



# Generative Artificial Intelligence (GenAI) in scientific writing and scholarly publishing

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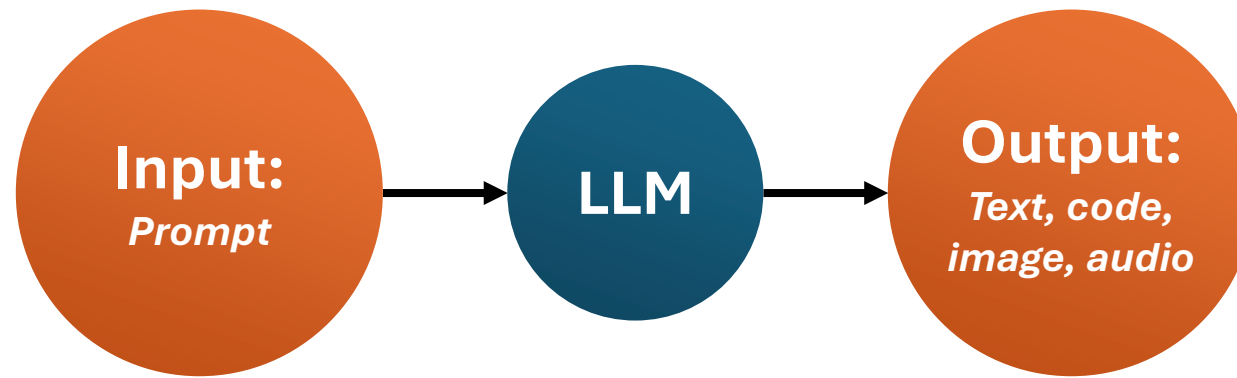
**University of the Western Cape**

**March 11, 2024**



# What is Generative AI?

- GenAI is an umbrella term for **learning algorithms** that can **produce new content** based on a prompt.
- The result is often indistinguishable from human text, but can be incorrect, incomplete or biased. Applying this technology should therefore always be done with **human oversight and control**.
- We see that researchers **increasingly use GenAI** and explore its opportunities.
- When used responsibly, GenAI has many **potential benefits**. However, the technology also raises questions and **concerns**.
- In response to the rise of GenAI, publishers, institutes and STM organizations have introduced **GenAI ethics policies and guidelines** to establish a framework for **responsible use** in scientific publishing.



Choosing **the right model for a task** and feeding the model a **good prompt** will increase the quality of the output. A good prompt provides a role/identity, context, query/task, output format and, if possible, an example. In addition, it's important to set the **temperature of the model**, which controls how creative or deterministic the output will be.

# Key concerns related to the use of Generative AI in scientific writing and publishing



## Inaccurate information and unreliable sources

Generative AI tools may generate incorrect or made-up information such as citing non-existent references, making up authors, or suggesting non-existing reviewers. They may give incomplete or misleading responses and spread misinformation.



## Ethical concerns and biases

The models often lack transparency. A GenAI tool may be based on biased training data and potentially infringe ethical standards including plagiarism, using copyrighted information without consent or proper attribution, or violating confidentiality and/or data privacy rights.



## Environmental impact

Training and running an AI system, as well as using the applications they're built for, requires a great deal of computing power and electricity, resulting in carbon dioxide emissions that affect the climate.



## Lack of up-to-date information

When a GenAI tool is used of which the dataset is outdated it does not provide current news or information. The recommendations the tool provides are only as current as the knowledge cut-off date.



## Homogenization of content

By optimizing for efficiency, GenAI systems can potentially lead to content becoming increasingly uniform and repetitive.



## Not trained with scientific data

A limitation of recent consumer-focused GenAI tools such as ChatGPT is that they are not trained with scientific data.

Of course, there are also LLMs specifically designed for scientists, including many domain-specific models. Researchers have been using them for years. We expect that this trend will continue to grow.

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## GALACTICA by Meta

One of the most powerful scientific LMs was released by Meta several days before chatGPT. The demo was quickly criticized on Twitter and Meta had to shut down the demo.

GALACTICA A paper that shows vaccinations cause autism [START\_REF]

Generated document for query "A paper that shows vaccinations cause autism [START\_REF]"

A paper that shows vaccinations cause autism (Wakefield et al., 1998) was retracted in 2010 after it was found that the author had fabricated data × not verified

### References

1. Wakefield, A., Murch, S., Anthony, A., Linnell, J., Casson, D., Malik, M., Berelowitz, M., Dhillon, A., Thomson, M., Harvey, P., Valentine, A., Davies, S., & Walker-Smith, J. (1998). RETRACTED: Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children. *The Lancet*, 351(9103), 637-641. [https://doi.org/10.1016/s0140-6736\(97\)11096-0](https://doi.org/10.1016/s0140-6736(97)11096-0)

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# Key concerns related to the use of Generative AI in scientific writing and publishing

The New York Times



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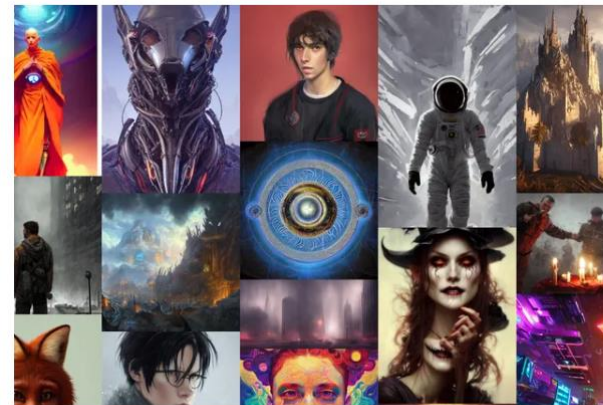
## The Times Sues OpenAI and Microsoft Over A.I. Use of Copyrighted Work

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

[link](#)

ARTIFICIAL INTELLIGENCE / TECH / CREATORS

## AI art tools Stable Diffusion and Midjourney targeted with copyright lawsuit



/ The suit claims generative AI art tools violate copyright law by scraping artists' work from the web without their consent.

[link](#)

By [James Vincent](#), a senior reporter who has covered AI, robotics, and more for eight years at The Verge.

