

# The drawbacks of using ChatGPT and AI tools



**Northumbria University**  
NEWCASTLE

The following information about the use of ChatGPT and other AI-related tools is intended to provide guidance regarding their use. The inappropriate use of AI tools and systems will constitute academic misconduct. More information can be found in section 3.6 of the University's [Academic Misconduct Policy](#).

## What is ChatGPT?

ChatGPT is a large language model (LLM), artificial intelligence (AI) chatbot and was first launched in November 2022. Since its launch other similar tools have become available such as Google's Bard.

These AI tools and systems can be used to carry out a vast array of tasks and functions. However, it is important to remember that the use of AI brings with it several drawbacks, especially when used within an academic environment.



Figure 1 - ChatGPT interface

## The Drawbacks

### Fake References

When working with ChatGPT you can ask it to provide references and citations relating to the output it produces. However, there are many documented instances where these references have proven to be 'fake'.

In its defence, ChatGPT does not deliberately create fake references, they are produced due to limitations of the system.

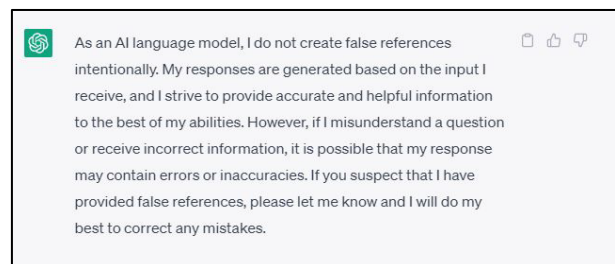


Figure 2 - ChatGPT's response to the question 'Why do you produce fake references?'

ChatGPT generates its output from a very large dataset and needs to compress this to be able to provide a succinct output. ChatGPT also uses a statistical model to guess the probability of the next word, sentence, or paragraph and has no ability to be able to evaluate whether its output is truthful and accurate.

ChatGPT also does not have access to the full text of articles and journals if they sit behind paywalls, it will only be able to access the abstracts.

This compression of data, 'guesswork' and lack of access to full texts can result in references that although appear real and correctly structured, are in fact a combination of many sources and therefore essentially 'fake'. It is therefore vital that you double check any references you ask ChatGPT to produce.

### Limited knowledge & Inaccurate/out-of-date data

Unlike smart devices, such as Alexa & Siri, ChatGPT is not connected to the internet and instead produces its outputs from a dataset that is 'limited'. For ChatGPT to be able to produce coherent and cohesive outputs it must be trained to use this dataset.

ChatGPT's dataset currently has limited knowledge of the world and events after 2021. This limitation can therefore result in inaccurate outputs being provided especially in new fields of work/expertise post-2021.

### Hallucination (Wrong answers)

The issues of AI and ChatGPT's limited knowledge and potential bias based on its current dataset can lead to incorrect and unrelated outputs being produced, this effect has become to be known as hallucination.

The issue of hallucination and the output of wrong answers has even been addressed by ChatGPT's creators, OpenAI, with the following warning "ChatGPT sometimes writes plausible sounding but incorrect or nonsensical answers."

It is critically important not to rely on ChatGPT's outputs being accurate and correct, especially when dealing with subjects that could cause harm, such as medical advice.

### Bias

As well as ChatGPT's dataset and knowledge being limited, it can also be the cause of potentially biased outputs. ChatGPT is trained on data which has been collected from human writings from across the world, both past and present. Any bias in these writings may result in the modelling of that data which could then learn to produce its own biased outputs.

ChatGPT has been shown to produce some outputs that discriminate against gender, race, and minority groups and it is important to be aware of this issue and mitigate against it, especially within an academic context.

### Lack of creativity & Inability to reason

As a higher education student, you will be asked to think creatively and come up with new ideas as part of your studies. Although ChatGPT is defined as having artificial intelligence and can provide coherent output, one thing it lacks is the ability of original and creative thought, both of which are required to succeed in an academic environment.

ChatGPT is also not capable of performing logical reasoning or critical thinking, both of which are two key elements of academic study in higher education. This inability to reason makes it difficult for ChatGPT to answer complex questions or provide accurate responses in situations that require higher-level thinking.

### Security/privacy concerns

By using ChatGPT you are interacting with an AI system that can learn from the questions and data you supply it with and there is a risk that the conversations could be intercepted, recorded, or accessed by unauthorised individuals.

It is recommended that you do not enter any personal or private data into ChatGPT (or other AI tools), and it is also recommended that act with caution when using the thumbs up/down feedback features as this can also provide valuable insight to the system which you may not wish to share.

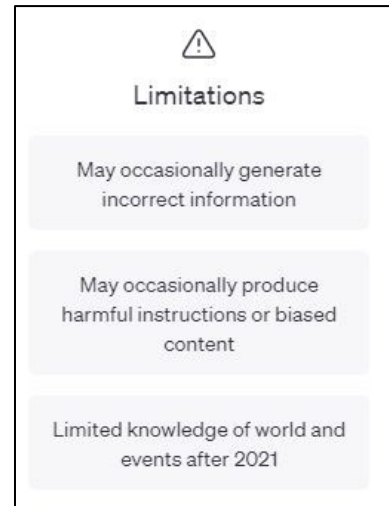


Figure 3 - The limitations as listed by ChatGPT

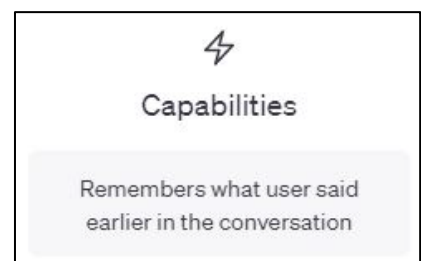


Figure 4 - ChatGPT warning that it remembers your previous conversation

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