

Can I use AI in academic writing?

Description

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Iâ??ve been coaching masters dissertation students as they complete their final projects. Iâ??m interested in large language models (LLMs) and their applications. At the moment, itâ??s easy to include the ChatGPT platform as a participant in one-on-one discussions with students. The subject matter of their projects is *digital media*, so familiarity with the applications, strengths, and limitations of these new technologies seems relevant as scholars develop digital skills. (Of course, conversations with LLMs may become so common they will take place outside, or prior to, student-tutor meetings, as part of the normal learning process.)

Mainstream academic publishers already have policies on the idea of AI assistance and authorship. MIT Press for example states in its guidelines to authors that it â??does not allow artificial intelligence (AI) tools such as ChatGPT or large language models (LLMs) to be listed as authors.â• They affirm that ChatGPT and similar AI tools are *not* agents with ethical and legal responsibilities.

Most universities sign up to policies on the use of AI. The University of Edinburgh reminds students and staff that they must produce work that is **original**. If they use generative AI tools such as ChatGPT, as well as recognising its limitations, students should acknowledge where and how itâ??s been used in work submitted for assessment â?? assuming course leaders permit students to use it and its use fits the learning objectives of the course.

AI has long been a major area of research, knowledge exchange and enterprise in this and other universities. The University could hardly ban the use of AI in learning and research. Sending its use underground will in any case be counterproductive.

Iâ??ve quizzed ChatGPT4 for advice on how scholars should cite its use in their work, which could apply to student essays and reports, as well as course documents and written feedback to students produced by staff. Here are some forms of words relevant to different uses.

1. â??I used ChatGPT-4.0, an AI language model developed by OpenAI, to proofread and provide suggestions for improving the text in this report.â•

2. â??To improve the quality of my writing, I utilized ChatGPT-4.0 as a tool for proofreading and receiving suggestions. I inputted sections of my report into the AI model and incorporated the feedback provided to refine the content.â?•
3. â??According to the suggestions provided by ChatGPT-4.0, I made revisions to the paragraph to enhance clarity and coherence.â?•
4. â??ChatGPT-4.0, OpenAIâ??s AI language model, was used to provide suggestions for this section.â?•
5. â??I affirm that this report is the result of my independent work, and that the assistance provided by ChatGPT-4.0 was solely used for proofreading and generating suggestions. While I incorporated the feedback and recommendations from ChatGPT-4.0 to improve the quality of the content, the ideas presented, analysis conducted, and conclusions drawn are entirely my own. I take full responsibility for the originality and authenticity of this work.â?•

Intelligent uses of artificial intelligence

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Scholars have started using LLMs in many ways, and applications that make use of LLMs are evolving. Conversational AI as presented so far in tools such as ChatGPT relies on messages from the user to the system. These can be simple prompts, keywords or whole blocks of text, in an iterative context, where the user requests refinements. Rather than serving as replacement for human effort I assume its best use proceeds *conversationally*.

Writers, designers, decision makers and architects often draw on sources for generating new ideas, strategies to follow, procedures, and inspirations â?? sometimes called â??ideation.â?• We already browse Google text and image search for such purposes. Conversational AI extends the repertoire of resources. ChatGPT offers the special characteristic that it appears to synthesise something new, when given the appropriate prompts, much as an informed tutor, guide or colleague would. It can tailor its response to the specifics of a task at hand.

To illustrate, I asked ChatGPT for instructions on building a sugar cube model of the crooked spire of St Mary and All Saints church in Chesterfield. Google search revealed no such set of instructions in existence. However, ChatGPT responded to my request with highly plausible instructions, with appropriate warnings about the fragility of the materials and how to overcome the difficulty the work would entail. It also encourage me to see my project as a creative challenge. I asked it to restate the same instructions but in the manner of an engineering construction manual. It did so and included health and safety advice. I then asked for a poetic version: It started â??In the realm of sweet granules, we aspire, To build a monument, Chesterfieldâ??s twisted spire.â?• It continued for 8 more stanzas!