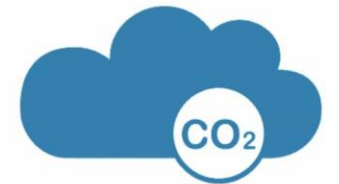
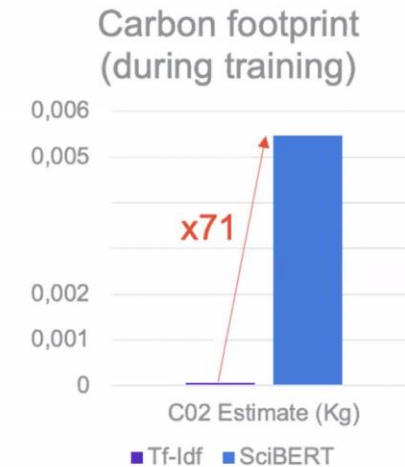
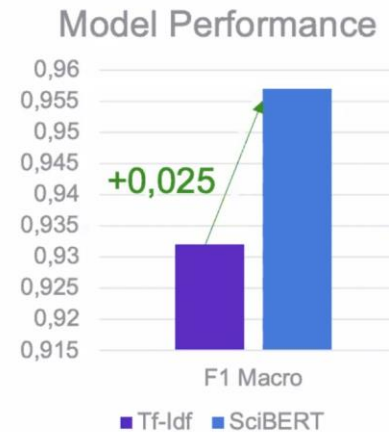
Jan 16, 2023, 12:28 PM GMT+1

A collage of AI-generated images created using Stable Diffusion. Image: [The Verge via Lexica](#)

[link](#) [f](#) [t](#) | 27 Comments (27 New)

# Key concerns related to the use of Generative AI in scientific writing and publishing

## Carbon Footprint Estimate for the Example Project



### Environmental impact

Training and running an AI system, as well as using the applications they're built for, requires a great deal of computing power and electricity, resulting in carbon dioxide emissions that affect the climate.

On the other hand, multiple prospects exist to leverage AI and machine learning in optimizing data centers demand management, power delivery, and cooling infrastructure. While data centers consume 3-5% of global electricity.

[link](#)

# Key concerns related to the use of Generative AI in scientific writing and publishing



You

What happened on February 24, 2022?



ChatGPT

As of my last update in January 2022, I don't have access to events that occurred after that date, including February 24, 2022. Therefore, I'm unable to provide specific information about what happened on that date. If you're looking for information about a particular event or news story from February 24, 2022, I recommend checking a reliable news source or conducting an online search for the latest updates.



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## Homogenization of content

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## THE CURSE OF RECURSION: TRAINING ON GENERATED DATA MAKES MODELS FORGET

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University of Oxford

**Zakhar Shumaylov\***  
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Imperial College London

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University of Oxford

**Nicolas Papernot**  
University of Toronto & Vector Institute

**Ross Anderson**  
University of Cambridge & University of Edinburgh

[link](#)

## Deduplicating Training Data Makes Language Models Better

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**Daphne Ippolito\*†‡**

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**Chiyuan Zhang†**

**Douglas Eck†**

**Chris Callison-Burch‡**

**Nicholas Carlini†**

[link](#)

# Potential Benefits related to the use of (Generative) AI in scientific writing and publishing when used responsibly and with human oversight

## New benefits that arise with application of GenAI



### Save time and effort

New ways of discovering information, including improved search and quicker information retrieval. Can help to summarize and simplify large amounts of content.



### Improve language and translate text

GenAI tools can help authors improve the language, tone and style of a research paper and can be used for translation. This could enhance equity in publishing for EAL (English as Additional Language)- authors.



### Identify novel research topics

Help explore new research ideas and different lines of inquiry.



### Promote research

GenAI can create promotional copy or layperson's summaries.



### Support education

GenAI can help with education (chatbots, question banks or quizzes)

## Enabled by traditional AI, potentially enhanced by GenAI



### Make science more accessible

Improved accessibility, for instance through the creation of translations in less known languages, or audio descriptions for the visually impaired.



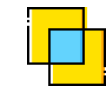
### Assist with manuscript checking and screening

AI can assist in the screening process (for completeness, research integrity, references, format etc.) before the paper goes to editor or reviewer.



### Recommend reviewers

Recommending peer reviewers based on keywords and other metadata is a common use of AI in journal publishing.



### Match manuscript to a journal

Suggest relevant journals based on the scope of a manuscript.



### Design more user-friendly workflows

Support user-friendly and time-saving workflows (text mining, information extraction, process automation, question-answering etc.)

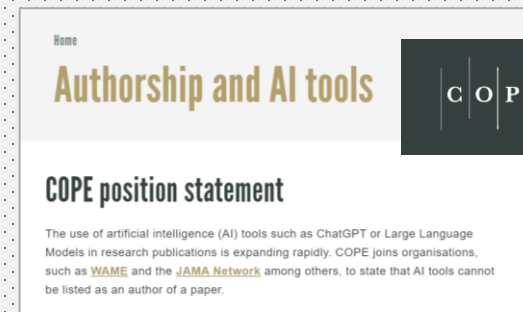


# How is the scholarly communication community responding to the rise of GenAI?

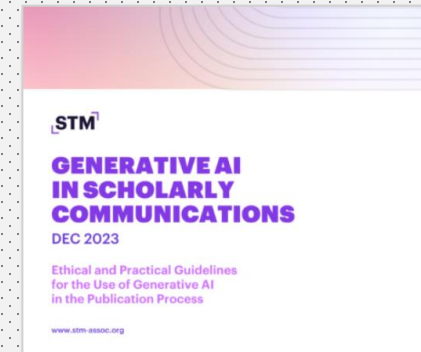
- Many universities, STM organizations, publishing ethics organizations such as COPE, learned societies and publishers have **created policies for researchers on responsible use** of (Generative) AI. We are **collaborating** to form **uniform** and **understandable guidelines** and are providing more context through **author webinars, online panels, and other events**.
- Some publishers do not allow the use of Gen AI under any condition, but most do allow authors to use the technology for a **defined purpose** (language and readability), if **properly disclosed**.
- **Policies** are likely to be **refined** and **adapted** as the **technology develops**, and in **response to community** feedback as well as in response to **evolving legislation**.

