

Generative AI and the Continuing Importance of Information Literacy

Jennifer Dean and Liz Svoboda
UM-Flint Thompson Library

Critical Issues Conference, UM-Flint
March 7, 2024



Slido

Agenda

- Data and AI Training
- Back to the Basics: Information Literacy
- Limits and Transparency
- Chatbots and Current Events
- Chatbots and Sources
- Fact Checking and Source Evaluation Activities
- Future of Searching and AI
- Questions

Data and AI training

AI requires data

- AI models are trained using vast amounts of data
- Data scraping - we won't always know what has been scraped
- Data labeling - combines human and automated efforts
- Data scientists will continue to find ways to automate training and shorten training time
- Humans built these systems - our limits, biases, and misinformation will be present in the data and in the results

Back to the basics: Information literacy

Librarians teach information literacy: the ability to find, access, evaluate, and use information, or

“[T]he set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning.”

Questions to consider, and to share with your students:

- Who created this AI tool?
- How did they train it?
- What data was used to train it?
- When was the data published?

Limits of pretrained chatbots and AI search assistants

Most chatbots are pretrained, no new training material added after release

- ChatGPT 3.5 - January 2022
- ChatGPT 4 - January 2023
- UM-GPT - depends on which model you use, GPT-4 Turbo April 2023

Some are merging chatbots and search engines

- Bing Copilot - “some point in 2021” but able to search for more recent info
- Gemini - “Google doesn't publicly disclose the specific date of my training data's last update.”

Limits of pretrained chatbots and AI search assistants

Chat-GPT, UM-GPT, Copilot, and Gemini all give disclaimer that information may not be correct

Limits of pretrained chatbots and AI search assistants

Copilot uses AI. Check for mistakes. [Terms](#) | [Privacy](#) | [FAQs](#) [Get Copilot Pro](#)

Mini all give disclaimer that information may

Message ChatGPT...

ChatGPT can make mistakes. Consider checking important information.

Enter a prompt here

Gemini may display inaccurate info, including about people, so double-check its responses. [Your privacy & Gemini Apps](#)



Ask U-M GPT Anything! (Resize Chat Box / Shift + Enter for multi-line prompts)



Regents of the University of Michigan

ITS AI Services such as UM-GPT may occasionally produce inaccurate information

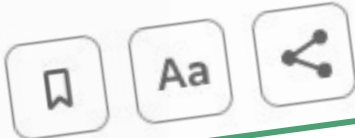
Limits of pretrained chatbots and AI search assistants

Copilot uses AI. Check for mistakes. [Terms](#) | [Privacy](#) | [FAQs](#) [Get Copilot Pro](#)

Mini all give disclaimer that information may

Message ChatGPT...

Alphabet shares dive after Google AI chatbot Bard flubs answer in ad



By **Martin Coulter** and **Greg Bensinger**

February 8, 2023 7:49 PM EST · Updated a year ago

Chat Box / Shift + Enter for multi-line prompts



Regents of the University of Michigan

ITS AI Services such as UM-GPT may occasionally produce inaccurate information

(Coulter & Bensinger, 2023; Google, n.d.-a, n.d.-b; Microsoft & OpenAI, n.d.; OpenAI, 2024; University of Michigan, n.d.)

How do they deal with current events?

Pretrained models admit they do not have access to current information.



You

Who won the 2024 superbowl?



