

Generative AI, Integrity, and Academic Publishing

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Potential of AI and Knowledge Production and Dissemination



- Contextualized and coherent instance translations
- Multimodal representation
- Personalised knowledge delivery
- Consistent and automatization of aspects of the research process and writing

Generated on Dream-Machine. Prompt: A person reading a text in many different languages

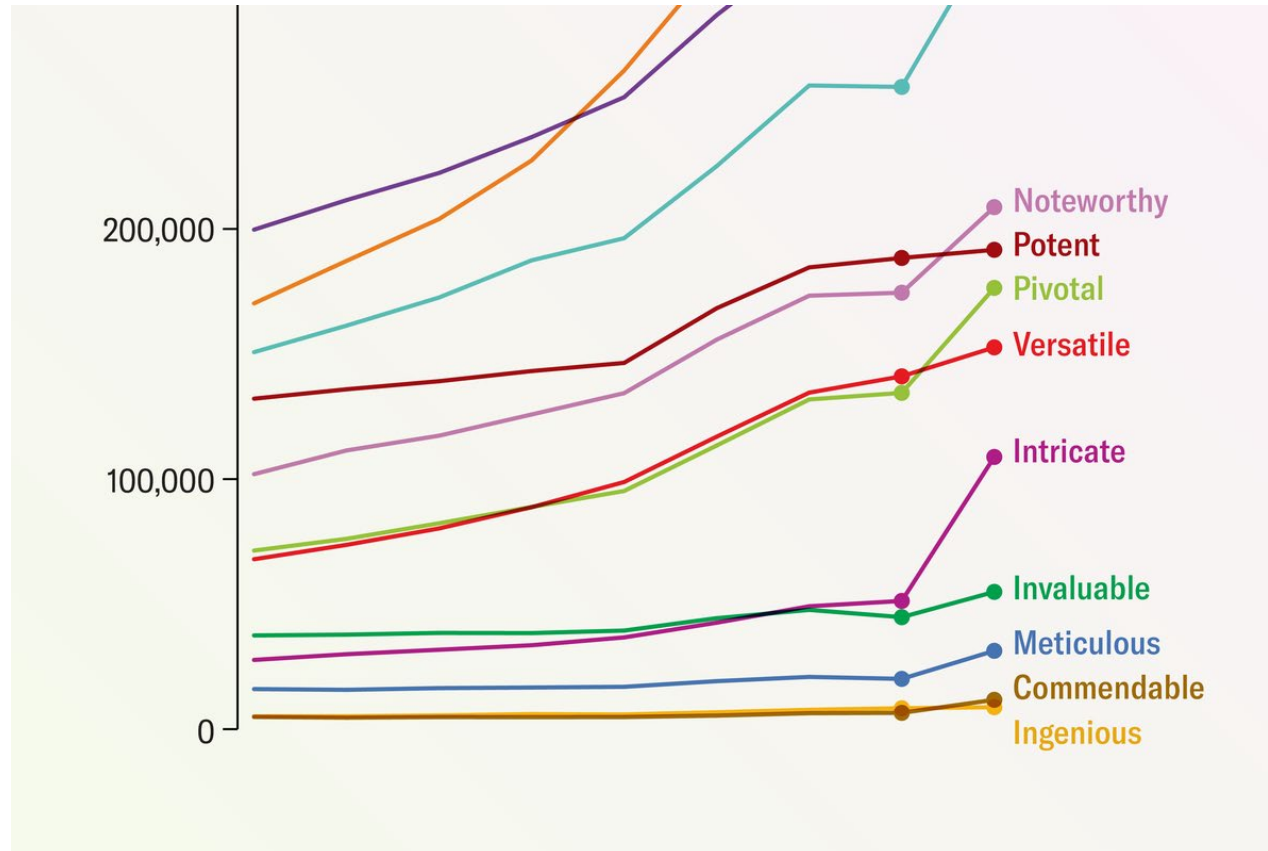
Yet at the same time...



