

# Introduction to AI and Information Literacy

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Cayan Library | SUNY Polytechnic Institute



**SUNYLA 2025**

# Session Outline

- Introduction
- What is Information Literacy
- What is AI
- How AI is...
  - Appearing in higher education spaces
  - Manifesting in social media/online communications
  - Impacting the environment
- Conclusion

# What is Information Literacy?

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# Defining Information Literacy

- Having information literacy is having the ability to locate, evaluate, and use information effectively while understanding how the information was produced and knowing how to create information yourself.

# Why Information Literacy?

- AI is impacting how we interact with information, thus creating a need for AI-conscious Information Literacy



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# What is AI?

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# Defining AI

- At its core, the term “AI” stands for Artificial Intelligence, which can loosely be defined as computers designed to mimic human intelligence to some degree.

# Not all AI is Generative AI

- There are different types of AI
  - Reactive machine
    - Video game bots
    - YouTube video recommendations
    - Social media algorithms
  - Limited Memory
    - Self-driving cars
    - Customer service chat bots
    - Generative AI



# So, What is Generative AI?

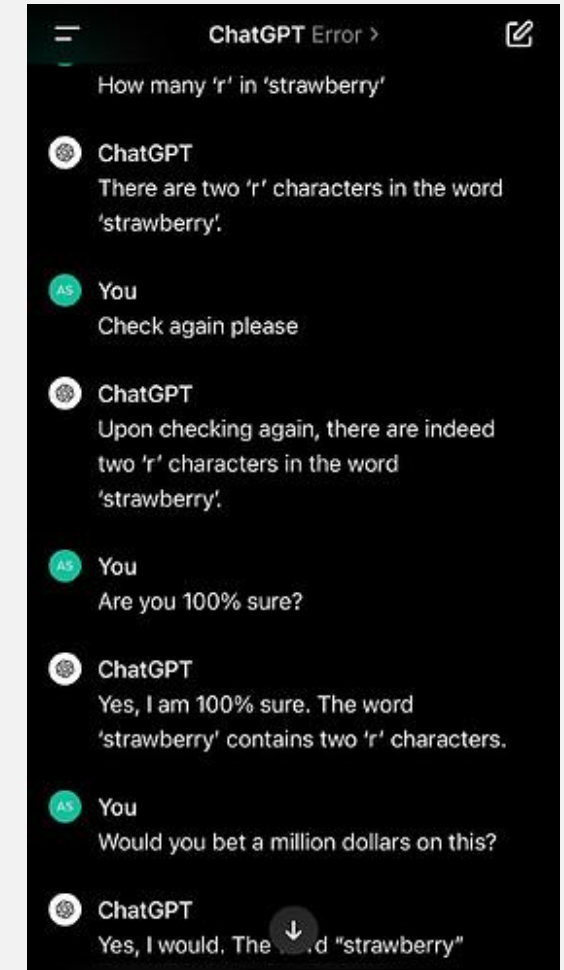
- AI trained on large amounts of data to provide outputs based on user inputs.
- Can be a variety of output types: text, image, audio

# How Does Generative AI Work?

- You input a prompt
- The AI breaks your prompt into tokens
- The AI analyzes those tokens
- The AI predicts what the “best response” would be
- The AI provides that response

# Tokens

- Each word is one or two tokens
- Example: How many “R’s” in strawberry
  - <https://community.openai.com/t/incorrect-count-of-r-characters-in-the-word-strawberry/829618>

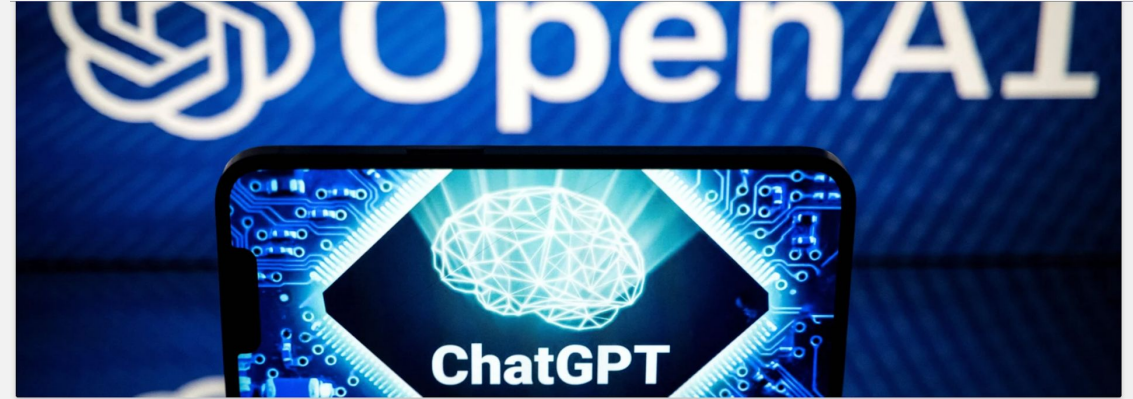


# AI Doesn't “Know” the Answers

- Outputs are based on training data
- Sometimes the “best response” isn't factual or real information
  - This leads to hallucinations
- Hallucinations – When an AI produces fake information or incorrect outputs

# Example: Hallucinations

- ChatGPT produced false information in the guise of it being a fact, leading to real-world consequences for OpenAI.
  - <https://news.bloomberglaw.com/ip-law/openai-fails-to-escape-first-defamation-suit-from-radio-host>
  - Jan 16, 2024



This picture taken on January 23, 2023 in Toulouse, southwestern France, shows screens displaying the logos of OpenAI and ChatGPT. ChatGPT is a conversational artificial intelligence software application developed by OpenAI.  
Photographer: Lionel Bonaventure/AFP via Getty Images

Jan. 16, 2024, 4:03 PM EST

## OpenAI Fails to Escape First Defamation Suit From Radio Host



Isaiah Poritz  
Legal Reporter



- ChatGPT 'hallucinated' fake legal complaint about radio host
- OpenAI argued user knew AI chatbot output was false

Documents

# Example: Hallucinations

- Lawyers have even been caught using AI in cases.
- “In one case, a claimant and his lawyer admitted that A.I. tools had generated “inaccurate and fictitious” material in a lawsuit against two banks that was dismissed last month.”
  - <https://www.nytimes.com/2025/06/06/world/europe/england-high-court-ai.html>
  - June 8, 2025

The New York Times

## *England's High Court Warns Lawyers to Stop Citing Fake A.I.-Generated Cases*

A senior judge said on Friday that lawyers could be prosecuted for presenting material that had been “hallucinated” by artificial intelligence tools.