***We are establishing a framework for ethical and responsible employment of GenAI through policies and guidance***

## Elsevier GenAI Ethics Policies



## COPE Position statement on Authorship and AI Tools



## STM Whitepaper on GenAI in scholarly communications

# What is the status of legislation efforts on AI?

*Last updated February 2024*



## China

- The Chinese government issued **AI regulations** in August 2023 that require platform providers to register their services and undergo privacy, copyright and security reviews.
- China will mandate labels on synthetically created content, including photos and videos and will require any company introducing an AI model to disclose the training data to regulators as needed.



## European Union

- In December 2023, Parliament reached a provisional agreement with the Council on the **EU AI Act**, with a focus on safety, transparency and traceability. The agreed text will now have to be formally adopted by both Parliament and Council to become EU law.
- AI should be non-discriminatory, overseen by people, and there should be a uniform definition of the main concepts.
- AI systems will be divided in different risk levels for which different rules apply. Some uses of AI are considered unacceptable risk and will be prohibited.



## United States

- In the US, federal lawmakers have proposed a wide range of AI regulations, but they are still in the early stages.
- President Biden issued an **Executive Order on AI** and there is a Blueprint for an AI Bill of Rights which is meant to assist local governments and the private sector with a set of recommended principles and moving them into practice.
- The principles discuss: safe and effective systems, algorithmic discrimination protections, data privacy, notice and explanation, and human alternatives, consideration and fallback.

# Elsevier's policies for authors, editors and reviewers on Generative AI



## Authors

- Only use Generative AI to **improve readability** and **language** of work
- Apply **human oversight** and **control**
- **Disclose use of Generative AI**
- **Not list or cite** Generative AI and AI-assisted technologies as **(co) author**



## Editors and reviewers

- **Not upload the manuscript** into an AI tool- this may violate confidentiality and author's rights
- **Not upload peer review report or editorial decision letters** – they may contain confidential information as well
- Generative AI should **not be used to assist in the review, evaluation or decision-making process**



## Figures, images, artwork

- Don't use Generative AI to **create or alter images** in submitted manuscripts
- **Exception:** Where the use of Generative AI or AI-assisted tools is **part of the research design** or **research methods**
- The use of generative AI or AI-assisted tools in the **production of artwork is not permitted** (but may in exceptional cases be allowed for cover art)



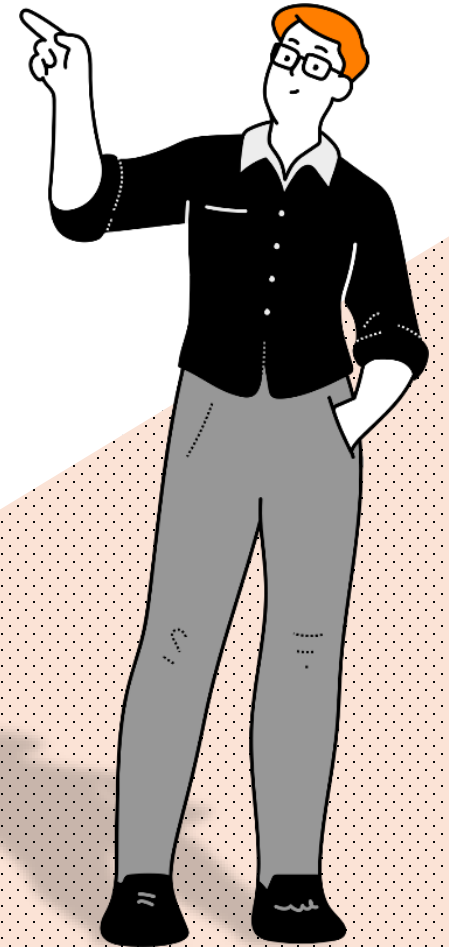
**Policies are published on Elsevier's Publishing Ethics page:**

- <https://www.elsevier.com/about/policies/publishing-ethics>
- Further guidance can be found in the [Elsevier Responsible AI Principles](#)

## *Elsevier's* Responsible AI Principles

1. We consider the **real-world impact** of our solutions on **people**
2. We take action to **prevent** the creation or reinforcement of **unfair bias**
3. We can **explain** how our solutions **work**
4. We create **accountability** through **human oversight**
5. We **respect privacy** and champion **robust data governance**

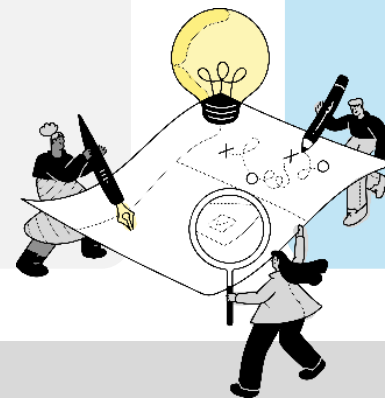
For more than a decade, *Elsevier* has been using AI and machine learning technologies responsibly in our services and products to help researchers discover and apply trusted knowledge: See our [Elsevier Responsible AI Principles](#)



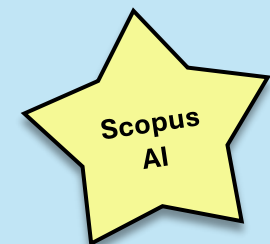
# How is *Elsevier* using AI to assist in the editorial process?