There is the potential that AI can dilute and contaminate knowledge



AI is being integrated into our knowledge dissemination process



- Andrew Grey (2024) article entitled, 'ChatGPT "contamination": estimating the prevalence of LLMs in the scholarly literature' estimated that 1% of all articles published in 2023 were 'LLM-assisted'


'AI-speak' in academic articles


- “Certainly, here is a possible introduction for your topic: Lithium-metal batteries are promising candidates for....”
- “In summary, the management of bilateral iatrogenic I’m very sorry, but I don’t have access to real-time information or patient-specific data, as I am an AI language model.”

Full article: Chatting and cheating: Ensuring academic integrity in the era of ChatGPT

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 Surfaces and Interfaces
Volume 46, March 2024, 104081



RETRACTED: The three-dimensional porous mesh structure of Cu-based metal-organic-framework - Aramid cellulose separator enhances the electrochemical performance of lithium metal anode batteries

Manshu Zhang ^{a,1}, Liming Wu ^{a,1}, Tao Yang ^b, Bing Zhu ^a, Yangai Liu ^a ✉

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<https://doi.org/10.1016/j.surfin.2024.104081>

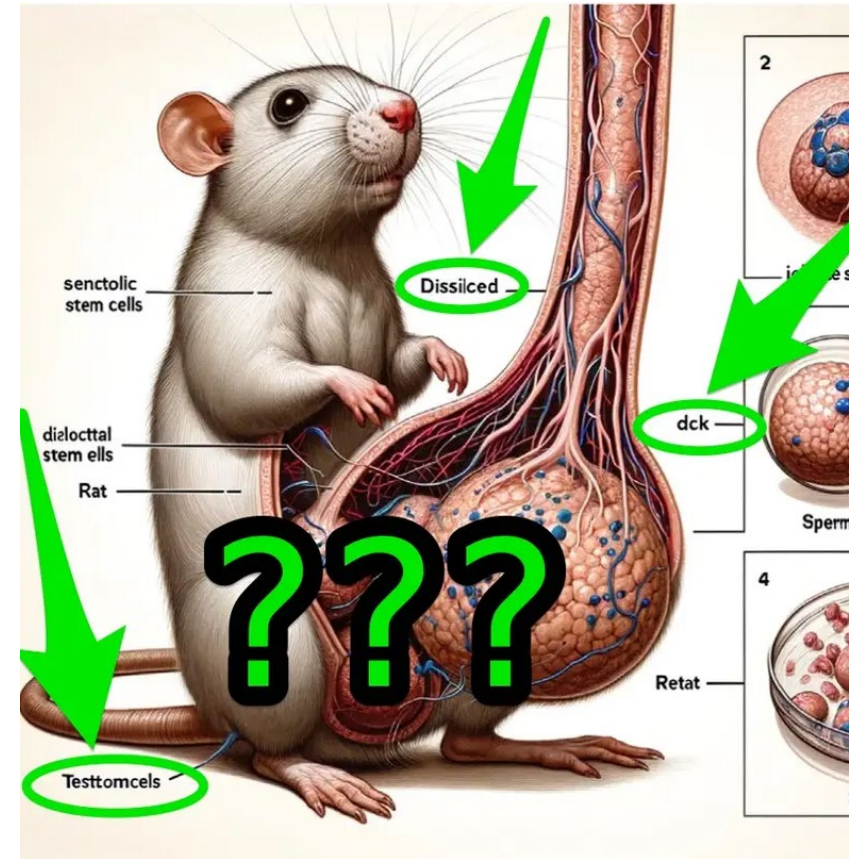
Referred to by Retraction notice to “The three-dimensional porous mesh structure of Cu-based metal-organic-framework - Aramid cellulose separator...”
Surfaces and Interfaces, Volume 46, March 2024, Pages 104550
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Business Insider, “An AI-generated rat with a giant penis highlights a growing crisis of fake science that’s plaguing the publishing business,”



scienceplatforms in nursing education: Tools for academic progress or abuse? - ScienceDirect

Full article: Chatting and cheating: Ensuring academic integrity in the

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Nurse Education in Practice
Volume 66, January 2023, 103537

Editorial

Open artificial intelligence platforms in nursing education: Tools for academic progress or abuse?