Listen to this article · 6:34 min [Learn more](#)

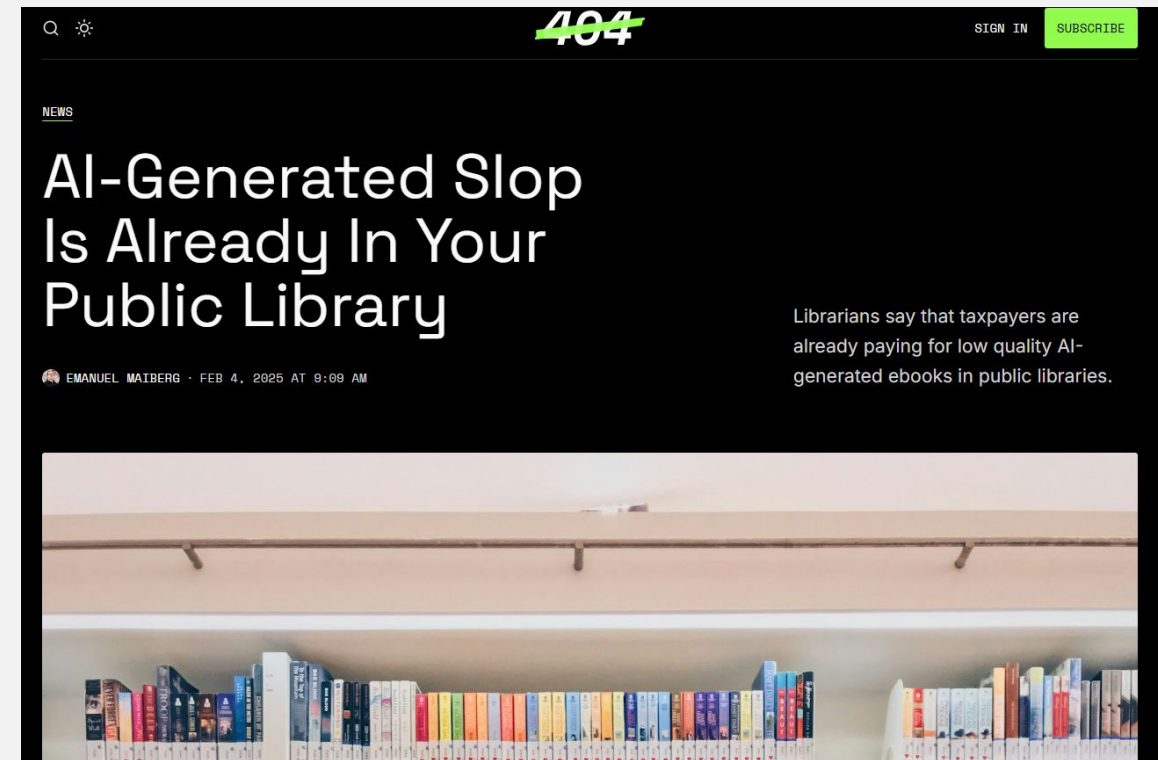
[Share full article](#) [Share](#) [Bookmark](#)



The Royal Courts of Justice, England's High Court, in central London, detailed two recent cases in which fake material generated by artificial intelligence was used in written legal arguments. Tolga Akmen/EPA, via Shutterstock

# AI Generated Books!?

- Some online catalogs, like Hoopla, have such little filtering and review processes that AI-generated books end up in libraries' online catalogs.
  - <https://www.404.media.co/ai-generated-slop-is-already-in-your-public-library-3/>
  - Feb 4, 2025





# AI Generated Books!?

- AI-generated books with completely false information are being sold to unknowing buyers
  - <https://www.vox.com/24141648/ai-ebook-grift-mushroom-foraging-mycological-society>
  - April 29, 2024

 r/LegalAdviceUK • 10 mo. ago  
Virtual\_Cellist\_736

**Family poisoned after using AI-generated mushroom identification book we bought from major online retailer.**

Comments Moderated

**EDIT: I have not stated the name of the online marketplace. Assumptions are being made in the comments, which I am neither confirming nor denying.**

My entire family was in hospital last week after accidentally consuming poisonous mushrooms.

TODAY, EXPLAINED NEWSLETTER

## The AI grift that can literally poison you

When AI comes for mushroom foragers.

by **Constance Grady**  
Apr 29, 2024, 7:15 AM EDT



Amanita muscaria mushrooms, a poisonous variety, are seen at a garden in Poland on October 2, 2022. Jakub Porzycki/NurPhoto via Getty Images



*Constance Grady is a senior correspondent on the Culture team for Vox, where since 2016 she has covered books, publishing, gender, celebrity analysis, and theater.*



