Research and Publishing Ethics in the Age of AI

Copyright, community consensus, and the spaces between

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Goals:

- Explore the current legal landscape around AI and copyright
- Understand how AI tools are/can be used in research and scholarly publishing
- Highlight ongoing conversations around ethics and developing scholarly norms to help authors make informed decisions about using AI

AI and Copyright

AI and Copyright

Copyright Basics

Copyright is a bundle of exclusive rights to a piece of intangible property

- Author is first copyright owner
- Copyright expires

AI and Copyright

Copyright Basics

Works in the public domain are not protected by intellectual property laws. The public owns these works, not an individual author or artist. Works enter into the public domain because:

- The artist decided to waive their copyright
- The artist died a long time ago and their copyright expired (in the US, more than 70 years ago)
- The works were created and published by a government entity

AI and Copyright

Copyright Basics

Licenses provide a means for copyrighted works to be distributed and reproduced without requiring the creator to give up their copyright ownership.

A License is contract that describes:

- A bundle of rights in reproduction and distribution
- Purpose of use
- Who can be users
- A fixed period of time
- Where the use can take place

AI and Copyright

AI Basics

- AI systems use algorithms to analyze large datasets, identify patterns, and use those patterns to simulate human reasoning and behavior.
    - For example, Large Language Models (LLMs) like Chat GPT predict the word that is most likely to come next in a given sequence of words.

- Many AI tools rely on training data that is pulled from the internet. In many cases the data is collected via web scraping, which extracts data and content from websites and databases published online, although datasets can also be built from content that an individual or organization owns or licenses.

AI and Copyright

Are AI-generated works copyrightable?

- Works generated by AI are not copyrightable due to the lack of human authorship. Some parts of works incorporating AI-generated elements may be copyrightable.
- Lines around copyrightability are expected to shift based on legal rulemaking and active case law.

https://copyright.gov/ai/

Images from “Zarya of the Dawn” by Kristina Kashtanova

Théâtre d’Opéra Spatial by Jason M. Allen

AI and Copyright

Training Data and Fair Use

Is it legal for someone else to put my work into an AI training model?

Do I have any recourse if I know or suspect that someone has ingested my work without my permission?

There is active debate and it is unclear whether training AI models on copyrighted material is infringing.

And it is still debatable whether using someone else's copyrighted material falls under the terms of fair use.

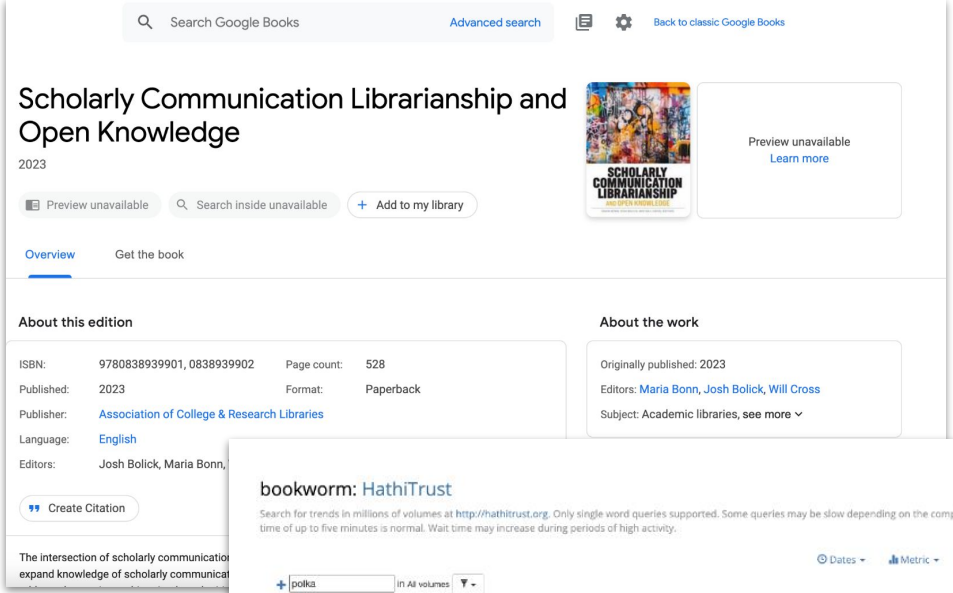
The Times Sues OpenAI and Microsoft Over A.I. Use of Copyrighted Work

Millions of articles from The New York Times were used to train chatbots that now compete with it, the lawsuit said.