Siobhan O'Connor ^{a 1}, ChatGPT ^b

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NEWS | 18 January 2023

ChatGPT listed as author on research papers: many scientists disapprove

At least four articles credit the AI tool as a co-author, as publishers scramble to regulate its use.

By Chris Stokel-Walker

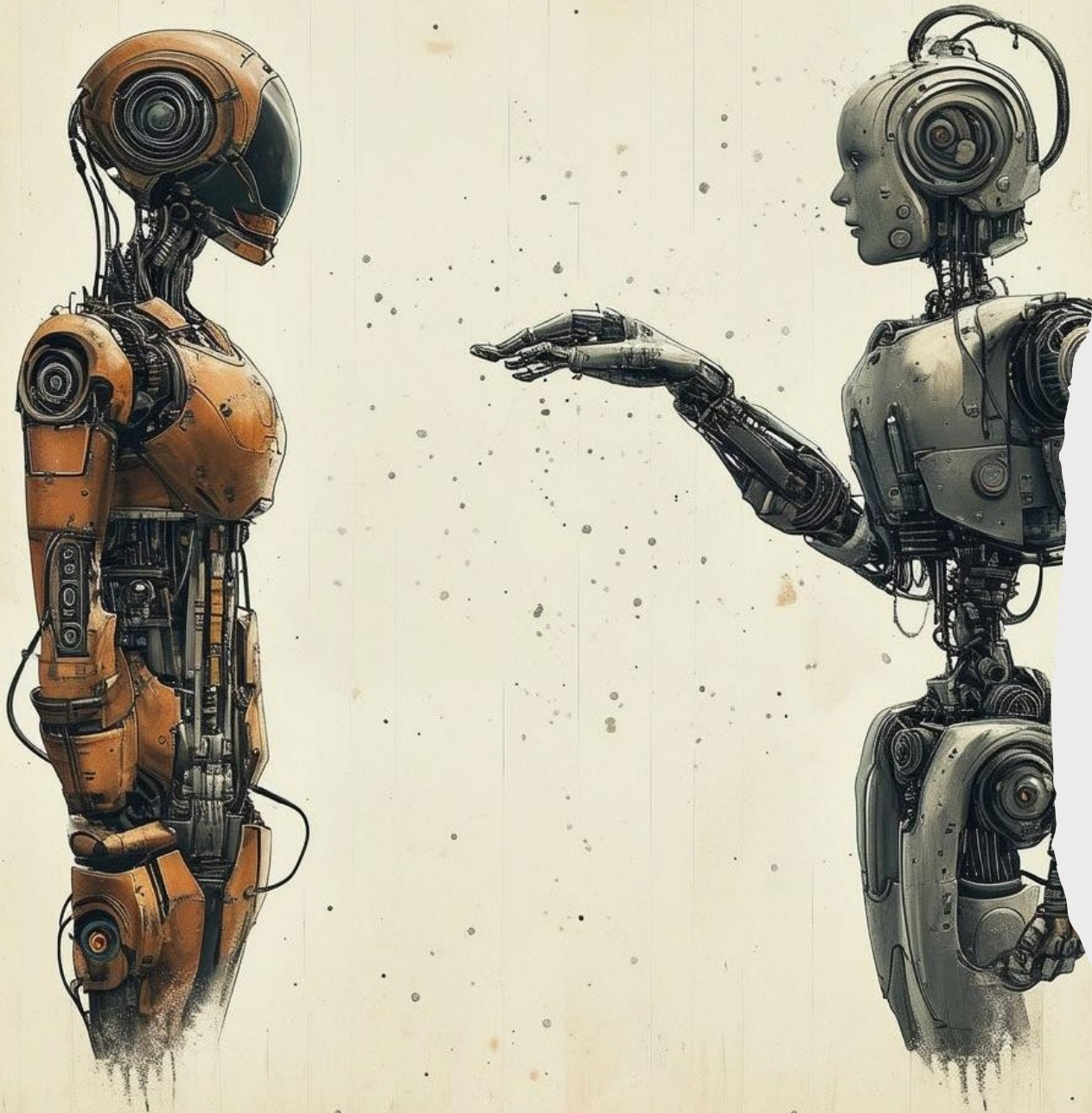
The artificial-intelligence (AI) chatbot ChatGPT that has taken the world by storm has made

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GenAI tools have the potential to exacerbate the crisis in confidence in academic publishing – as readers are unsure whether what they are reading was written by humans, machines or both.