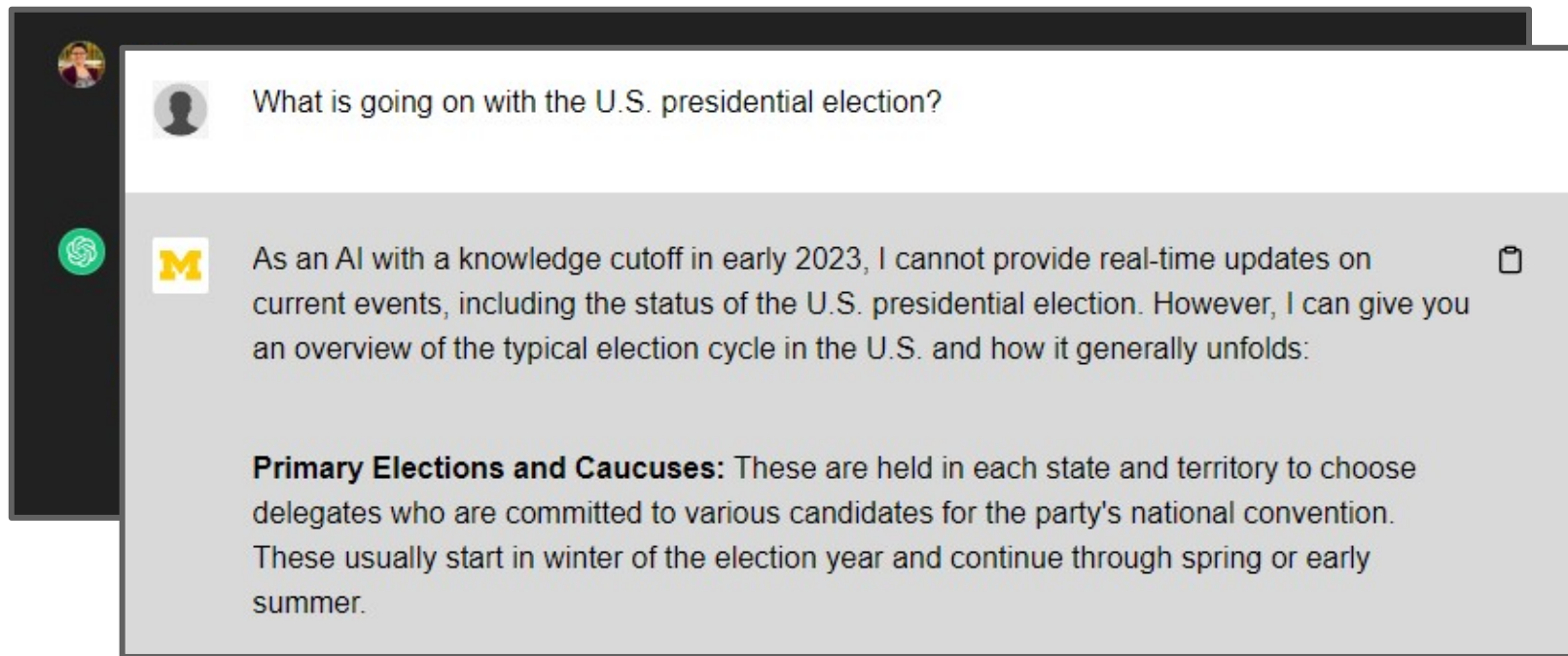
ChatGPT

As of my last update in January 2022, I don't have information on events that occurred after that date, including the winner of the 2024 Super Bowl. You can find the latest information by searching online or checking reliable sports news sources.



How do they deal with current events?

Pretrained models admit they do not have access to current information.



The screenshot shows a chat interface with a dark sidebar on the left containing a user profile icon and the OpenAI logo. The main chat area has a white background for the user's message and a light gray background for the AI's response.

