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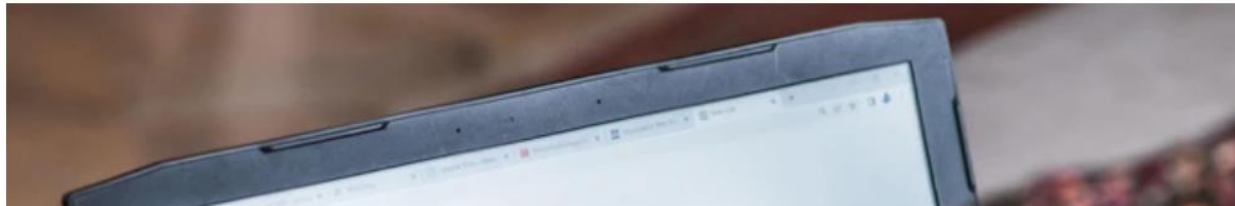
Generative AI as a tool for academic writing

Anna Borgström, writing instructor
Karolinska Institutet University Library

'Obviously ChatGPT' – how reviewers accused me of scientific fraud

A journal reviewer accused Lizzie Wolkovich of using ChatGPT to write a manuscript. She hadn't – but her paper was rejected anyway.

By [E. M. Wolkovich](#) 



Wolkovich EM. "Obviously ChatGPT" – how reviewers accused me of scientific fraud. Nature. 2024.

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Generative AI and writing

- For writing entire texts – clearly not recommended
- For brainstorming – for example, finding topics
- For overcoming writer's block



Generative AI and writing

"I was very suspicious concerning the use of Chat-GPT in my work. I assumed that by using this tool, our ability to think by ourselves would not be needed anymore and we would not develop skills like organising ideas or scientific writing anymore ...

After [learning more] about AI, I gave it a try. I used it to improve my sentences and started to appreciate it for that. Actually I didn't like to write. I was often blocked because I wanted to write a perfect sentence straight away and therefore didn't start to write at all.

Thanks to Chat GPT, I'm less afraid to just start to write... I'm not using all the suggestions that Chat GTP offers, also because I still want this text to be "mine". But in general, I'm very happy how Chat GPT could help me overcome this issue and to save time!"

Generative AI and writing

- For writing entire texts – clearly not recommended
- For brainstorming – for example, finding topics
- For overcoming writer's block
- For creating outlines
- As a “sounding board”
- Similar to peer feedback?
 - the feedback is considered, writer(s) need to decide



Generative AI and peer feedback

- Overlap in feedback between GPT-4 and human reviewers ranged between 31 and 39 percent – slightly higher than the overlap between human reviewers
- Almost 60 percent of participants found GPT4 feedback helpful/very helpful (80 percent found it “more beneficial than feedback from at least some human reviewers.”)
- Characteristics of GPT4/LLM feedback:
 - GPT4 feedback tends to be less precise
 - However, GPT4 generated specific feedback as well, sometimes about things that no human reviewers commented on
 - GPT4 generally focused on different things than human reviewers.

Generative AI and writing

- To improve text quality
 - Structure, flow, grammar
 - However, other, non-generative AI tools may work better than generative AI tools – and may be less problematic (for example, the main functionality of *Grammarly*).



Generative AI and Writing

Grammarly: you get suggestions on how to improve your writing on your own, based on grammatical rules

LLMs: you often get a rewritten text; changes generally based on probability.





Demo document

The basics

Mispellings and grammatical errors can effect your credibility. The same goes for misused commas, and other types of punctuation . Not only will Grammarly underline these issues in red, it will also showed you how to correctly write the sentence.

Underlines that are blue indicate that Grammarly has spotted a sentence that is unnecessarily wordy. You'll find suggestions that can possibly help you revise a wordy sentence in an effortless manner.

But wait...there's more?

Grammarly Premium can give you very helpful feedback on your writing. Passive voice can be fixed by Grammarly, and it can handle classical word-choice mistakes. It can also help with inconsistencies such as switching between e-mail and email or the U.S.A. and the USA.