In response...

Publishers, journals and universities have been advocating for the transparency principle



COPE Position Statement on GenAI use (2023)

“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 produced by an AI tool, and are thus liable for any breach of publication ethics.”

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- Idea generation and idea exploration
- Language improvement
- Interactive online search with LLM-enhanced search engines
- Literature classification
- Coding assistance

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Screenshot

Among journals and universities, the principle of transparent use of GenAI is widely adopted

- Tang et al., (2024) analysed 125 journal policies in the nursing field and found 27.6% of them explicitly required their contributors to declare their use of GenAI in their writing process.
- Moorhouse et al., (2023) found that more than half of universities that offered guidelines on GenAI use in assessments recommended that students acknowledge and declare how and when they used GenAI tools.
 - University of Toronto guidelines stated that the appendix for each assignment should include “what tools were used, how they were used, and how the results from the GAI were incorporated into the submitted work”.
 - University College London guidelines pointed out that students must describe the prompts used, the output, and how the output generated by GAI was changed by students.

Non-compliance in AI use declarations seem common

- A study at King's Business school, found 74% of students failed to declare AI usage despite declaration being a requirement of a mandatory coursework coversheet (Gonsalves, 2024)
- A study of academics in Iran, found that authors were reluctant to declare their use of GenAI when submitting manuscripts (Farnangi & Nejadghanbar, 2024)

