID: 37256685; PMCID: PMC10267787.

5) Vintzileos AM, Chavez MR, Romero R. A role for artificial intelligence chatbots in the writing of scientific articles. Am J ObstetGynecol 2023;229:89–90.

6) Kacena MA, Plotkin LI, Fehrenbacher JC. The Use of Artificial Intelligence in Writing Scientific Review Articles. CurrOsteoporos Rep. 2024 Jan 16. doi: 10.1007/s11914-023-00852-0. Epub ahead of print. PMID: 38227177.

7) Lee JY. Can an artificial intelligence chatbot be the author of a scholarly article? J EducEval Health Prof. 2023;20:6. doi: 10.3352/jeehp.2023.20.6. Epub 2023 Feb 27. PMID: 36842449; PMCID: PMC10033224.

8) Stokel-Walker C. ChatGPT listed as author on research papers: many scientists disapprove. Nature. 2023 Jan;613(7945):620-621. doi: 10.1038/d41586-023-00107-z. PMID: 36653617.

9) Zhang J, Oh YJ, Lange P, Yu Z, Fukuoka Y. Artificial Intelligence Chatbot Behavior Change Model for Designing Artificial Intelligence Chatbots to Promote Physical Activity and a Healthy Diet: Viewpoint. J Med Internet Res. 2020 Sep 30;22(9):e22845. doi: 10.2196/22845. PMID: 32996892; PMCID: PMC7557439.

10) Alowais SA, Alghamdi SS, Alsuhebany N, Alqahtani T, Alshaya AI, Almohareb SN, Aldairem A, Alrashed M, Bin Saleh K, Badreldin HA, Al Yami MS, Al Harbi S, Albekairy AM. Revolutionizing healthcare: the role of artificial intelligence in clinical practice. BMC Med Educ. 2023 Sep 22;23(1):689. doi: 10.1186/s12909-023-04698-z. PMID: 37740191; PMCID: PMC10517477.

How to cite the article:
Arumugam B, Murugan A, K S, Rajamanickam S. The syntax of smart writing:Artifical Intelligence Unvield. International Journal of Preventative and Evidence Based Medicine. 2024;xxxxx.