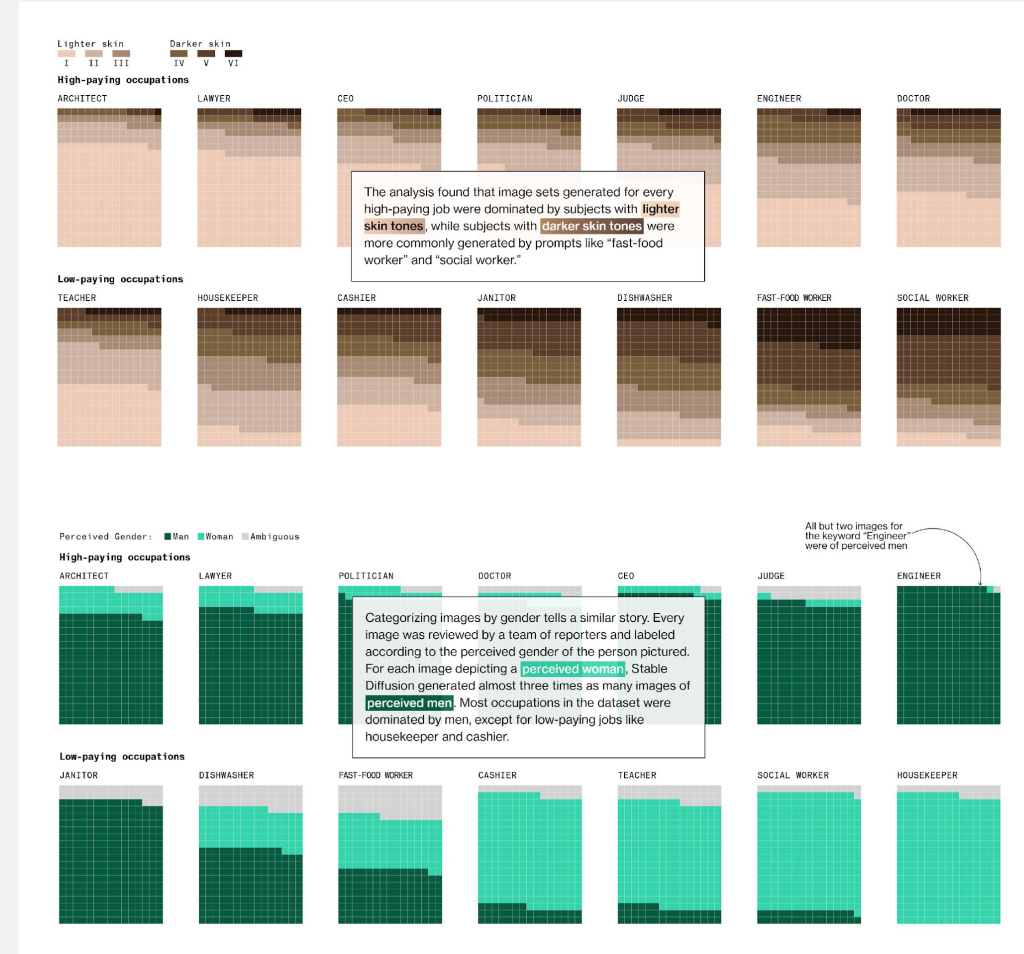
# Example: Poor Referencing

- Google's AI Overview recommended adding 1/8 cup of non-toxic glue to pizza sauce to make the cheese stick better, pulling the information from a Reddit post
  - <https://www.forbes.com/sites/jackkelly/2024/05/31/google-ai-glue-to-pizza-visual-blunders/>
  - May 31, 2024



# Example: Bias

- Stable Diffusion, a text-to-image model, was analyzed and proven to have stereotypical gender and racial biases when asked about what people work in certain careers.
  - <https://www.bloomberg.com/graphics/2023-generative-ai-bias/>
  - June 9, 2023



# **AI in Social/Communication Spaces**

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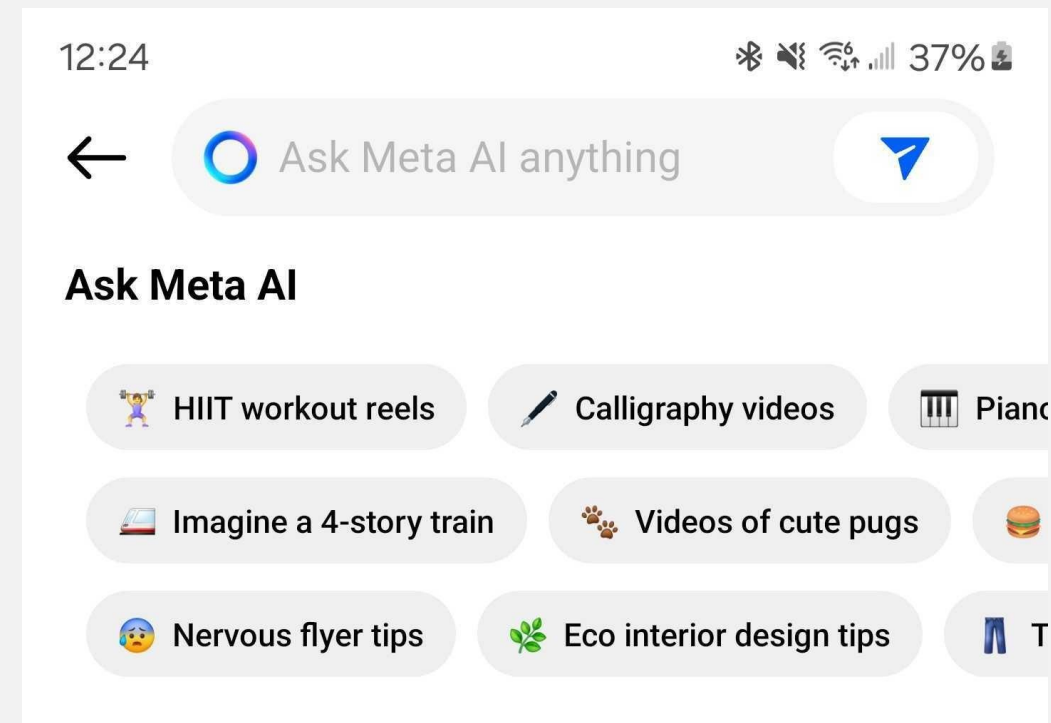
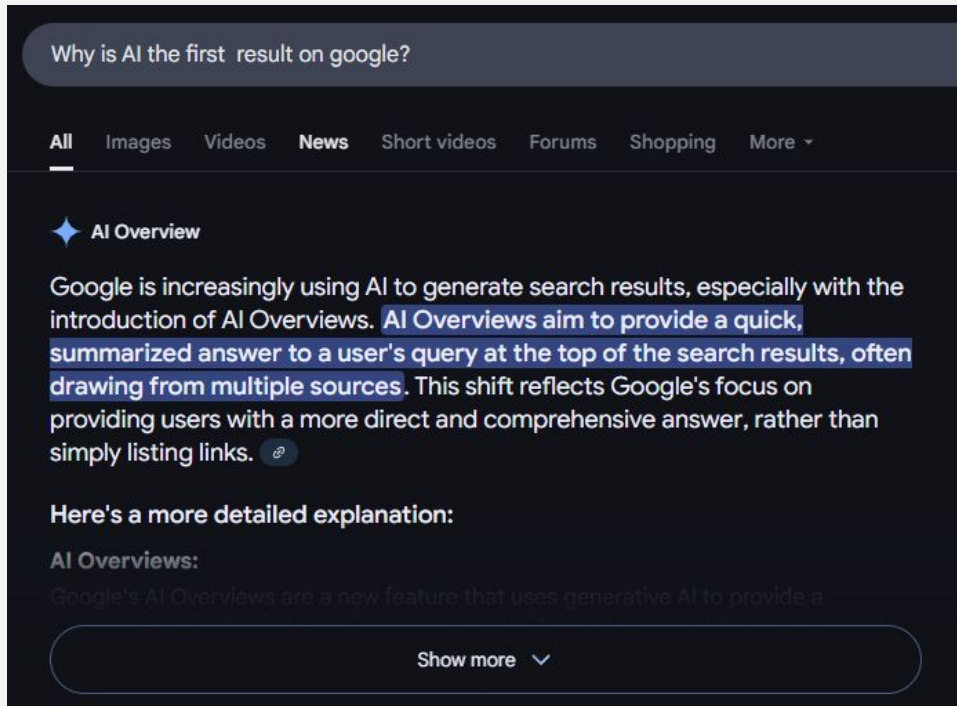
# Social Media