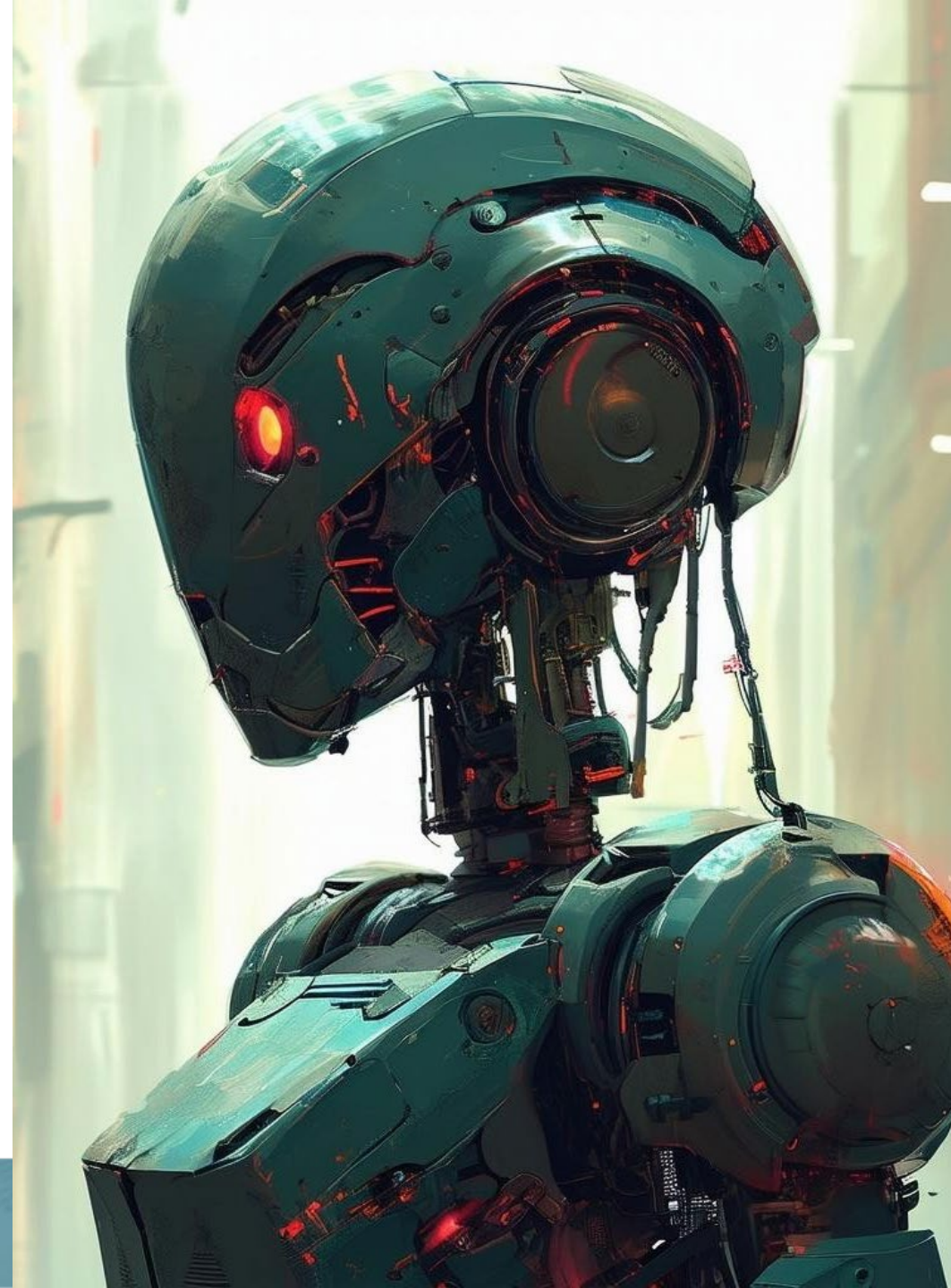
Barriers to compliance

- fear of academic repercussions
- ambiguous guidelines
- inconsistent enforcement
- peer influence
- fear editors, reviewers and potential readers will judge the author unfairly

Fears of academic repercussions seem valid

Human evaluators tend to judge content they think is generated by AI more harshly than content they think is generated by humans (Assher & Gilkson, 2021)

<https://journals.sagepub.com/doi/10.1177/14614448211018833>



People judge people who use as AI as....

Lazy – could do themselves but decide not to

Incompetent – can't do it themselves so give it to AI to do

Dishonest – want to find a shortcut



Tech companies are even advertising using these perceptions!

Deception and Breakdown of Trust

The perceived risk of using AI and not declaring is lower than the perceived risk of declaring the use of AI and being judged more harshly as a result

Leads to 'cat and mouse' chase

→ Increasing risks of unfair treatment, uncritical use of AI, and erosion of institutional and academic integrity

Student AI cheating cases soar at UK universities

Figures reveal dramatic rise in AI-related misconduct at Russell Group universities, with further questions raised by sector's 'patchy record-keeping' and inconsistent approach to detection

November 1, 2024

[Jack Grove \(/content/jack-grove-0\)](#)

Twitter: [@jgro_the](https://twitter.com/jgro_the) (https://twitter.com/jgro_the)



Times Higher Education

Where we need to go from here...