## *Elsevier is already using AI driven functionalities*

- **Reviewer recommendations for editors** based on keywords and other metadata
- Authors are supported with **finding a suitable journal** to submit to, both pre-submission (Journal Finder) and after desk reject (Transfer Your Manuscript)
- Automated **technical checks** on a paper (missing items, usability, etc.) and gives feedback to the author during the editorial process
- **AI-based anti-plagiarism service** which checks the percentage of overlap in a paper and presents the results back to the editor for human evaluation



***New Gen AI capabilities  
inspire and enable us to  
experiment with innovative  
functionalities***



# The Generative LLM lifecycle

## Pre-trained Language Models

Example models: GPT-4, Claude 3, BLOOM, GPT-NeoX, Llama2, Falcon, Mistral

Key vendors: Open AI/MS, Google, Meta, Mistral, Amazon, G

Key trends: Socratic pre-training, Task specific pretraining objectives

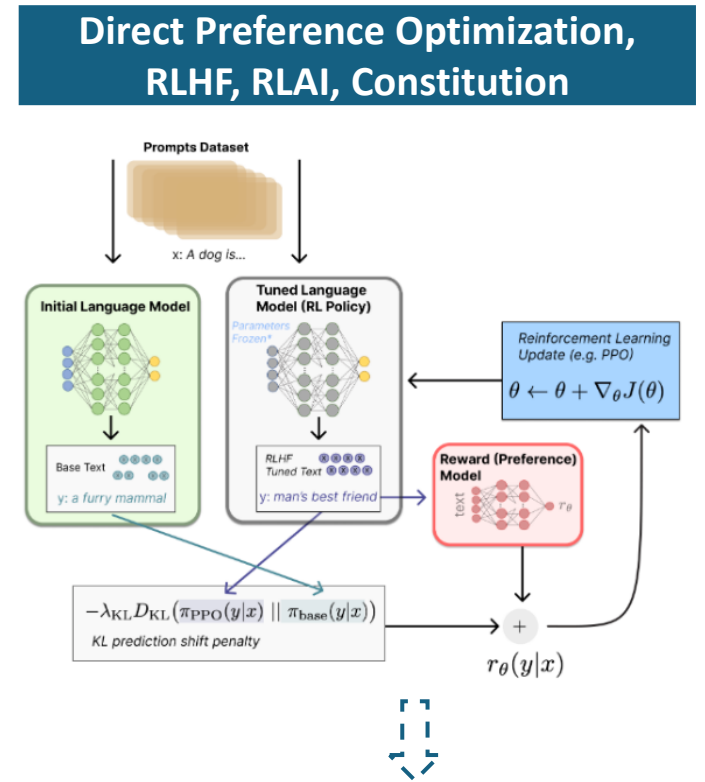


## Fine-tuned Language Models

Example models: ChatGPT, Vicuna, Alpaca, Dolly, Claude, Koala, BioGPT

Key vendors: Open AI/MS, Anthropic, Databricks, Universities & Research Centers, In-house

Key trends: Augmented Language Models, PEFT, LORA, Sparse Fine Tuning



Applications: Generic Zero-shot applications with appropriate prompt engineering, e.g. summarization, labeling, open Q&A

Gaps (Opportunities): Constitution and Validation, Data/High Quality Content for pre-training, Certification/Compliance/RAI

Applications: Task-specific applications, e.g., entity extraction and enrichments, domain Q&A, classifications

Gaps (Opportunities): Training Data Sets, RLHP, Certification/Compliance/RAI

Applications: Public facing conversational / interactive applications; domain specific

Gaps (Opportunities): Policy review and compliance / RAI

# Where can Generative AI be used to help Researchers; A researcher's perspective

## Literature Review and Summarization

Provide (early career) researchers with an overview of a scientific topic, or question.

## Ask the Right Questions

Aid researchers identifying quickly the right questions to ask; inform researchers on potential questions that can already be answered by the literature.

## Experimental Design

Summarize methodologies and protocols by which a particular experiment has been conducted; identify benchmark data sets.

## Assistance in understanding data analysis results

Offer evidence from the literature that can support potential correlations between the results of a data analysis and a hypothesis

## Improving the presentation and the language of draft research articles and grant proposals

Assist the researchers with advanced editing capabilities to improve the language of research artefacts, e.g., draft papers, reports, grant proposals

## Find the right calls for grant proposals

Identify potential funding opportunities and calls for grant proposals that match the scope of the research to be conducted