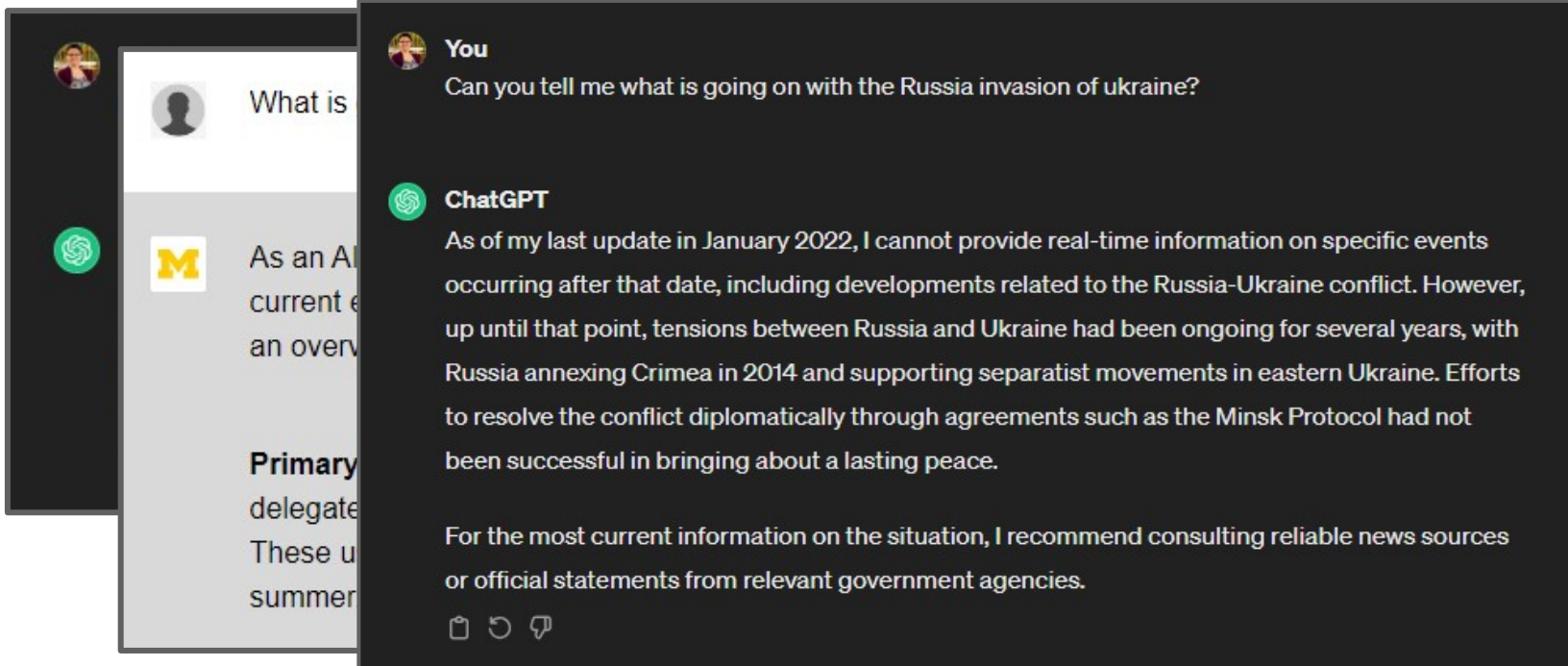
User: What is going on with the U.S. presidential election?

AI: As an AI with a knowledge cutoff in early 2023, I cannot provide real-time updates on current events, including the status of the U.S. presidential election. However, I can give you an overview of the typical election cycle in the U.S. and how it generally unfolds:

Primary Elections and Caucuses: These are held in each state and territory to choose delegates who are committed to various candidates for the party's national convention. These usually start in winter of the election year and continue through spring or early summer.

How do they deal with current events?

Pretrained models admit they do not have access to current information.



The image shows a chat interface with a dark background. On the left, a partial chat window is visible, showing a user profile picture and a question: "What is...". Below it, a response from ChatGPT is partially visible, starting with "As an AI... current e... an over...".

The main chat window shows a user profile picture and the text: "You Can you tell me what is going on with the Russia invasion of ukraine?".

Below the user's message is the ChatGPT logo and the text: "ChatGPT As of my last update in January 2022, I cannot provide real-time information on specific events occurring after that date, including developments related to the Russia-Ukraine conflict. However, up until that point, tensions between Russia and Ukraine had been ongoing for several years, with Russia annexing Crimea in 2014 and supporting separatist movements in eastern Ukraine. Efforts to resolve the conflict diplomatically through agreements such as the Minsk Protocol had not been successful in bringing about a lasting peace."

