Description

With the rise of Generative AI (GenAI) tools, researchers now have access to assistants that can refine text, rephrase sentences, and even suggest new ideas. But what happens when AI's role in the writing process becomes so significant that it blurs the line between assistance and authorship?
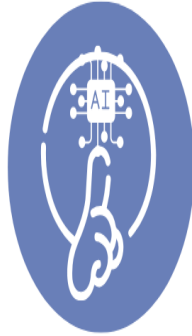
Without proper oversight, AI can unknowingly take on the role of a "co-author" by influencing or altering the content and key arguments of a research paper, without any formal acknowledgement. The recent surge in AI-generated manuscripts and subsequent retractions in Neurosurgical Review highlights the evolving challenges in research integrity. Furthermore, at least 10% of scientific abstracts are believed to likely undergo review by an LLM, based on linguistic analysis of overused words like 'delve.' This highlights the growing influence of AI in academic writing.

How AI Can Unknowingly Become a Co-Author
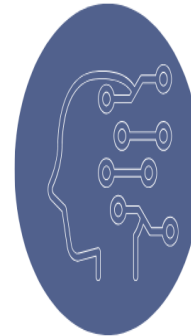
How AI Becomes a Co-Author Unintentionally

Using AI in Rewriting or Altering Content

Not Disclosing or Acknowledging its Use

Creating New Ideas Using AI

Relying on AI-Generated Outputs to Create the Final Content

1.

Generative AI Tools Rewriting or Altering Content

Generative AI tools (like ChatGPT or others) and LLMs can do more than just fix grammar. The tool might:

- Generate or rephrase key arguments or conclusions in ways that change their original meaning.
- Paraphrase original findings or suggest edits that affects scientific accuracy.
- Generate new insights or edits weren't a part of the researcher's initial thought process.

If researchers rely too much on AI's output without critically reviewing it, they may end up incorporating AI-generated content as their own. This gives AI an uncredited and significant intellectual ownership of portions of the paper.

2. Lack of Transparency and Acknowledgment of AI's Role

Currently, AI and/or LLMs cannot be listed as an author, since it doesn't take accountability or responsibility for its contributions. However, when researchers fail to disclose AI's involvement, it might appear that AI played a bigger role than intended. This can happen when:

- AI-generated text is included without proper acknowledgment (such as in the "Methods" section or other areas).
- The line between human-written and AI-generated content becomes unclear.
- Researchers unknowingly rely on AI's suggestions or edits, allowing it structure the paper, without acknowledging its role.

This could lead to ethical concerns about academic integrity, as the AI is indirectly taking part in the research process without being properly credited.

3. Unintended Creation of New Ideas

Beyond editing, LLMs can suggest alternative hypotheses, interpretations, or conclusions. If a researcher adopts these suggestions without careful evaluation, the LLM is effectively creating new intellectual contributions, a role traditionally reserved for human authors.

For example, AI may suggest changes that alter the hypothesis or offer new ways to interpret data. If a researcher then incorporates these changes into their final manuscript without evaluating their validity or accuracy, the AI's output could become a central intellectual contribution—effectively making it a "ghost contributor."