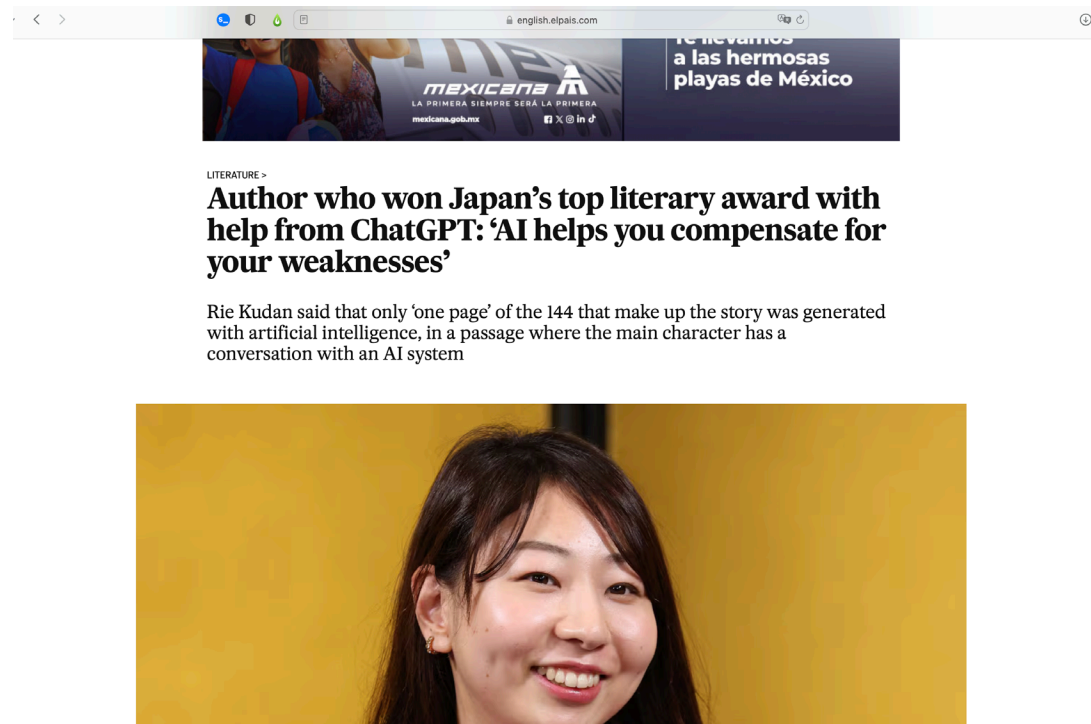
Normalize AI

mindset shift from seeing the use of these tools as a sign of deficit to a sign of enhancement