At the bottom of the ChatGPT response, there is a recommendation: "For the most current information on the situation, I recommend consulting reliable news sources or official statements from relevant government agencies."

At the bottom of the chat window, there are three icons: a copy icon, a refresh icon, and a thumbs-down icon.

How do they deal with current events?

AI assisted searching can pull more recent information, but the content of the chat can still be generic and dated, or somewhat tangential.

Let's take a look at some Copilot and Gemini examples.

How are they referring back to sources?

It's all over the place.

- Completely real source, but you should check to see how relevant it is.
- Part of the citation is real - author name, title of journal or news source.
- Complete hallucination.

Real sources can seem randomly selected.

Let's look at some examples (it gets weird).

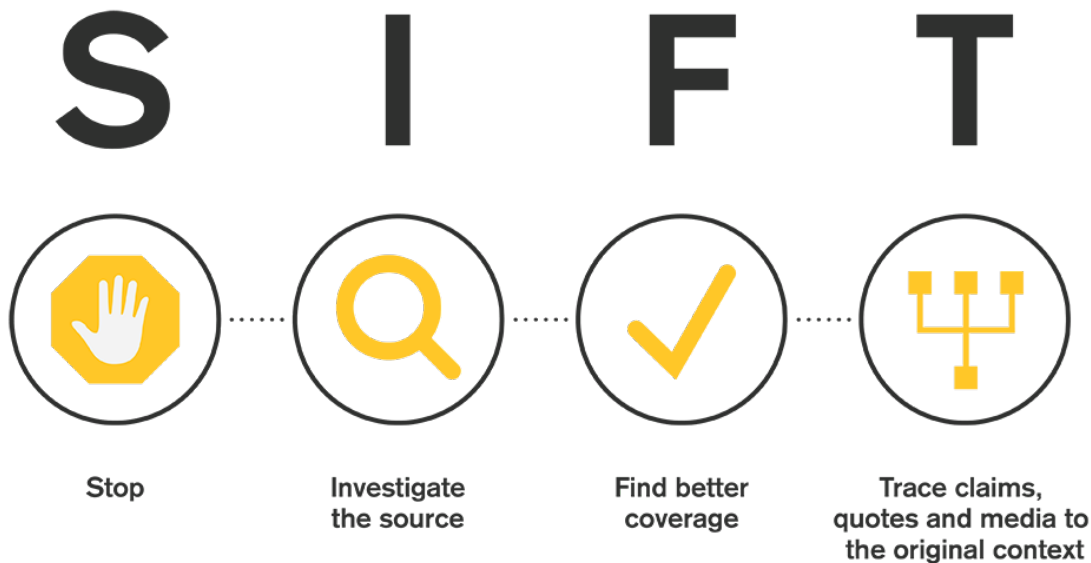
Always fact check



**More fact checking
is necessary for
unfamiliar topic.**

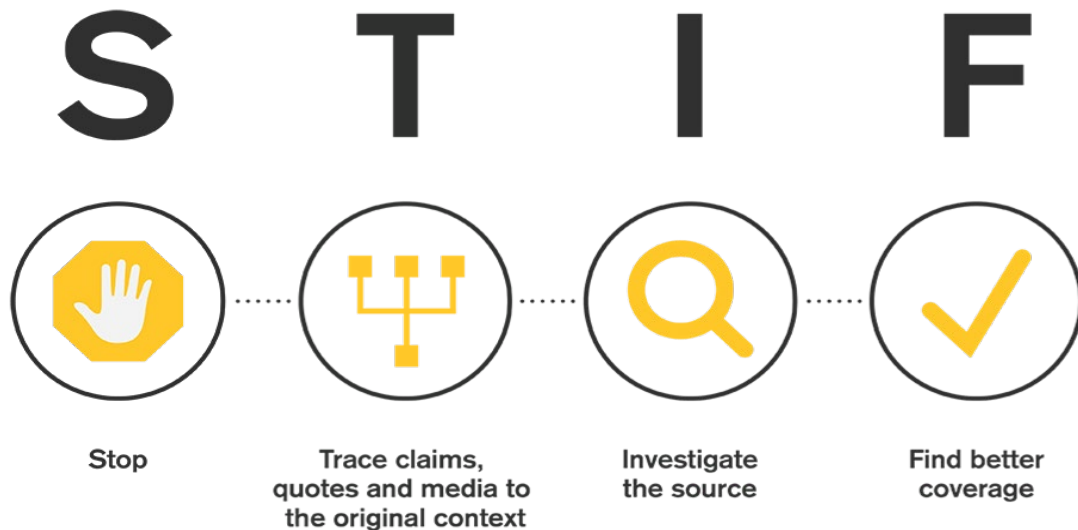
Source evaluation and fact checking

AI has added a new dimension to evaluating information, but the classic methods of evaluation are still relevant, though we will need to adjust them a bit.



Source evaluation and fact checking

AI has added a new dimension to evaluating information, but the classic methods of evaluation are still relevant, though we will need to adjust them a bit.



Investigating the source

The 5 W's

Who

What

When

Where

Why

CRAAP

Currency

Relevance

Authority

Accuracy

Purpose

SMELL

Source

Motivation

Evidence

Logic

Left out

ASPECT

Authority

Sources

Purpose

Evenness

Coverage

Timeliness

Suggested IL activities

- Discussion of how GenAI works
 - Doesn't have to be that technical, basic understanding.
- Use chatbots for brainstorming, and talk about what kind of evidence you need to support its claims.
- Evaluate AI generated content as you would non-AI sources.
 - Evaluate text for specificity. How generic is the text?
 - Are there any facts that you can trace?
- Evaluate AI generated bibliography.
 - How real are these sources?
 - Where should you go to verify them?