Google Books

THE Authors Guild

HATHI TRUST



AI and Copyright

Fair use and Output Infringement and Liability

What if I build an AI tool and someone else creates something that is infringing? Am I liable?

What rights do I have if someone creates something using an AI that I feel is infringing on my copyright?

What if I make something that someone claims is infringing on their work using an AI?

AI and Copyright

Infringement and Output Liability

47 U.S. Code § 230 - Protection for private blocking and screening of offensive material

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"No provider of user of an interactive computer service shall be treated as the publisher or speaker of any information provided by another information content provider"

(1) The rapidly developing array of Internet and other interactive computer services available to individual Americans represent an extraordinary advance in the availability of educational and informational resources to our citizens.

(2) These services offer users a great degree of control over the information that they receive, as well as the potential for even greater control in the future as

napster™

Court Rules Napster Users Infringe on Copyrights

Share full article

By Michael Brick

Feb. 12, 2001

Napster Inc. was dealt a serious legal setback today, as a federal appeals court ruled that the millions of people who exchange music on its online service were infringing on copyrights and that the company needed to stop this infringement.

The decision could allow a lower-court judge to shut down Napster, but the appeals court temporarily continued the company's

Figure 13: Successful attempt to infringe on Snoopy using Midjourney, and Stable Diffusion

"The Snoopy Problem"

Matthew Sag, *Copyright Safety for Generative AI*, Houston Law Review, Volume 61, Issue 2 (2023).

The AI Landscape in Research and Publishing

AI Landscape in Research and Publishing

Generative AI & Publisher Policies

Generative AI tools create new content or media artifacts, such as texts, video, audio, or images.

Many academic publishers and publications have stated policies around the use of generative AI. Professional organizations like the Committee on Publishing Ethics (COPE) and the World Association of Medical Editors (WAME) have also weighed in on the use of AI in academic publishing.

Policy for book and comr content authors

ELSEVIER

This policy aims to provide greater transparency and guidance to authors, readers, reviewers, editors in relation to generative AI and AI-assisted technologies. Elsevier will monitor this development and will adjust or refine this policy when appropriate. Please note the policy only refers to the writing process, and not to the use of AI tools to analyze and draw insights from data as part of the research process.

Where authors use generative AI and AI-assisted technologies in the writing process, these technologies should only be used to improve readability and language of the work and not to replace key authoring tasks such as producing scientific, pedagogic, or medical insights, drawing scientific conclusions, or providing clinical recommendations. Applying the technology should be done with human oversight and control and all work should be reviewed and edited carefully, because AI can generate authoritative-sounding output that can be incorrect, incomplete, or biased. The authors are ultimately responsible and accountable for the contents of the work.

COPE position statement

COPE

The use of artificial intelligence (AI) tools such as ChatGPT or Large Language Models in research publications is expanding rapidly. COPE joins organisations, such as WAME and the JAMA Network among others, to state that AI tools cannot be listed as an author of a paper.

AI tools cannot meet the requirements for authorship as they cannot take responsibility for the submitted work. As non-legal entities, they cannot assert the presence or absence of conflicts of interest nor manage copyright and license agreements.

Authors who use AI tools in the writing of a manuscript, production of images or graphical elements of the paper, or in the collection and analysis of data, must be transparent in disclosing in the Materials and Methods (or similar section) of the paper how the AI tool was used and which tool was used. Authors are fully responsible for the content of their manuscript, even those parts

AI Contributions to Research Content

CAMBRIDGE UNIVERSITY PRESS

- AI use must be declared and clearly explained in publications such as research papers, just as we expect scholars to do with other software, tools and methodologies.
- AI does not meet the Cambridge requirements for authorship, given the need for accountability. AI and LLM tools may not be listed as an author on any scholarly work published by Cambridge
- Authors are accountable for the accuracy, integrity and originality of their research papers, including for any use of AI.
- Any use of AI must not breach Cambridge's plagiarism policy. Scholarly works must be the author's own, and not present others' ideas, data, words or other material without adequate citation and transparent referencing.

Artificial Intelligence Policy

Sage

Sage recognises the value of artificial intelligence (AI) and its potential to help authors in the research and writing process. Sage welcomes developments in this area to enhance opportunities for generating ideas, accelerating research discovery, synthesising, or analysing findings, polishing language, or structuring a submission.

Large language models (LLMs) or Generative AI offer opportunities for acceleration in research and its dissemination. While these opportunities can be transformative, they are unable to replicate human creative and critical thinking. Sage's policy on the use of AI technology has been developed to assist authors, reviewers and editors to make good judgements about the ethical use of such technology.