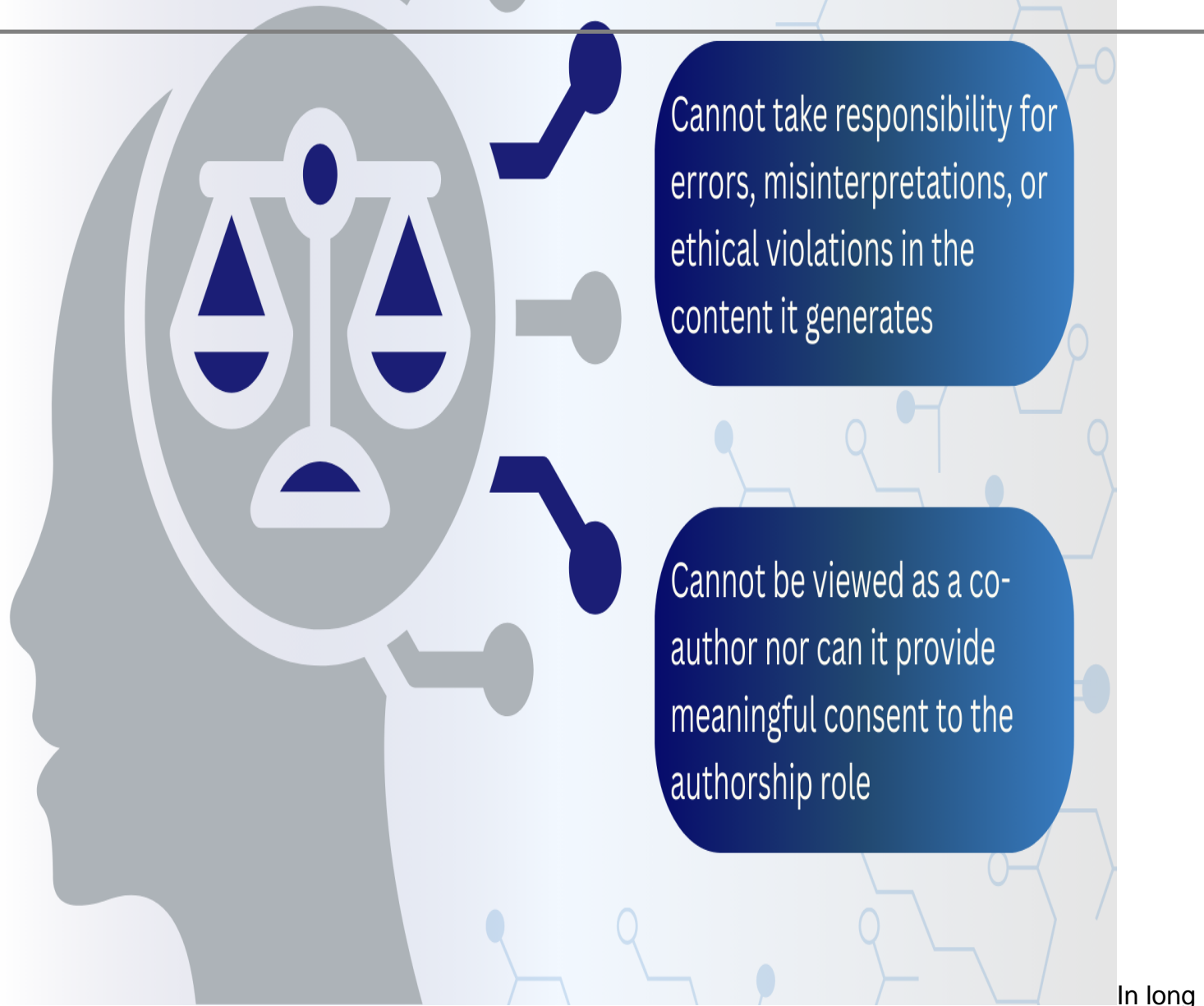## 4. Influencing the Final Version Without Accountability

As the use of AI grows, there may be instances where researchers rely so heavily on AI tools that the final version of the paper is more reflective of the AI's suggestions than the researcher's original thoughts. This can happen if:

- AI makes substantial structural changes (e.g., reorganizing paragraphs, rewording sections, or altering argument flow).
- Large portions of text are rewritten by AI with minimal human intervention.
- The researcher does not critically assess the changes or its impact

At this point, AI isn't just assisting, it's shaping the paper in ways that could be seen as authorship-level contributions.

Ethical Implications

Academic authorship comes with responsibility. Authors must stand by their work, ensure its accuracy,

Cannot take responsibility for errors, misinterpretations, or ethical violations in the content it generates

Cannot be viewed as a co-author nor can it provide meaningful consent to the authorship role

In long run, the use of AI-generated text without proper disclosure can lead to more retractions. For instance, of more than 10,000 papers retracted in 2023, almost 100 papers were seen to be written using GenAI. Several publishers have emphasized that AI should not be considered a co-author because it lacks accountability for the research, and human authors must take full responsibility for the content. They should also ensure full disclosure of AI use in academic papers, specifically for AI-assisted copy editing.

Preventing AI from Unknowingly Becoming a Co-Author

To maintain research integrity, researchers should take the following precautions:

1. **Transparent Declaration**: Researchers must disclose the use of AI tools in the Methods or relevant sections of their paper, as outlined by the ethical guidelines.
2. **Critical Evaluation**: Researchers should critically assess AI-generated content before accepting it, ensuring that it does not alter the original research's meaning.
3. **Maintain Human Control**: AI should only be used structural editing and text clarification upon proper evaluation of the generated output.
4. **Authorship Guidelines**: Clear guidelines should be followed, ensuring that only human contributors who are accountable for the research are listed as authors. AI tools should be acknowledged for their technical assistance, but not as co-authors.
5. **Ownership of Ideas**: Researchers should maintain ownership of the ideas, analysis, and intellectual contributions in their paper, using AI only to support their work without substituting or overshadowing it.

AI is undoubtedly a powerful asset in academic writing, but its role must be carefully managed. As we foresee the future, journals and institutions are expected to update their policies to define AI's acceptable level of involvement and mandate explicit declarations in research papers. While disclosure norms are still evolving, researchers are encouraged to establish transparency, critical evaluation, and clear authorship practices to ensure that AI remains a tool—not an unintended co-author.

Additional References:

https://publicationethics.org/guidance/cope-position/authorship-and-ai-tools

https://link.springer.com/journal/10462/submission-guidelines?srsltid=AfmBOophhMQb-im36jZ7qRIW6VyvJgBN7m8wEqoxnQYqYOXhWv1hS6R4

https://www.elsevier.com/about/policies-and-standards/the-use-of-generative-ai-and-ai-assisted-technologies-in-writing-for-elsevier

https://pmc.ncbi.nlm.nih.gov/articles/PMC10828852/

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1. AI in Academia
2. Trending Now

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