 - If you asked for in-text citations, do the sources match the output?

Future of literature searching and AI

More and more databases and search engines will be incorporating GenAI.

- **scite.ai** - beginning in 2019 they started “developing a deep learning platform that can evaluate the reliability of scientific claims by citation analysis.”
 - “Database of over 1.2 billion Citation Statements and metadata from over 187 million papers”
- **Scopus AI** - “synthesizes the abstracts of relevant [Scopus] documents into a clear, digestible and referenced summary within seconds.”
 - Alpha version Aug. 2023, launched Jan. 2024
- **Web of Science AI Research Assistant** - focusing on literature reviews and improved database search functions
 - Beta launched in December 2023

Questions?

Contact

- Jennifer Dean - jldean@umich.edu
- Liz Svoboda - esvoboda@umich.edu



Sources

American Library Association. (2006, July 24). Presidential Committee on Information Literacy: Final Report [Text]. *Association of College & Research Libraries (ACRL)*.

<https://www.ala.org/acrl/publications/whitepapers/presidential>

Association of College and Research Libraries. (2016). *Framework for Information Literacy for Higher Education*. American Library Association.

<https://www.ala.org/acrl/sites/ala.org.acrl/files/content/issues/infolit/framework1.pdf>

Blakeslee, S. (2004). The CRAAP Test. *LOEX Quarterly*, 31(3). <https://commons.emich.edu/loexquarterly/vol31/iss3/4>

Buckland, F. (2023, November 7). Bringing Generative AI to the Web of Science. *Clarivate*. <https://clarivate.com/blog/bringing-generative-ai-to-the-web-of-science/>

Caulfield, M. (2019, June 19). SIFT (The Four Moves). *Hapgood*. <https://hapgood.us/2019/06/19/sift-the-four-moves/>

Common Crawl (arn:aws:s3:::commoncrawl). (n.d.). [dataset]. Registry of Open Data on AWS. Retrieved March 5, 2024, from <https://registry.opendata.aws/commoncrawl>

Coulter, M., & Bensinger, G. (2023, February 9). Alphabet shares dive after Google AI chatbot Bard flubs answer in ad. *Reuters*. <https://www.reuters.com/technology/google-ai-chatbot-bard-offers-inaccurate-information-company-ad-2023-02-08/>