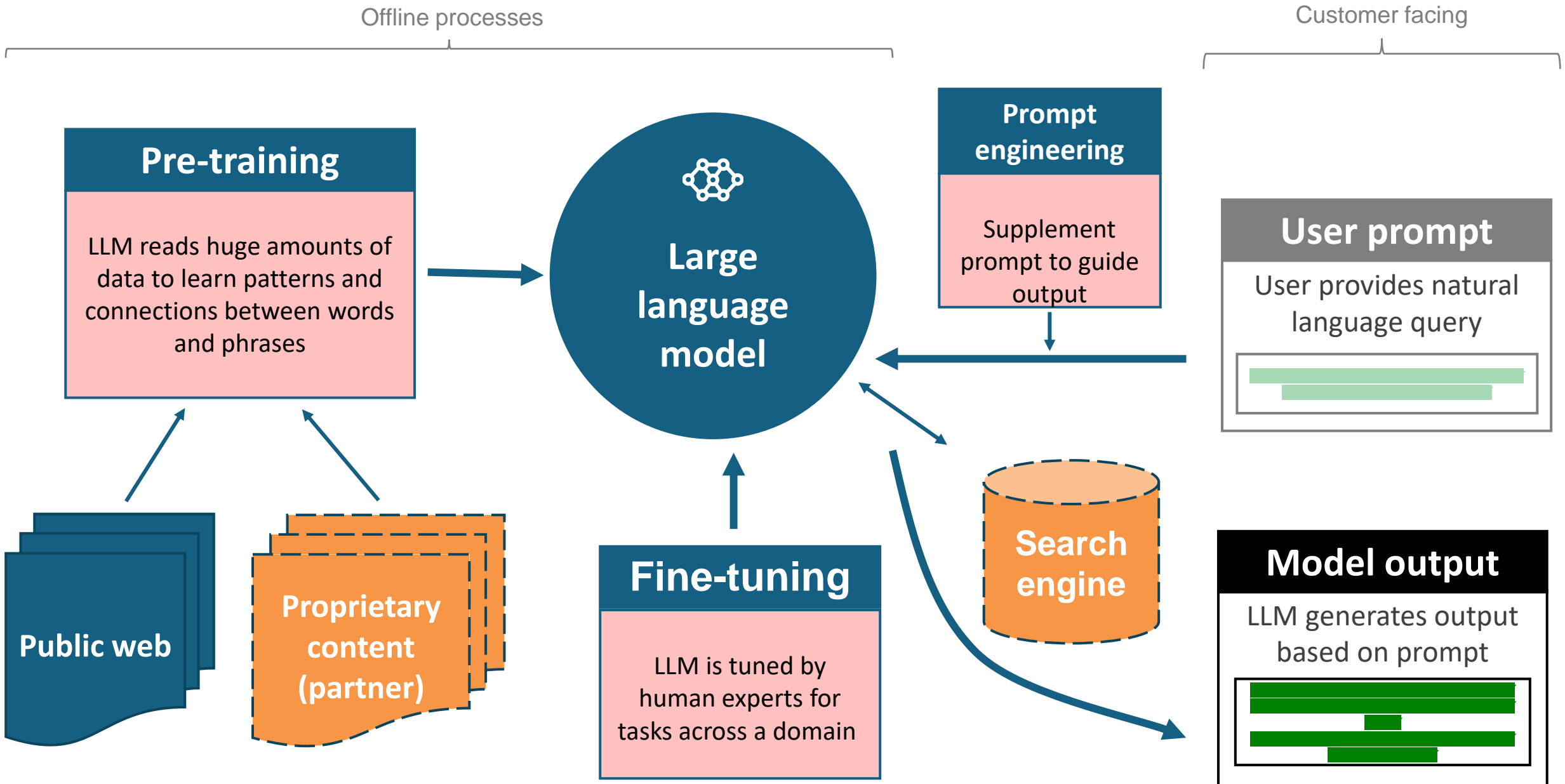
## Find collaborators

Find appropriate research collaborators based on research interests and topics of expertise

## Ethics and Regulatory Guidance

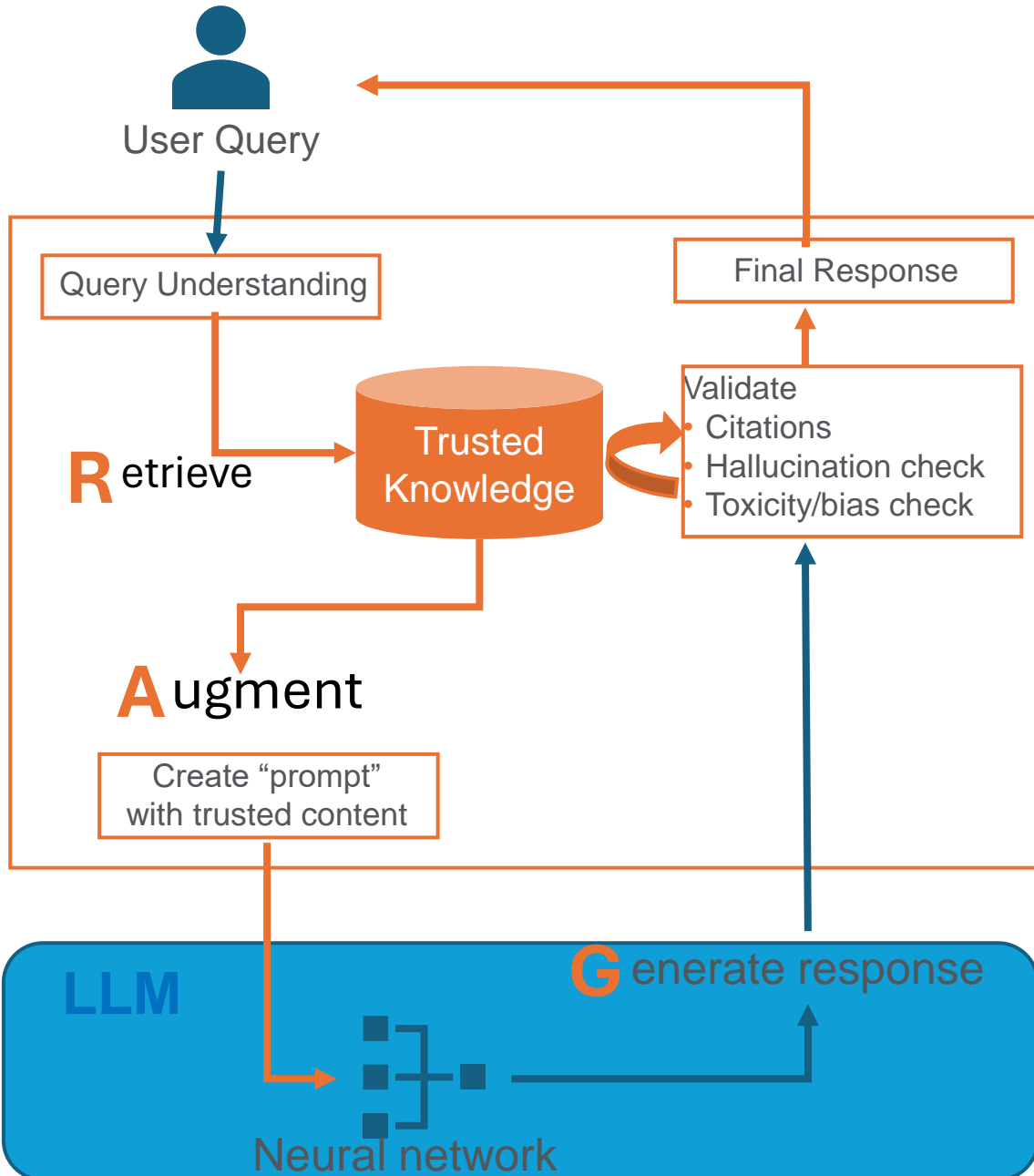
Preliminary assessment of ethical and regulatory considerations for a research topic, e.g., compatibility and requirements from the current regulatory space

# Retrieval Augmented Generation (RAG) for scientific research applications





# Retrieval Augmented Generation (RAG): paradigm for trusted GenAI



## Elsevier system (**R**etrieve & **A**ugment)

- Understand and interpret the query
- Retrieve trusted knowledge from Elsevier databases, curated with human oversight
- Create the prompt combining the query & trusted knowledge

## LLM (**G**enerate)

- Uses only Elsevier-provided knowledge
- Generates the response in human-friendly conversational format

## Elsevier system (**V**alidate & **C**ite)

- Validates the generated response
- Checks for hallucinations, bias, etc.
- Adds citations to primary sources

# Putting AI at work: Novel ways of Searching and Discovering Scientific Information



## Elsevier's new generative AI tool provides users with concise, trustworthy AI-based summaries of their queries

- 1 Enter a natural-language query to begin
- 2 Review the generated summary of the results with Scopus references providing additional transparency and trust
- 3 View the graphical representation to see connections between keywords
- 4 Go deeper into related queries to discover new perspectives

[Release](#)

[DEMO](#)

Learn with AI-generated overviews based on documents since 2018 How it works

What would you like to learn more about?  
How does seismology inform civil engineering designs?