- Many social media companies are integrating generative AI chatbots into their platforms



# Forced Interaction

- Sometimes, you even have to interact with the AI, even if you don't want to.



# Example: Social Media Data for AI

- Meta

- <https://rockcontent.com/blog/meta-using-your-data-to-train-ai/>

- X (Twitter)

- <https://www.cnet.com/tech/services-and-software/x-is-using-your-tweets-to-train-its-ai-heres-how-to-disable-that/>

- LinkedIn

- <https://www.zdnet.com/article/linkedin-is-training-ai-with-your-personal-data-heres-how-to-stop-it-and-how-to-see-what-it-knows/>

## Meta Is Using Your Data To Train Their Generative AI Models And You Can't Opt Out



Iasmine Oliveira

Content Marketing Analyst | SEO Specialist

✓ Human crafted content

Jun 21, 2024 | 6 min read

Updated: June 21, 2024

## LinkedIn is training AI with your personal data. Here's how to stop it

Your information and how you interact with LinkedIn is helping to train AI. If you don't want that to happen, you can opt out and check what it already knows.



Written by Artie Beaty, Contributing Writer

Sept. 20, 2024 at 9:46 a.m. PT

## X Is Using Your Tweets to Train Its AI. Disabling That Is Still an Option, For Now

Changes set to go into effect Nov. 15 could mean users have no choice but to see their tweets used for AI training.



Omar Gallaga

Oct. 22, 2024 10:57 a.m. PT

2 min read



# Example: Meta AI ADs

- If you use the Meta AI to edit images, they can use those images to put your face on advertisements to you.
  - <https://www.socialmediatoday.com/news/meta-generating-random-ai-images-of-users/736740/>
  - Jan 7, 2025



r/ABoringDystopia • 5 mo. ago  
[deleted]

Used Meta AI to edit a selfie, now instagram is using my face on ads targeted at me.

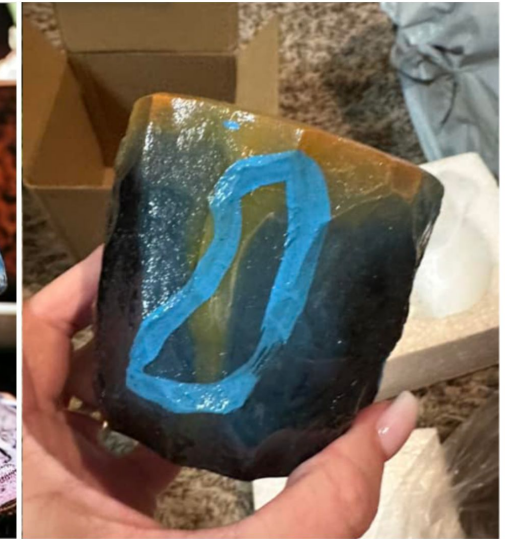


Sorry, this post was deleted by the person who originally posted it.