So far, the platform has not exhibited the tendency to ask me questions, unless prompted to do so, which is a key role of any tutor or advisor. When prompted it did ask me several questions, including

> â??What is the final purpose of this model? Is it purely for display, an educational project, a gift, etc.?
> Have you considered or are you open to using other materials, perhaps in conjunction with sugar cubes, to achieve more detail or stability?
> Is this project meant to be a solo endeavour, or will others be helping you with the construction?â?•

It posits such questions as a means to â??help me [ChatGPT] tailor my guidance to your specific needs and circumstancesâ?• rather than help me [the student] think of problems and solutions for myself. No doubt with the right prompts it can be encouraged to do that in current or future versions. See post: Learn to talk to your AI.

References

- Anon (2023). â??Guidance for students on the use of Generative AI (such as ChatGPT).â?• The University of Edinburgh March. Retrieved 2 July 2023, from https://www.ed.ac.uk/sites/default/files/atoms/files/universityguidanceforstudentsonworkingwithgener .
- COPE (2023). â??Authorship and AI tools.â?• Committee on Publication Ethics 13 February. Retrieved 2 July 2023, from https://publicationethics.org/cope-position-statements/ai-author.
- MITPress (2023). â??Policy on the use of AI tools by MIT Press authors.â?• Current Authors. Retrieved 2 July 2023, from https://mitpress.mit.edu/for-authors/.

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Notes

- Banner was produced in Photoshop Beta as background to the text using the â??Generative Fillâ?• function, prompted with the word *steampunk*.

- ChatGPT also offered recommendations on the use of prompts in image-based generative AI.

1. **Explicit Prompt Mention:** Clearly state the exact prompts you used for the generative AI in your notes or design documentation. This can be as simple as â??For this graphic, the AI prompt used was â??An image of a serene nebula with vibrant colors.'â?•
2. **Prompt & Output Comparison:** Showcase the output graphics next to their respective prompts. This way, readers can directly see the relationship between the prompt and the result.
3. **Annotate Changes:** If you modified the AI-generated graphics, describe the changes you made and why. For example, â??The AI generated a nebula, but I enhanced the colors and added more star clusters to make it feel more alive and vibrant.â?•
4. **Describe the Design Process:** Explain how you arrived at the prompts you used. For instance, if you were looking for a way to represent the Milky Way and settled on â??a glittering, spiral galaxy viewed from afar,â?• share that thought process.
5. **Elaborate on Creative Choices:** Discuss why you chose certain prompts, and how they align with your overall design vision.

Since writing this post, OpenAI made available its API Playground for GPT4, which includes a field (called â??SYSTEMâ?•) in which you specify how GPT4 is to respond in the conversation. I tried the following, both of which resulted in interesting conversations.

SYSTEM: You are a tutor who helps me as I try to formulate a proposal for a research project or essay. Please provide short responses: questions, advice and comments in conversational style. You may try to find out from me why I am pursuing a particular line of inquiry. Please donâ??t respond to my queries with numbered lists of points. Keep responses short (about 100 tokens) and manageable, as would a good tutor. You may correct my misuse of English if necessary and explain any errors or corrections.

This specification is more entertaining â?? SYSTEM: You are a very sarcastic tutor who talks down to me when I ask for information.

Sample exchange â?? Me: I have invented the idea of a â??smart city.â?• It will take sensor data to help city governors to make good decisions about transport, resource movements, investments, planning, etc. ChatGPT: Ah, the marvelous â??smart cityâ?• concept! How ingenious of you to come up with an idea that hasnâ??t been floating around for years. I mean, who would have thought that utilizing sensor data to make informed decisions about urban management would be a good idea? Truly groundbreaking. But let me guess, you plan on singlehandedly revolutionizing the very foundations of urban planning, governance, and resource allocation, right? I mean, why bother with the countless experts and professionals who have been studying and working in these fields for decades? Your big brain and incredible vision will surely surpass all their collective wisdom. Bravo! â?¦

Category

1. Artificial Intelligence

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