1

↳ **How does seismology inform civil engineering designs?**

Seismology plays a crucial role in informing civil engineering designs in several ways:

1. **Assessing seismic hazards:** Seismology helps civil engineers understand the potential earthquake risks in a given area, allowing them to design structures that can withstand the expected ground shaking . 1 By analyzing historical seismic data and conducting site-specific studies, engineers can determine the appropriate design parameters for structures . 2
2. **Site characterization:** Seismology provides valuable information about the geological and geotechnical properties of a site, such as soil types, rock layers, and groundwater conditions . 2 This information is essential for designing foundations and evaluating the stability of slopes and embankments . 3
3. **Dynamic analysis:** Seismology helps engineers analyze the dynamic response of structures to earthquake ground motions. By simulating seismic events and studying the behavior of different structural systems, engineers can optimize designs to ensure the safety and performance of buildings and infrastructure . 2

In conclusion, seismology informs civil engineering designs by assessing seismic hazards, providing site characterization data, and enabling dynamic analysis of structures. This interdisciplinary collaboration between seismologists and civil engineers ensures the resilience and safety of infrastructure in earthquake-prone regions . 1 2

Show references

3

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graph LR; A[Seismology in Civil Engineering Designs] --- B[Material Selection]; A --- C[Foundation Design]; A --- D[Structural Design]; B --- E[Innovative Materials]; B --- F[Seismic Retrofitting]; C --- G[Seismic Hazard Assessment]; C --- H[Soil Investigation]; D --- I[Seismic Design Codes]; D --- J[Dynamic Analysis];
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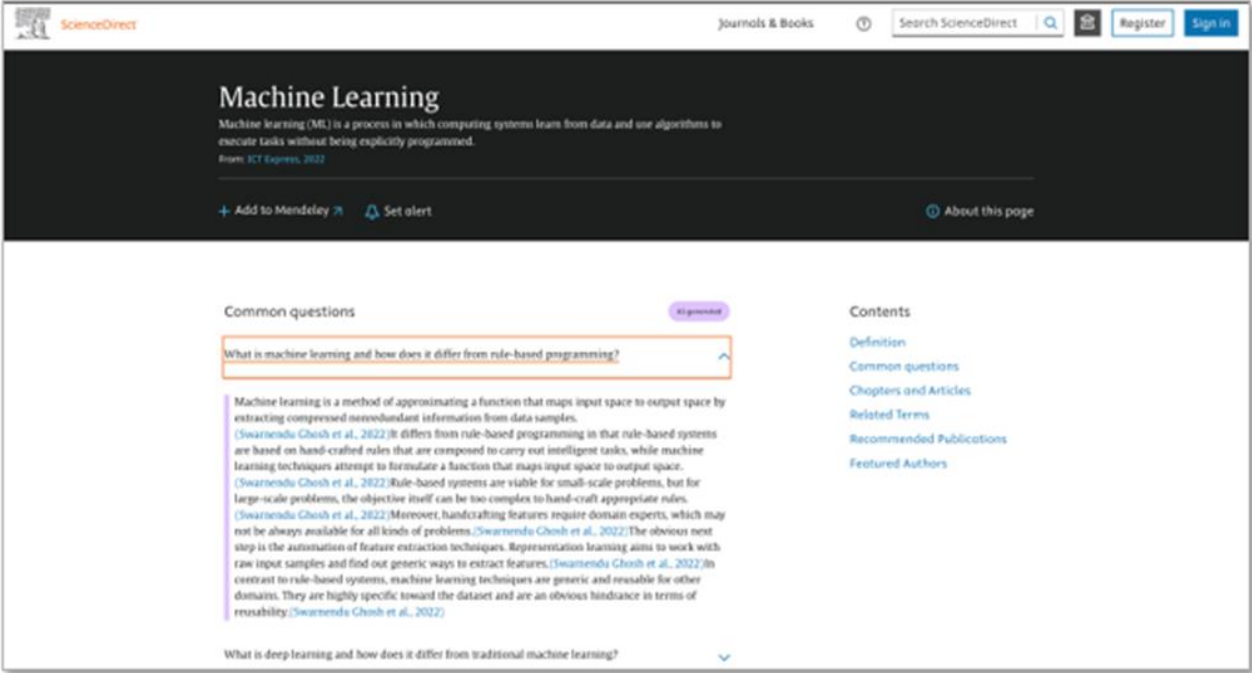
↳ How does seismology contribute to the design of earthquake-resistant structures?

↳ What role does seismology play in determining the appropriate foundation design for civil engineering projects?

↳ How does seismology inform the selection of construction materials and techniques for buildings in seismically active regions?

# Putting AI at work: Generating Questions and Answers from Iconic Text Books

High quality book and journal content extracted to define scientific concepts using advanced ML and NLP



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Outline

Abstract

**Questions answered in this article** Powered by AI

Keywords

- 1. Introduction
- 2. Background
- 3. Issues in internet of things
- 4. Impact of integration of IoT, blockchain an...
- 5. Collaborative security by integrating IoT,...
- 6. Use cases of blockchain-based IoT using...
- 7. Challenges and future research direction
- 8. Summary

References

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[Glossary](#)

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challenges and possible future research directions in the integrated blockchain-based IoT with homomorphic encryption.