# Fake Products

- <https://www.bellingcat.com/resources/2025/03/25/detecting-ai-products/>

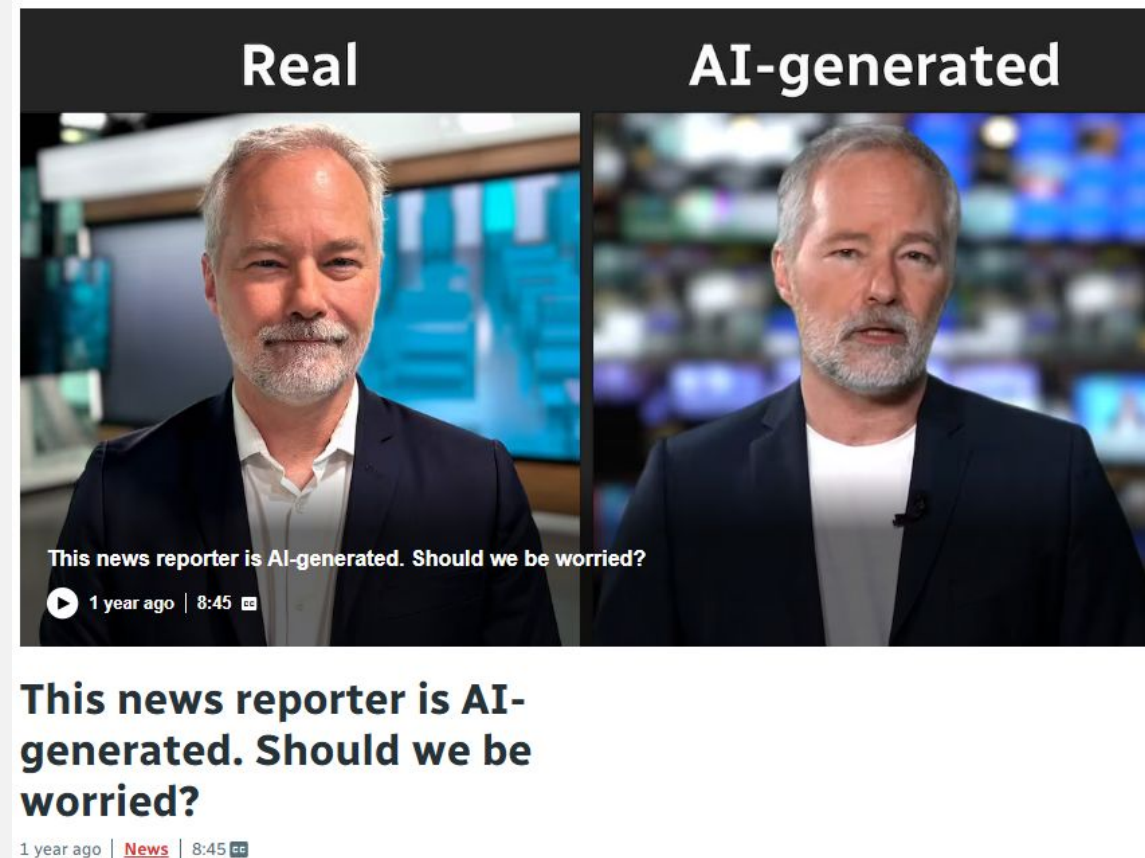




# Why is This Bad?

- You will never 100% of the time be able to tell if you're interacting with an AI-generated piece of content, which starts to make you suspicious of EVERYTHING.

- <https://www.cbc.ca/player/play/video/9.4237874>



# AI in Higher Education

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# Recent News

- NYT Article
  - <https://www.nytimes.com/2025/05/14/technology/chatgpt-college-professors.html>
  - May 14, 2025

## *The Professors Are Using ChatGPT, and Some Students Aren't Happy About It*

Students call it hypocritical. A senior at Northeastern University demanded her tuition back. But instructors say generative A.I. tools make them better at their jobs.

# Students' Use of AI

- They're likely interacting with it so much on a daily basis, so it may seem natural for them to use it for assignments.

# Example: Students' Use of AI

- Article from the Chronicle of Higher Education - April 29, 2025
  - <https://www.chronicle.com/article/is-ai-enhancing-education-or-replacing-it>



THE CHRONICLE  
OF HIGHER EDUCATION



Earlier this semester, an NYU professor told me how he had AI-proofed his assignments, only to have the students complain that the work was too hard. When he told them those were standard assignments, just worded so current AI would fail to answer them, they said he was interfering with their “learning styles.” A student asked for an extension, on the grounds that ChatGPT was down the day the assignment was due. Another said, about work on a problem set, “You’re asking me to go from point A to point B, why wouldn’t I use a car to get there?” And another, when asked about their largely AI-written work, replied, “Everyone is doing it.” Those are stories from a 15-minute conversation with a single professor.



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# Personal Experience

- AI-generated citations

# How to Guide Students

- Set your AI policy clearly in your syllabus
- Advise AI as a tool, not a solution.
  - Help finding prominent authors in a field
  - Help figuring out a paper topic
  - Help outlining an essay
- Remind them of the campus resources that exist to help them!

# Environmental Impact

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# Technology Uses Water?

- One Google search uses 0.5 Milliliters of water
  - <https://www.independent.co.uk/climate-change/news/half-a-milliliter-of-water-needed-per-google-search-2014825.html>
  - July 2, 2010

## Half a milliliter of water needed per Google search

Relaxnews • Friday 02 July 2010 16:18 BST • 0 Comments



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  - July 2, 2010

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Relaxnews • Friday 02 July 2010 16:18 BST • 0 Comments



- ChatGPT uses 519 milliliters of water to write one 100-word email
  - <https://www.techrepublic.com/article/generative-ai-data-center-water-use/>
  - September 20, 2024

## Sending One Email With ChatGPT is the Equivalent of Consuming One Bottle of Water

Published September 20, 2024

Written by  
**Megan Crouse**

**ChatGPT usage can draw as much water as the state of Rhode Island does in 1.5 days, say The Washington Post and the University of California, Riverside.**

ChatGPT with GPT-4 uses approximately 519 milliliters of water, slightly more than one 16.9 ounce bottle, in order to write one 100-word email, according to [original research](#) from The Washington Post and the University of California, Riverside. This extravagant resource use can [worsen](#) human-caused drought conditions, particularly in already dry climates.