For authors

AI assistance

We recognise that AI assisted writing has become more common as the technology becomes more accessible. AI tools that make suggestions to improve or enhance your own work, such as tools to improve language, grammar or structure, are considered assistive AI tools and do not require disclosure by authors or reviewers. However, authors are responsible for ensuring their submission is accurate and meets the standards for rigorous scholarship.

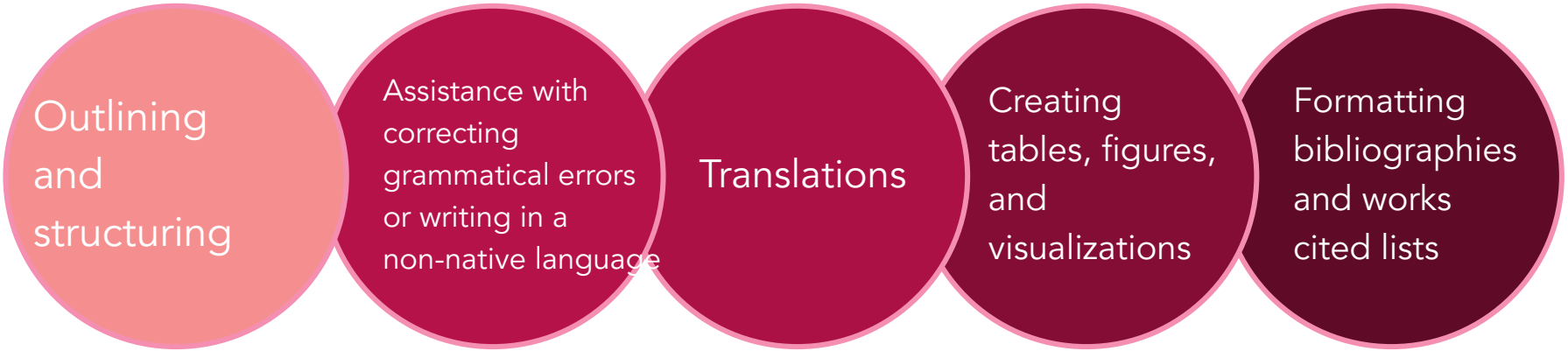
AI Landscape in Research and Publishing

Generative AI & Publisher Policies

- Stress the limitations and sometimes restrict the use of AI authorship with regard to copyright, both in written content and other forms of media.
- Highlight the importance of transparency and disclosure
- Encourage authors to carefully review any work generated or altered by AI to ensure accuracy, validity, and to guard against plagiarism
- Make distinctions between “AI assistance” and “Generative AI”

AI Landscape in Research and Publishing

Generative AI & Publisher Policies



AI Landscape in Research and Publishing

Research Tools

Concensus
Search and summarize academic papers

Research Rabbit
"Citation-based literature mapping" tool

Scite
Organize and relate citations

ChatPDF
Query a written document

Dimensions
Search research papers, analyze data, organize metrics

Elicit
Search for academic papers

ScopusAI
Search, summarize, and map content from the Scopus corpus

AI Landscape in Research and Publishing

Using AI Tools

- ❏ Can I disclose my use and do I feel comfortable doing so?

- ❏ What are the pitfalls and have I accounted for them?
  - Unknown data sources
  - “Hallucinations” and lack of trust in outputs
  - Potential for plagiarism
  - Adding my own and others’ data and/or intellectual property to the training data

AI Landscape in Research and Publishing

Generative AI & Research Integrity

ChatGPT and a New Academic Reality: Artificial Intelligence-written Research Papers and the Ethics of the Large Language Models in Scholarly Publishing," Journal of the Association for Information Science and Technology

Analysis reveals that the potential for bias in the training data and coding process of AI-driven language models such as GPT-3 poses a threat to the integrity of science. Additionally, ethical considerations include issues of copyright, citation practices, and the potential impact on the "Matthew Effect" in scholarly publishing.

The Latest "Crisis" — Is the Research Literature Overrun with ChatGPT- and LLM-generated Articles?

Articles that are written by AI are increasingly appearing in the scholarly literature in reputable scientific journals indexed in mainstream databases.

Papers and Peer Reviews With Evidence of ChatGPT Writing

Retraction Watch list of papers showing evidence that they were written by ChatGPT.

AI Landscape in Research and Publishing

Can AI tools help us to improve research integrity?