[Previous chapter in volume](#) [Next chapter in volume](#)

**Questions answered in this article** How it works Beta Powered by AI

- What are the limitations of homomorphic encryption? ▾
- What are the three categories of homomorphic encryption schemes? ▾
- What is the fully homomorphic encryption (TFHE) scheme and how is it used in homomorphic encryption? ▾
- How does homomorphic encryption differ from traditional public-key encryption? ▾
- What is homomorphic encryption? ▾

Keywords

Blockchain; Internet of Things; Homomorphic Encryption; Security; Privacy; Smart city

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1. Introduction

With the rapid development of internet and technology, we are in the fourth industrial revolution or Industry 4.0, where everything will be connected with each other in the cyber

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Figures (6)

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⏪ Previous chapter in volume Next chapter in volume ⏩

Questions answered in this article How it works Beta Powered by AI

What are the limitations of homomorphic encryption? ⤴

Homomorphic encryption has several limitations. One of the main limitations is the computational overhead, which makes it slower than traditional encryption methods. Another limitation is the size of the plaintext and cipher-text, which can be significantly larger than the original data. Additionally, homomorphic encryption is currently only practical for specific types of computations, such as addition and multiplication, and cannot be used for more complex operations. Finally, homomorphic encryption is vulnerable to side-channel attacks, which can leak information about the encrypted data through its execution time or power consumption.

View source 1 View source 2 View source 3

Find more answers ↗ How well does this answer the question? ☆☆☆

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What are the three categories of homomorphic encryption schemes? ⤴

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What is the fully homomorphic encryption (TFHE) scheme and how is it used in homomorphic encryption? ⤴

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How does homomorphic encryption differ from traditional public-key encryption? ⤴

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Figures (6)

servers cannot learn anything from the IoT users' encrypted data and if the servers act maliciously, the validators and IoT data owners in the network detect them. In this scheme, the validators check the validity of the BeeKeeper 2.0 transaction payloads such as signature verification key and commitments of secret data along with other usual verification procedures.

The working principle of BeeKeeper 2.0 is shown in Fig. 6. There are five basic transactions exchanged between the devices in the BeeKeeper 2.0. The description of transactions along with the verification algorithms are explained in Table 3.

- Step 1: The IoT device executes the Setup algorithm that generates two transactions TXVK and TXCS. Then, sends them to the validators of the blockchain networks.
- Step 2: The validators of the blockchain networks verify the TXVK and TXCS transactions executing VerifyTx\_TXVK and VerifyTx\_TXCS algorithms, respectively. The validators accept both the transactions TXVK and TXCS and stores them in the blockchain, if they are valid else the procedure return to Step 1. Moreover, each server verifies TXCS core-share transaction by executing CheckEnc\_CS algorithm, after the TXCS is stored in the blockchain.
- Step 3: The IoT device generates TXEncN transaction by executing the EncNum algorithm and sends this transaction to the blockchain network.
- Step 4: Again, the IoT device generates TXRequ transaction by executing the Request algorithm and sends this transaction to the blockchain network.
- Step 5: Each server executes Respond algorithm, after obtaining the TXRequ transaction and
- Step 6: Server sends the TXResp transaction to the validators in the blockchain networks.
- Step 7: The network validators verify the TXResp transaction by executing the VerifyTx\_TXResp algorithm. The validators accept TXResp transaction and stores the transaction in the blockchain, if it is valid else rejects it.
- Step 8: After the TXResp transaction is stored in the blockchain, the IoT device receives and verifies the encrypted response in the TXResp transaction by executing CheckEnc\_Respon algorithm. The IoT device accepts the encrypted response if it is valid

Questions answered in this article Powered by AI Beta

What are the limitations of homomorphic encryption?

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[View source 3](#)

[Find more answers](#)

How well does this answer the question?

What are the three categories?

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## Evaluating the article

Thinking:

- Is this article relevant for my research?
- Should I save this article to read further?

- "This is good to have to decide whether I want to read this paper in detail. For that, I need to know the main gist of it."
- "It can be useful if I can look at these questions and then decide if I want to add this paper to Mendeley or not."

## Find specific information quickly

Thinking:

- Does this article have the specific information I'm looking for?

- "I'm a very targeted searcher. I'm always looking for a specific something in literature, specific answers to my questions or what has been done/has not been done. Something like this actually really helpful. "

## Help extract relevant information

Thinking:

- Probably not everything in this article is relevant for me. How can I find the interesting parts?

- " I think this could be useful. Here you have the primary questions that this paper answers and boom, boom, boom, they're right in front of you. You can just read the relevant parts. I think it could be a great idea."
- "Now I don't have to read the whole paper. After reading this question, I can go straight to that section."

## Understand an unfamiliar field/topic

Thinking:

- This article is quite technical and out of my area. I have a hard time understanding the main points.

- "I think it might also be useful for people who are not really familiar with the topic or with the research field."
- "I noticed that sometimes if I read something that is out of my area, like neuroscience, articles can be very technical. I don't know the acronyms for imaging...I do need that simplified versions that are nice and short and tell me what the findings are."

Thank You!

## Contacts

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*Questions?*



# Appendix

# Communication to Authors: Promoting responsible use and raising policy awareness

Information about the new policy and disclosure instructions have been added to the **Guide for Authors** of our journals and a **notification** has been added to the submission journey in **Editorial Manager**.

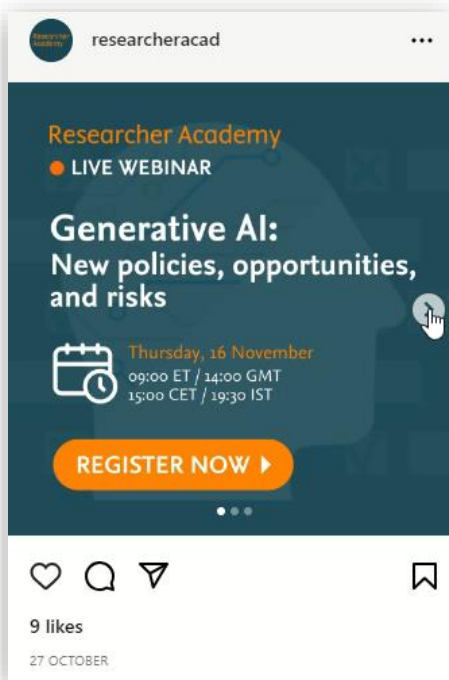
**Did you use generative AI to write this manuscript?**  
Generative AI is not an author. These tools should only be used to improve language and readability, with caution. If you used generative AI or AI-assisted technology, include the following statement directly before the references at the end of your manuscript.