Elsevier. (2023, August 1). Elsevier takes Scopus to the Next Level with Generative AI. *Www.Elsevier.Com*. <https://www.elsevier.com/about/press-releases/elsevier-takes-scopus-to-the-next-level-with-generative-ai>

Elsevier. (2024, January 16). Launch of Scopus AI to Help Researchers Navigate the World of Research. *Www.Elsevier.Com*. <https://www.elsevier.com/about/press-releases/launch-of-scopus-ai-to-help-researchers-navigate-the-world-of-research>

Elsevier. (n.d.-c). *Scopus AI: Trusted content. Powered by responsible AI*. *Www.Elsevier.Com*. Retrieved March 4, 2024, from <https://www.elsevier.com/products/scopus/scopus-ai>

Google. (n.d.-a). *Double-check responses from Gemini Apps*. Gemini Apps Help. Retrieved March 4, 2024, from

https://support.google.com/gemini/answer/14143489?hl=en&ref_topic=13194540&sjid=9003614713031552103-NC

Google. (n.d.-b). *Gemini* [Computer software]. Alphabet. Retrieved March 4, 2024, from <https://gemini.google.com>

Hart-Davidson, B. (2023, February 1). *When Robots Learn to Write, What Happens to Learning?* [Keynote]. Symposium on AI in Education and Academic Writing, Michigan State University. <https://ai23.commonmsu.edu/hartdavidson-keynote/>

Sources

- McManus, J. (2013, February 7). *Don't Be Fooled: Use the SMELL Test To Separate Fact from Fiction Online*. MediaShift. <http://mediashift.org/2013/02/dont-be-fooled-use-the-smell-test-to-separate-fact-from-fiction-online038/>
- Megorskaya, O. (2022, June 27). Training Data: The Overlooked Problem Of Modern AI. *Forbes*. <https://www.forbes.com/sites/forbestechcouncil/2022/06/27/training-data-the-overlooked-problem-of-modern-ai/>
- Microsoft, & OpenAI. (n.d.). *Copilot with GPT-4* [Computer software]. Open AI. Retrieved March 4, 2024, from <https://www.bing.com/chat>
- Nagel, L. (n.d.). *Research Guides: Evaluating Information: A.S.P.E.C.T.* Retrieved March 4, 2024, from <https://clark.libguides.com/evaluating-information/aspect>
- OpenAI. (2024). *ChatGPT 3.5* [Computer software]. Open AI. <https://chat.openai.com/share/e5779110-7b87-4243-bc42-f01462a0281b>
- Scite. (n.d.). *AI for Research | Scite*. Scite.Ai. Retrieved March 4, 2024, from <https://scite.ai>
- Scite. (2019, July 22). The National Science Foundation Awards scite Competitive R&D Grant to Build Tool to Identify and.... *Scite.Ai*. <https://scite.ai/blog/the-national-science-foundation-awards-scite-competitive-r-d-grant-to-build-tool-to-identify-and-28704bcbaa00>
- Taulli, T. (2019). Data. In T. Taulli (Ed.), *Artificial Intelligence Basics: A Non-Technical Introduction* (pp. 19–38). Apress. https://doi.org/10.1007/978-1-4842-5028-0_2
- TEDx Talks (Director). (2023, December 1). *Cheating or Learning? Walking the AI tightrope in education | Erik Winerö | TEDxGöteborg*. <https://www.youtube.com/watch?v=mEtAfbFr6RE>
- University of Michigan. (n.d.). *UM-GPT, Chat-GPT 4 Turbo* [Computer software]. Retrieved March 5, 2024, from <https://umgpt.umich.edu/>
- University of Michigan. (n.d.). *U-M GPT In Depth*. U-M Information and Technology Services. Retrieved March 5, 2024, from <https://its.umich.edu/computing/ai/gpt-in-depth>