10 All suggestions >>

Remove a space punctuation .

Add the word(s) ,

Change the verb form showed

Clarity · Remove wordiness ⓘ
Underlines that are blue Blue underlines indicate that...
Accept Dismiss ... < >

Remove wordiness a sentence that is unnecessarily wordy

Remove redundancy possibly

Change the wording revise a wordy sentence in an effortless manner

HIDE ASSISTANT >>

62 Overall score >

Goals >

Generative AI +

All suggestions

Correctness

Clarity

Engagement

Delivery Premium 12

Get Expert Writing Help

Plagiarism

Generative AI and writing

- What may the use of generative AI do to the writing process and its benefits?



Some basic advice for writing with generative AI

- Remember that you are – always – accountable for everything in your texts, and you need proper, reliable sources to back up all statements.
- Reflect upon your own use of advanced AI tools
 - Are you using AI in a way that allows you to both write better texts and process material in a meaningful way?
 - Are you using AI in a way that seems reasonable, one that allows you to contribute meaningfully to the scientific community and that allows you to fulfill the intended learning outcomes for courses and entire degrees?
 - Is your use of AI actually making the project or text better? In which ways?

Original text vs. Chat GPT



Original doctoral student text:

A better understanding of how the treatments for MS work could help reduce side effects and improve treatment effectiveness. T cells have long been regarded as a main player in disease development and propagation. Most earlier studies on T cells come from animal studies and those on studies on humans are quite small. Here we present a study of several hundred individuals to improve the strength of the conclusions and enable us to investigate smaller subsets of T cells.

Chat GPT's version:

A deeper understanding of MS treatments could help reduce side effects and enhance treatment efficacy. T cells have long been considered a key factor in MS development and progression. Previous T cell studies have predominantly relied on animal models, with human studies being relatively small-scale. In this study, we analyze a large cohort of several hundred individuals to strengthen our conclusions and enable the investigation of smaller T cell subsets.

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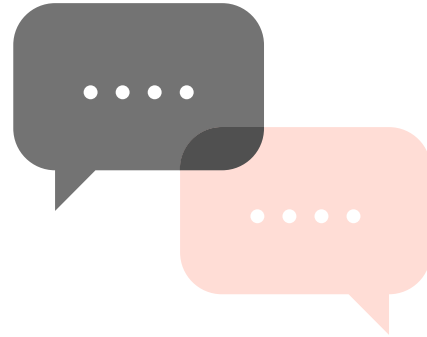
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Chat GPT's version:

A deeper understanding of MS treatments could help reduce side effects and **enhance** treatment **efficacy**. T cells have long been considered a **key factor** in **MS** development and **progression**. Previous T cell studies have predominantly relied on animal models, with human studies being relatively small-scale. In this study, we analyze a large cohort of several hundred individuals to strengthen our conclusions and enable the investigation of smaller T cell subsets.

Some basic advice for writing with generative AI

- Be humble about the fact that advanced AI technology is very new
 - As a community, we have not quite figured out how to use AI responsibly in all situations, and that is okay
 - Aim for an open dialogue with colleagues and students
 - If you are uncertain about your use of AI, ask (and encourage students to ask!)



Further reading/watching

- van Dis, Bollen, J., Zuidema, W., van Rooij, R., and Bockting, C. L. (2023). ChatGPT: five priorities for research. *Nature*. 2023; 614(7947), 224–6.
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- “ChatGPT and Artificial Intelligence in Higher Education: Quick Start Guide – UNESCO Digital Library.” Accessed September 8, 2023. <https://unesdoc.unesco.org/ark:/48223/pf0000385146.locale=en>.
- Time. “Exclusive: The \$2 Per Hour Workers Who Made ChatGPT Safer,” January 18, 2023. <https://time.com/6247678/openai-chatgpt-kenya-workers/>.
- Wolkovich EM. “Obviously ChatGPT” – how reviewers accused me of scientific fraud. *Nature*. 2024.



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