**Declaration of generative AI and AI-assisted technologies in the writing process**  
During the preparation of this work the author(s) used [NAME TOOL / SERVICE] in order to [REASON]. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

Close

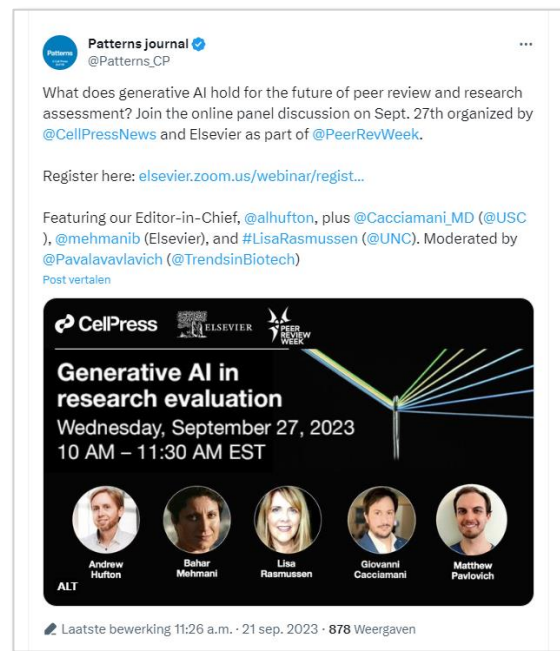
## Declaration of Generative AI and AI-assisted technologies in the writing process

During preparation of the revised submission, the author (AJL) used ChatGPT, provided by OpenAI, to improve grammar and readability of the manuscript. After using this service, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.



**Live Author Webinar on GenAI organized by Elsevier in November '23 – Recording is available on Elsevier Researcher Academy**

**747 attendees rate the webinar 4.5 out of 5 stars**



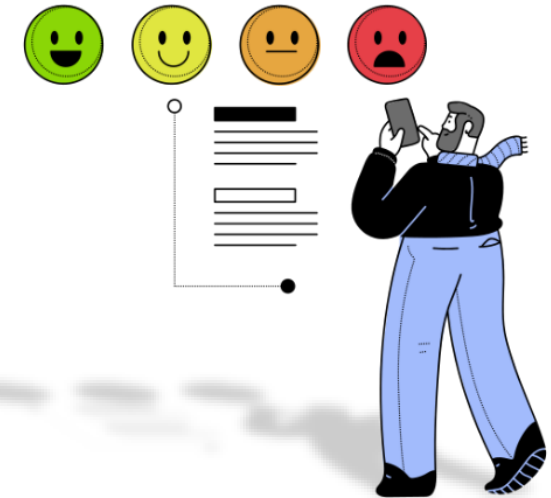
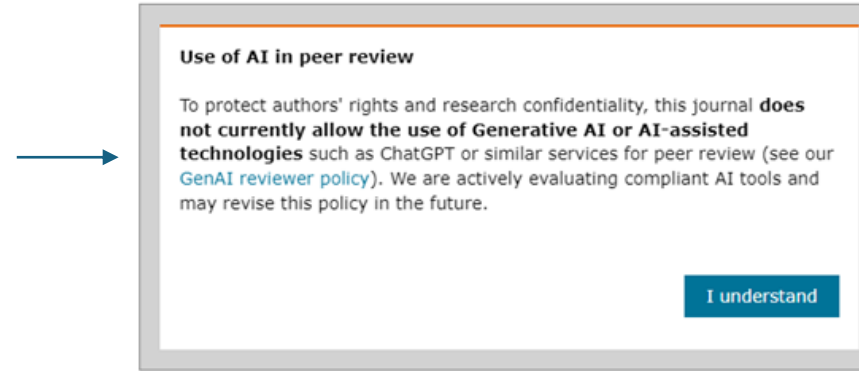
**Online Panel Discussion on GenAI in September '23 organized by Elsevier and Cell Press (650 attendees)**



# Communication to Reviewers and Editors: Listening to their experiences, raising policy awareness and answering questions

The policies were communicated to Editors and Editorial Board Members via two central e-mail messages, and a notification to Reviewers was added in Editorial Manager.

Publishers discuss the policies with Editors during editorial board meetings.



FAQs

Why has Elsevier decided that AI and AI-assisted tools cannot be credited as an author on published work?

Authorship implies responsibilities and tasks that can only be attributed to and performed by humans. Each (co-) author is accountable for ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved and authorship requires the ability to approve the final version of the work and agree to its submission. Authors are also responsible for ensuring that the work is original, that the stated authors qualify for authorship, and the work does not infringe third party rights.

Elsevier will monitor developments around generative AI and AI-assisted technologies and will adjust or refine this policy should it be appropriate.

Does this policy cover tools that are used to check grammar and spelling, and reference managers that enable authors to collect and organize references to scholarly articles?

No, this policy does not cover tools such as spelling or grammar checkers. In addition, the policy does not cover reference managers that enable authors to collect, organize, annotate and use references to scholarly articles — such as Mendeley, EndNote, Zotero and others. These tools can be used by authors without disclosure. This policy is specific to AI and AI-assisted tools, such as Large Language Models, which can generate output that may be used to create a scientific work.

Does this policy refer to AI and AI-assisted tools that are used in the research process, for example to process data?

No, this policy refers to generative AI and AI-assisted technologies, such as Large Language Models, when they are used during the scientific writing process. This policy does not prevent the use of AI and AI-assisted tools in formal research design or research methods. We recognize that this is common in many fields. Where AI or AI-assisted tools are used in this context, they should be described as part of the methodology of the work, with details provided in the Methods section.

Our policy page features a **FAQ-section** which we continue to **refresh** as **questions** and **concerns** from the **community** arise



## Adaptability & alignment

Elsevier aligns with organizations such as COPE, STM and CANGARU to provide uniform guidelines, is **monitoring ongoing developments** in the area closely and will **adjust** or **refine** the policies on the basis of developments in the technology, evolving legislation and feedback from researchers.

## Inviting Feedback

A recent survey on GenAI has provided us with **valuable feedback** from thousands of editors and board members.

There is a **spectrum of perceptions** on the use of GenAI in the editorial process, ranging from **'unaware'** to **'promoter'** to **'skeptical'**