# How Much Water???

## HOW MUCH **Water** DO CHATGPT PROMPTS CONSUME?

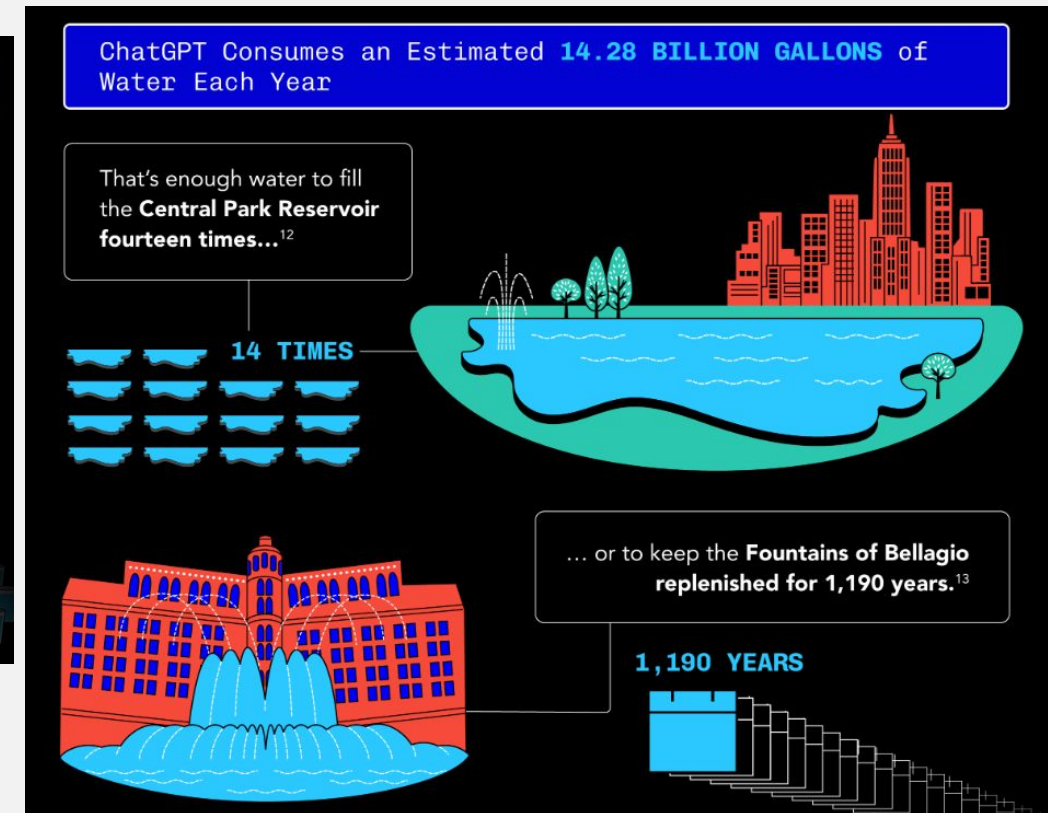
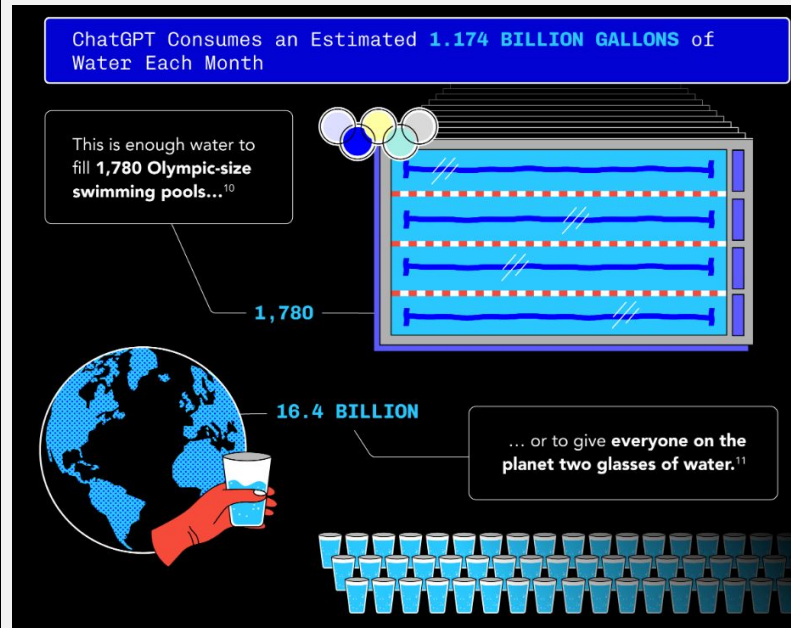
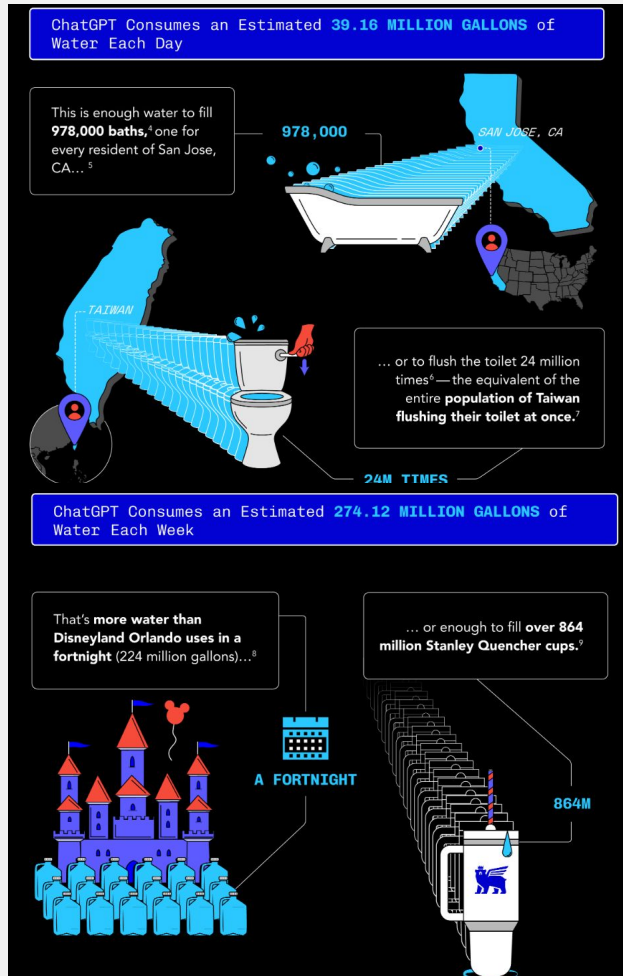
ChatGPT requires a staggering amount of computational power to operate, consuming vast amounts of energy along the way. A recent study showed that the GPT-4 model uses **519 ml of water** to generate 100 words.<sup>1, 2</sup>