Hailuo-ai: computer writing an essay

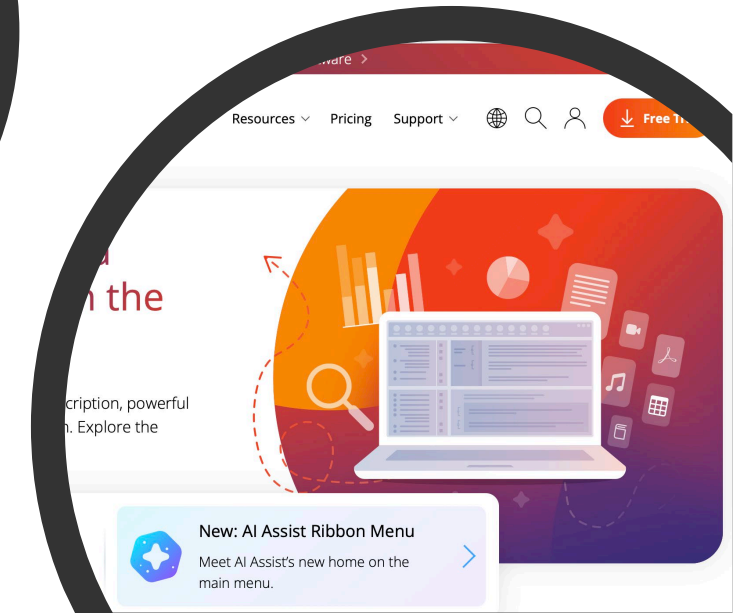
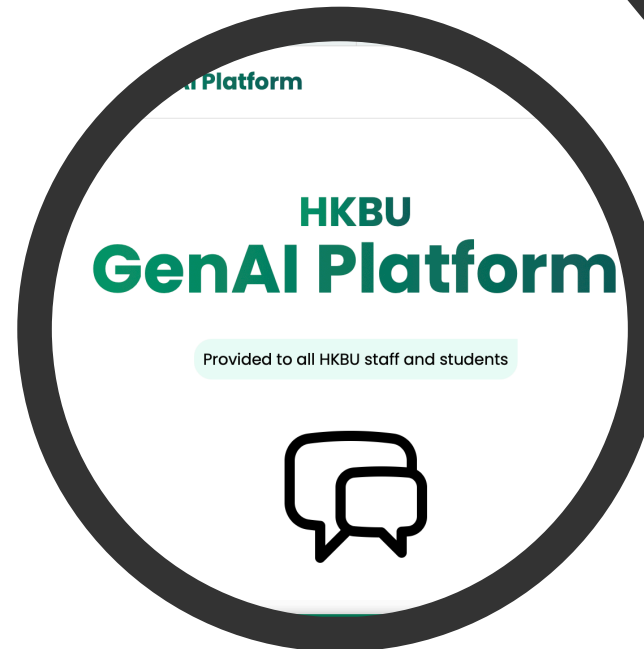
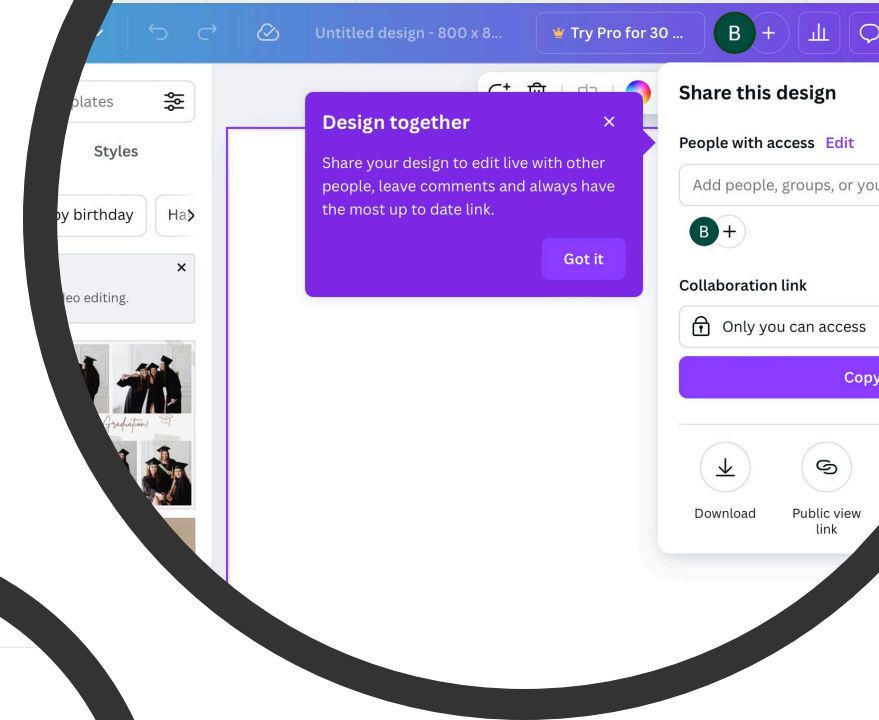
Human Accountability