[AI Beats Human Sleuth in Finding Problematic Images in Research Papers]

An algorithm that takes just seconds to scan a paper for duplicated images racks up more suspicious images than a person.

[Human Writer or AI? Scholars Build a Detection Tool]

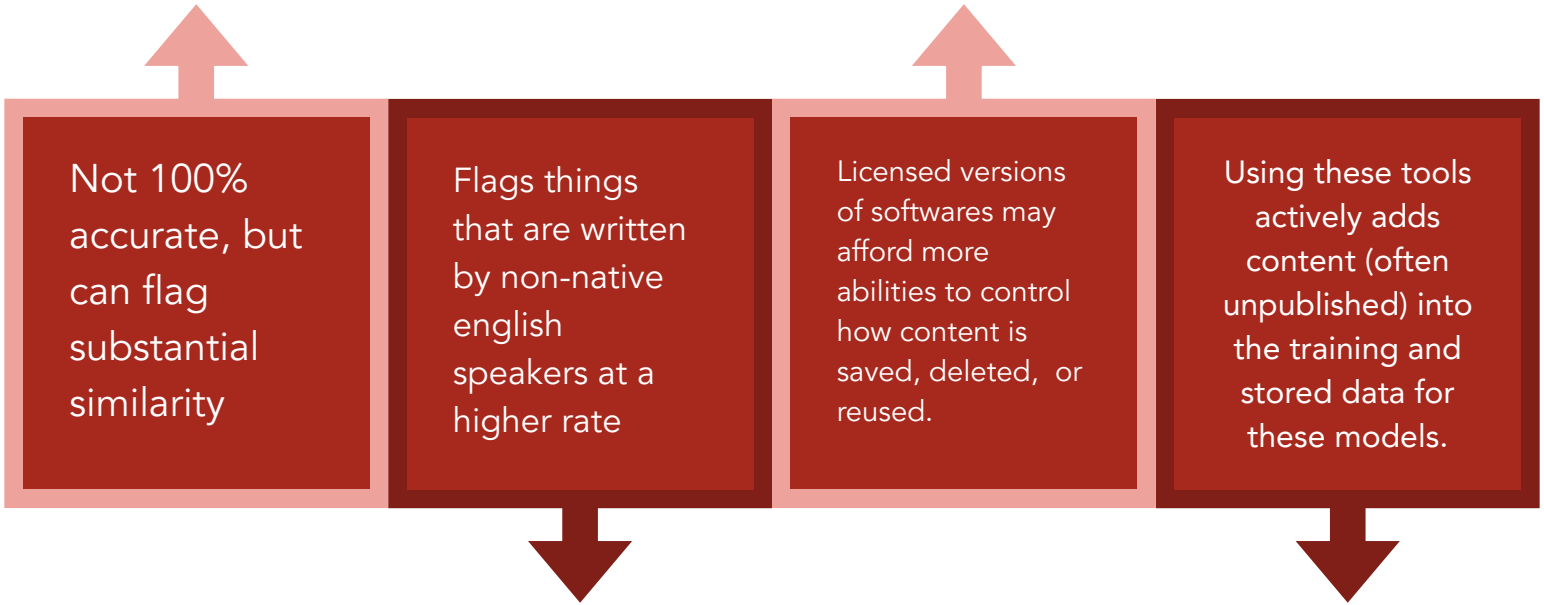
A Stanford graduate student has created a tool called DetectGPT that can determine with up to 95% accuracy whether a large language model wrote that essay or social media post.

[Can ChatGPT Correctly Identify Predatory Biomedical and Dental Journals? A Cross-Sectional Content Analysis]