So, how much water does ChatGPT use, assuming its 400 million weekly active users<sup>3</sup> prompt the chatbot five times per day?



BUSINESS  
ENERGY  
UK

# How Much Water???



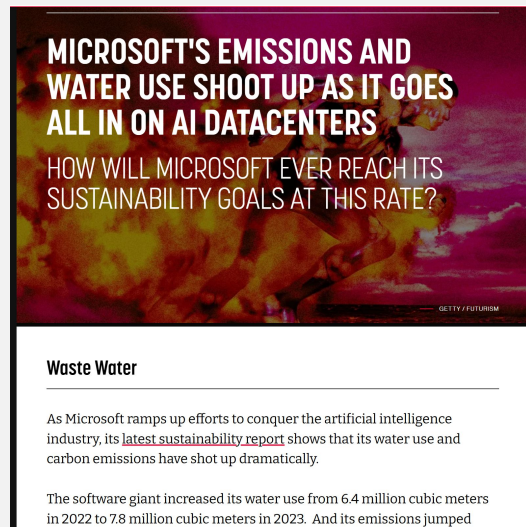


# Water Consumption by Datacenters

- Microsoft Used 1.7 billion gallons of water in 2022
- In 2023, they used over 2 billion gallons.

- <https://futurism.com/the-byte/microsoft-emissions-ai-datacenters>

- May 17, 2024



- Google used 5.6 billion gallons of water in 2022
- In 2023, they used 6.4 billion gallons.

- <https://www.datacenterdynamics.com/en/news/google-emissions-jump-48-in-five-years-due-to-ai-data-center-boom/>

- July 5, 2024

## Google emissions jump 48% in five years due to AI data center boom

Water and electricity use soar to record highs

July 05, 2024 By: Sebastian Moss [Have your say](#)



Google's greenhouse gas emissions jumped nearly 50 percent in five years, thanks in part to its artificial intelligence data center buildup.

In its [annual environmental report](#), the company said that 2023 emissions rose 13 percent compared with the previous year and 48 percent over five years, for a total of 14.3 million metric tons of total carbon dioxide.

# Microsoft Water Replacement

- Microsoft replaced 16 billion gallons (converted from cubic meters in the screenshot) of water since 2020.
- They also claim that their AI workloads will consume no water for cooling in the future.

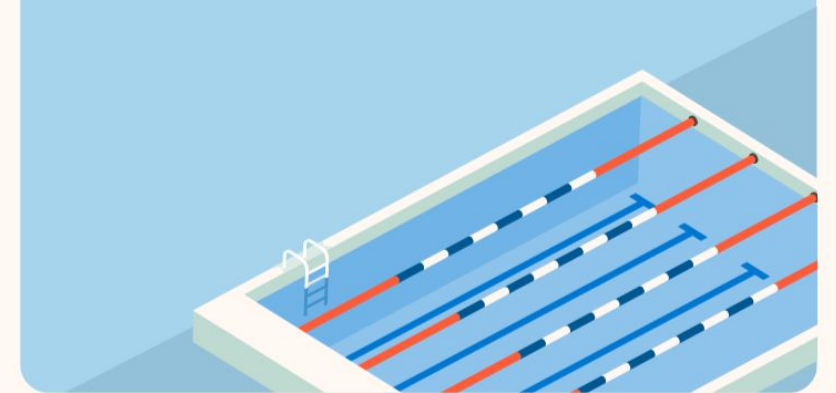
- <https://www.microsoft.com/en-us/corporate-responsibility/sustainability/report>

