Mini Review on the Ethical Use of AI Bots in Academic Writing

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Abstract: *Academic writing is a specialised form of written communication that prioritizes accuracy and innovation to effectively convey knowledge. Internet bots, such as Grammarly, Quillbot, TextCortex, and ChatGPT, are commonly used to improve academic writing, particularly essays. However, AI bot-generated text has become a concern to educational institutions with academic integrity, as fabricated abstracts have been accepted through peer review processes. AI bots can generate texts, based on a given topic or keyword, leading to plagiarism accusations and misrepresentations of research findings. Researchers should always verify the accuracy and use of correct technical terms for their research write-up. Additionally, relying too heavily on AI-generated texts may result in a lack of creativity and originality, which is important in scientific writing and young scientist grooming. To address these ethical issues, OpenAI has developed a free tool called AI text Classifier13 to distinguish between AI-written and human-written texts. However, this tool has been described as an 'imperfect tool' by OpenAI, warning that it should not be used as a primary decision-making*

tool. Academic and research institutions must accept the revolution of generative AI tools in academic writing, as it is not sustainable to ban or deny it. AI tools can be efficient and time-saving for both lecturers and students, but acknowledging AI tools should be included in academic integrity policies. Additionally, institutions with current assessment methods based on written essays may need to change from accessing finished essays to assessing critical thinking through additional oral examinations.

Keywords: *AI tools, generative text, ethics, integrity, critical thinking.*

1. INTRODUCTION

Academic writing is a specialised form of written communication that prioritises accuracy and innovation, to effectively convey knowledge. In other words, it is a type of systematic text-based information transmission and sharing, according to the international scholar rules. Academic writing can be a sophisticated, and tedious process, especially for non-English native students and academic staff (Rahimi & Zhang, 2019).

An internet bot is a computer program that operates to simulate a human activity. Bots are normally used to automate certain tasks, and they can run without specific instructions from humans. Bots are usually much faster at these tasks than humans.

At higher learning institutions, students often deal with academic writing tasks throughout their learning process , Essay writing is not uncommon as a requirement to pass the formal assessments (Stone, 2023). Large Language Model AI tools are commonly used to improve the academic writing which include Grammarly, Quillbot, TextCortex, and ChatGPT (Kasneci et al., 2023). Zeno Assistant by TextCortex is an AI assistant designed to help the writing process from beginning to proofreading. ZenoChat can facilitate the research and essay-writing process of students with its customizable data and persona features.

AI bot generated text has become a concern to educational institutions with academic integrity(AlDhaen, 2022). For example, fabricated abstracts have been regularly accepted through review processes for professional

conferences, and some of these journal articles have passed peer review and have been published (Tien & Labbé, 2018; Van Noorden, 2021). At the core of the issue is potential reputational damage to institutions and academic professionals if the graduates do not acquire the expected skills and capabilities .

This review addresses ethical issues using AI tools in higher learning institution and the readiness for academia to adapt to this revolutionised AI-assisted scientific writing.

2. ETHICAL ISSUES IN THE USE OF AI BOTS

The COVID-19 driven change to online learning in school and university learning has drawn considerable attention to AI misuse and academic integrity concerns (Jobin et al., 2019). Contract cheating has attracted considerable attention in the higher education literature in recent times. It is not a new concept to outsource academic assignment to a third party, that has become more prevalent by days with advances in information technology(Awdry & Ives, 2023). The disruption to on-campus studies due to COVID-19 pandemic brought about a rapid transition to digital learning and assessment platforms which increased the opportunity for contract cheating (Hill et al., 2021)

AI bots can generate texts based on a given topic or keyword, which may be tempting for some researchers to copy and paste into their own work without proper attribution. This can lead to accusations of plagiarism, which is a serious ethical violation in scientific writing (De Costa et al., 2021) . Secondly, AI bots may generate predictions or conclusions based on incomplete or inaccurate data based on data it was trained on, which can lead to misrepresentations of research findings (Currie, 2023). Researchers should always verify its accuracy and the use of correct technical terms for their research write-up. This is to avoid unwarranted assumptions. Moreover, If researchers rely too heavily on AI-generated text, they may not be contributing enough of their own original ideas and insights to their work. This can result in a lack of creativity and originality, which is important in scientific writing and young scientist grooming.

3. CAN REVIEWERS READILY DETECT AL-GENERATED TEXT?

Putting aside the ethical concerns by academic scholars, it is of importance to understand the extent of how AI-generated texts differ from human-produced texts. Previous studies profiled the linguistic differences between AI- and human-produced texts, and to some extent, the more practical concern of whether humans can tell the difference (Ma et al., n.d.; Yang et al., 2022) . Studies reported that LLM-backed technologies such as ChatGPT have limited word tokens that they can produce, and are highly predictable (Samar et al., 2014; Yoon & Casal, 2020) and, perhaps due to their highly formulaic language (Casal & Jungwan Yoon, 2023; Omidian et al., 2018). The overall positive identification rate of only 38.9% suggested that, the majority of experienced scholars could not tell the difference between AI- and human-produced abstracts (Casal & Kessler, 2023). To address this challenge, OpenAI has developed a free tool (AI text Classifier13) trained to distinguish between AI-written and human-written texts. Unfortunately, this has been described as an 'imperfect tool' by OpenAI, who warned that it should not be used as a primary decision-making tool.

4. CHALLENGES TO THE ACADEMIC AND RESEARCH INSTITUTIONS

Academia needs to accept the revolution of generative AI tools in academic writing readily as it is not sustainable to ban or deny it. It should be seen as an opportunity for teaching, research and innovation. AI tools can a very efficient and a time saving way of carrying out academic activities for both lecturers and students. Research- wise, it can be used to as a handy tool for compilation, generation and analysis of data. For using it responsibly, acknowledgment of AI tools should be included in the academic integrity policies (Stokel-Walker, 2023). It is noteworthy to mention that, Nature, and Science (Thorp, 2023) journals insisted to deny the contribution by LLM to be accepted as a credited author in their journals.

For the institutions having the current assessment methods based on written essays, there are voices suggesting the changing from accessing the finished essays to assessing the critical thinking parts by having additional oral examinations.

5.   CONCLUSION

AI tools can be efficient and time-saving for both lecturers and students, but acknowledging AI tools should be included in academic integrity policies. Additionally, institutions with current assessment methods based on written essays may need to change from accessing finished essays to assessing critical thinking parts through additional oral examinations.

6.   ACKNOWLEDGEMENTS

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