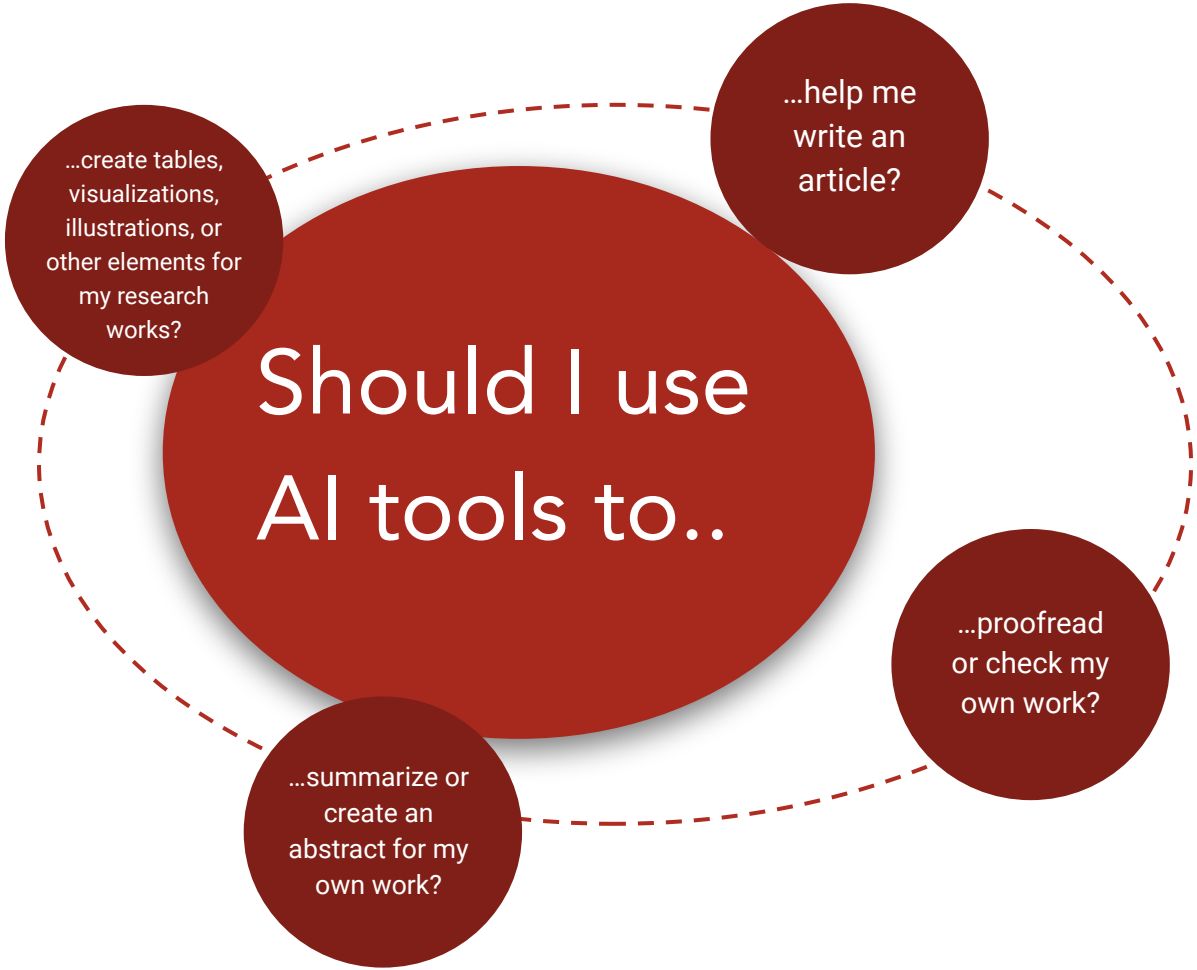
ChatGPT can accurately distinguish predatory and legitimate journals with a high level of accuracy. While some false positive (29 %) and false negative (7.5 %) results were observed, it may be reasonable to harness ChatGPT to assist with the identification of predatory journals.

AI Landscape in Research and Publishing

Using AI-Powered Research Integrity Tools



Ethical Considerations


Should I use AI tools to..
...help me write an article?
...proofread or check my own work?
...summarize or create an abstract for my own work?
...create tables, visualizations, illustrations, or other elements for my research works?

Ethical Considerations

Should I use AI tools?

- Would you feel comfortable disclosing the tool and the manner in which it was employed?

- Is there another tool or service that the AI replacing?
  - Would you hire a copyeditor or designer to do this work or take it to a service provider on your campus?
  - Is this allowing you to contribute something new and valuable to your work - such as providing a transcript or other accessibility element?

Ethical Considerations

Using AI-generated outputs

- How much can outputs be trusted? Can you trace where the information came from?
  - If citations are provided, are those accurate? Can you check them to verify?
  - If you're using a research tool, what quality of databases is it pulling from?
- Are you accounting for bias and inaccuracy?

Ethical Considerations

Should I put my own or others' work into AI tools?

- Did you read the user agreement before signing up or utilizing the tool? Do you trust the tools are you using and are you comfortable putting your work into them?
- Assume what you put in is being used to train the machine learning model unless you are explicitly told it is not
- Make your own decisions with your creative and scholarly work but use extra caution and deference with others' intellectual property

Ethical Considerations

Should I put my own or others' work into AI tools?

- ❏ Could you create a dataset using public domain or openly licensed materials?
- ❏ Could you seek permission or license content?