- The responsible and ethical use of GenAI with the author's oversight and accountability is perhaps no different than outsourcing tasks to research assistants or professional proofreaders.
- The author's responsibility to verify information and check the accuracy of the tasks completed is the same.

Develop New Methods

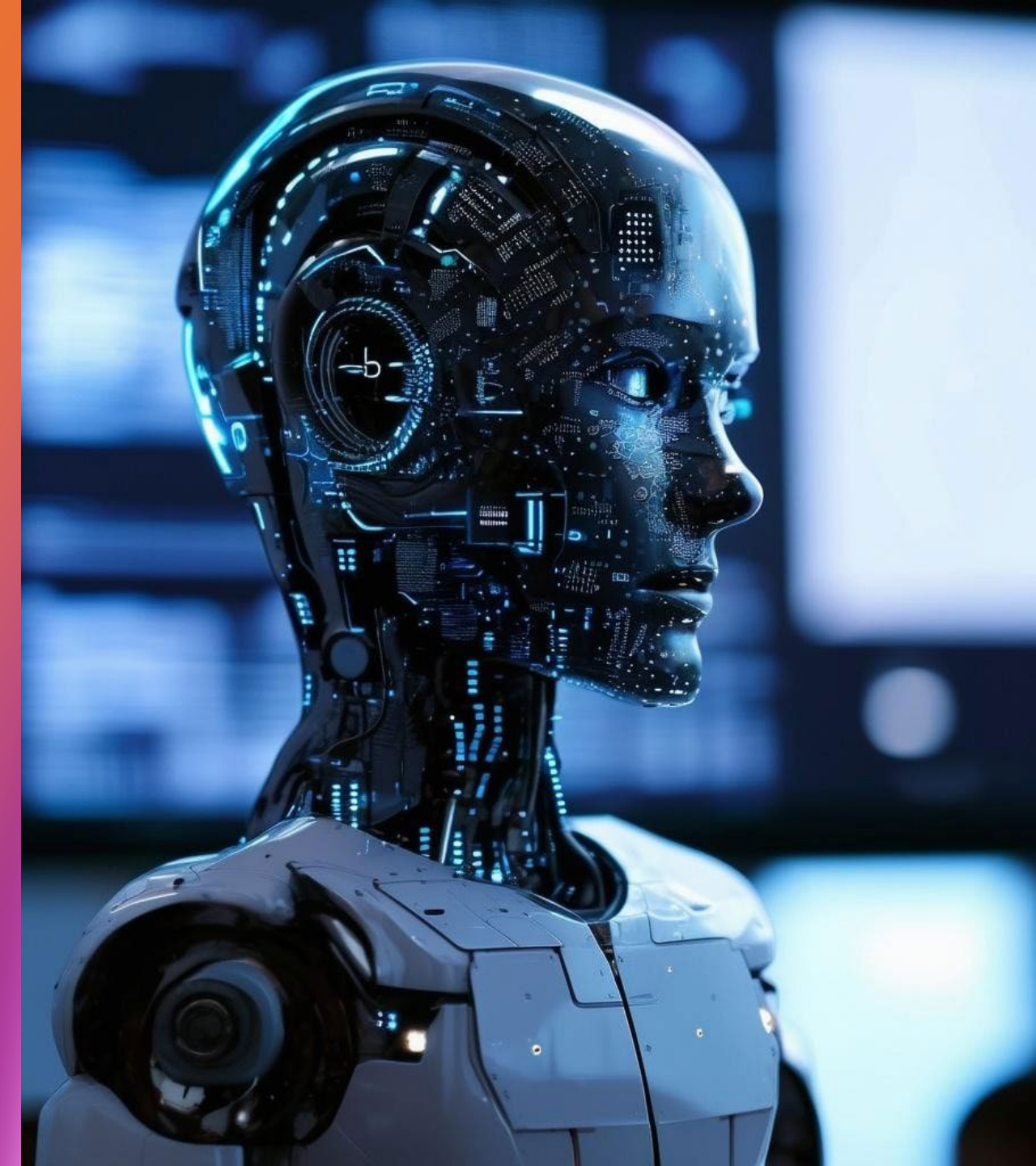
- we must develop methodological models and frameworks that reflect how we can use AI ethically, legally and transparently to support authors' knowledge production activities.
- Creating models where GenAI is used as part of the process and protocols for writing about these processes can be drafted and tested.



Using GenAI to verify human coding procedures could potentially enhance the quality of data analysis

Table 2. An example comparison of one theme of one participant's interview transcript.

Human coding		GPT-4 coding	
Theme	Sub-theme	Theme	Sub-theme
Need for critical AI literacy	• Need to educate students and teachers on responsible use:	Critical digital literacy	• Awareness of AI biases
	o bias, false information and copyright		• Misconceptions about AI expertise
	• Students lack critical judgment of AI-generated texts		• Importance of critical thinking in AI usage



AI literacy development

- authors and students need to be educated about the ethical issues associated with using GenAI tools.
- Authors can take steps to address concerns regarding bias and intellectual property rights when they have increased AI literacy.

Normalizing AI allows us to...

- Better understand the competencies scholars needed in the GenAI age in
- Create space for open and honest discussions about effective, ethical and responsible AI use
- Users can come out of the shadows, and we can be more open, honest and reflective about our uses of GenAI.
- In this way, trust in academic publishing can start to be regained.



FluxPro 1.1. Coming out of the shadows

What can libraries do to help?

- Showcase studies that have integrated AI use into research methodologies successfully
- Initial discussions on How AI can be integrated into knowledge production and dissemination
- Explore, critique and create repositories of research tools that integrate AI assistive features
- Support the development of colleagues and students critical AI literacy development



Stablediffusion3: A university library

Thank You

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Hailou-AI: a speaker thanking an audience