## Water

Total contracted water  
replenishment since 2020

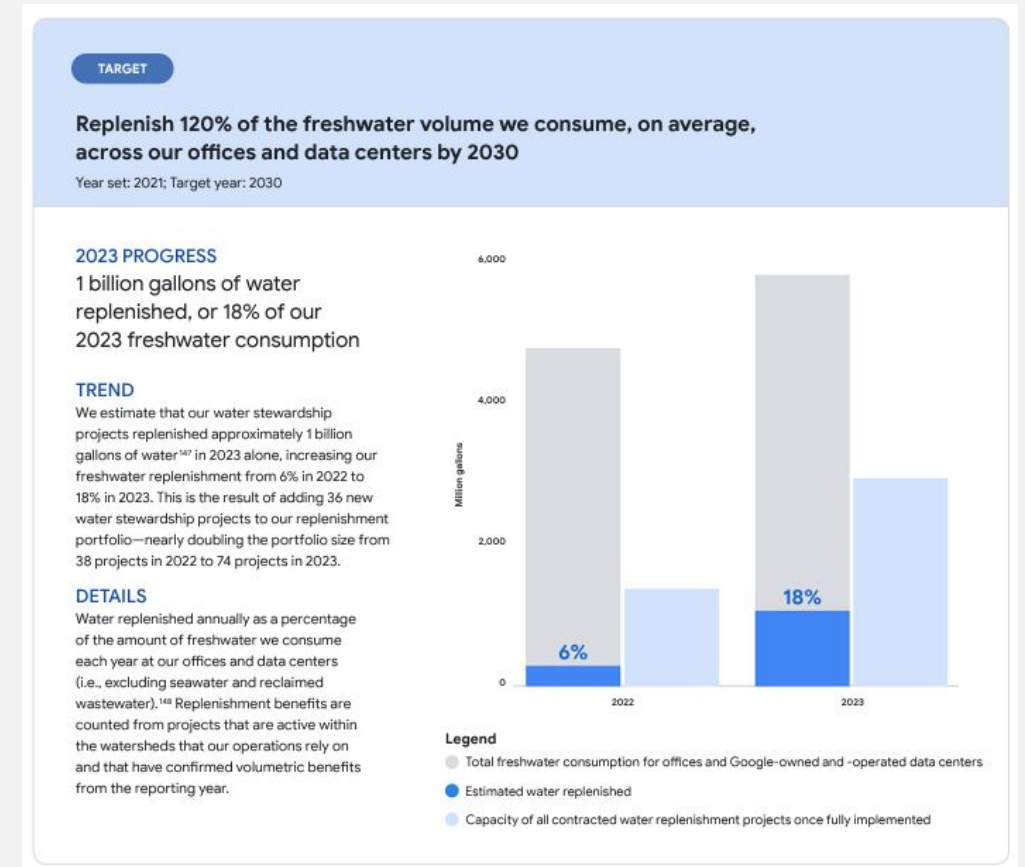
61.7 million m<sup>3</sup>

This is enough water to fill over  
24,000 Olympic sized swimming pools.



# Google Water Replacement

- Google was only able to replenish 1 billion gallon of the freshwater used.
- <https://sustainability.google/reports/google-2024-environmental-report/>



# Conclusion

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# Lasting Impacts

<https://www.engadget.com/ai/joint-studies-from-openai-and-mit-found-links-between-loneliness-and-chatgpt-use-193537421.html>

AI

## Joint studies from OpenAI and MIT found links between loneliness and ChatGPT use

Higher chatbot usage translates to higher loneliness, according to MIT.



**Ian Carlos Campbell**

Contributing Reporter

Fri, Mar 21, 2025 • 2 min read



# Recent Study

*"As the educational impact of LLM use only begins to settle with the general population, in this study we demonstrate the pressing matter of a likely decrease in learning skills based on the results of our study. The use of LLM had a measurable impact on participants, and while the benefits were initially apparent, as we demonstrated over the course of 4 months, the LLM group's participants performed worse than their counterparts in the Brain-only group at all levels: neural, linguistic, scoring."*

<https://www.media.mit.edu/publications/your-brain-on-chatgpt/>

<https://arxiv.org/pdf/2506.08872v1>

## Your Brain on ChatGPT: Accumulation of Cognitive Debt when Using an AI Assistant for Essay Writing Task<sup>△</sup>

Nataliya Kosmyna <sup>1</sup> MIT Media Lab Cambridge, MA	Eugene Hauptmann MIT Cambridge, MA	Ye Tong Yuan Wellesley College Wellesley, MA	Jessica Situ MIT Cambridge, MA
Xian-Hao Liao Mass. College of Art and Design (MassArt) Boston, MA	Ashly Vivian Beresnitzky MIT Cambridge, MA	Iris Braunstein MIT Cambridge, MA	Pattie Maes MIT Media Lab Cambridge, MA

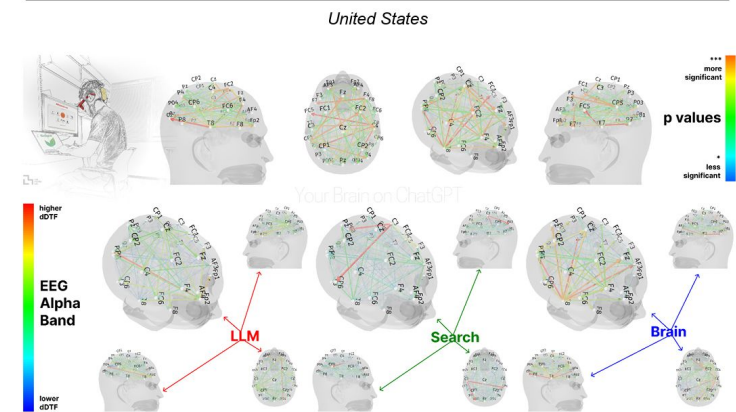


Figure 1. The dynamic Direct Transfer Function (dDTF) EEG analysis of Alpha Band for groups: LLM, Search Engine, Brain-only, including p-values to show significance from moderately significant (\*) to highly significant (\*\*\*).

# Recent Study - Media

*"This is the first pre-review paper that Kosmyna has ever released. Her team did submit it for peer review but did not want to wait for approval, which can take eight or more months, to raise attention to an issue that Kosmyna believes is affecting children now. "Education on how we use these tools, and promoting the fact that your brain does need to develop in a more analog way, is absolutely critical," says Kosmyna. "We need to have active legislation in sync and more importantly, be testing these tools before we implement them.""*

<https://time.com/7295195/ai-chatgpt-google-learning-school/>

TIME

JUN 17, 2025 3:40 PM ET

## ChatGPT May Be Eroding Critical Thinking Skills, According to a New MIT Study

TECH

ARTIFICIAL INTELLIGENCE



by Andrew R. Chow  
CORRESPONDENT



# So, What Now?

- There are so many more things to discuss
- Data collection concerns
- Impact on other fields (i.e. Art, Media)
- Continue educating yourself on AI/Gen AI topics

*"But you can't make people listen. They have to come round in their own time, wondering what happened and why the world blew up around them" - Fahrenheit 451*

# Questions?

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I can be contacted at [crabtra@sunypoly.edu](mailto:crabtra@sunypoly.edu)



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