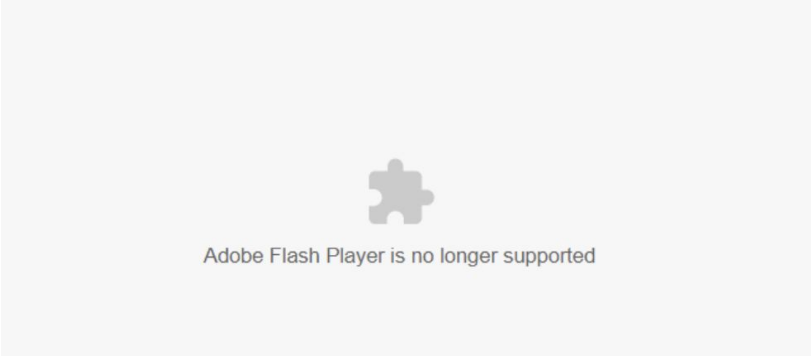
Do not share human subject data or student-identifiable info (even informal data)

Ethical Considerations

Proprietary technologies and sustainability

Using any proprietary tool or platform carries a risk for losing access to that process or methodology. It may not be possible to export your work and exports may not be interoperable with other tools or systems.

- Is your research method sustainable if you are utilizing a tool with uncertain longevity?

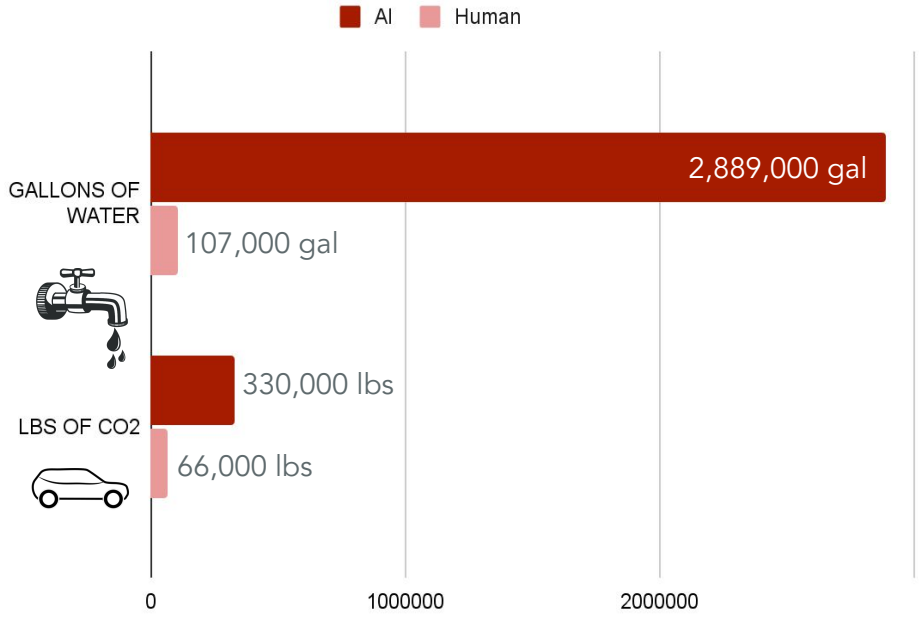


Ethical Considerations

Labor and Environmental Concerns

Labor practices: Data labelling, transcription, and other human-performed tasks are generally outsourced and performed for low wages

Environmental impacts: Training a single AI model can use as much water as an average person uses over 27 years. Training and running AI models can produce carbon dioxide emissions that are more than 5x the amount a car emits over its lifetime.



Ethical Considerations

Disclosures

Intellectual Property Ownership: Generative AI must be to disclosed in order to register copyright for eligible elements of your work.

Funders: Funder requirements are still developing and very individualized at this point. However, it may put you in a difficult position if you utilized tools that were not scoped in the description of your work, including both the research and publication associated with the grant-funded work.

Research Community: It is important to disclose the use of AI, and the methods and extent of your use in order to enhance reproducibility and continue to foster trust among researchers and research users.

Ethical Considerations

Disclosures

Human Subjects: Your institution may have a stated policy from IRB or another body regarding the use or disclosure of AI. Due to the nature of AI training models and the unpredictability of their outputs, AI should always be disclosed to research subjects.

This is also a question for our campuses regarding the use of human subject data in unregulated tools using AI technologies.

Students: You should disclose to your students when and how you're using AI on their work and your classes.

White House Blueprint for an AI Bill of Rights