Health Research Alliance

Cochairs:

Jennifer Hall

Chief of Data Science, American Heart Association

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Senior Associate Director, Medical and Scientific Relations, Alzheimer's Association

AI/LLMs Website *(where resources live)*:

https://www.healthra.org/communities/ai-and-large-language-models/

AI/LLMs Community Mission

To work together to explore how funders can best navigate this rapidly changing landscape by sharing tools, use cases, and resources.

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Why this is an important topic:

- ChatGPT was released November 30, 2022 to the public

- Became the fastest product to 1 million users in history

ChatGPT Sprints to One Million Users

Time it took for selected online services to reach one million users

	Launched	
Netflix	1999	3.5 years
Kickstarter*	2009	2.5 years
Airbnb**	2008	2.5 years
Twitter	2006	2 years
Foursquare***	2009	13 months
Facebook	2004	10 months
Dropbox	2008	7 months
Spotify	2008	5 months
Instagram***	2010	2.5 months
ChatGPT	2022	5 days

* one million backers   ** one million nights booked   *** one million downloads
Source: Company announcements via Business Insider/Linkedin

statista

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Why this is an important topic:

NEWS FEATURE | 10 October 2023

How ChatGPT and other AI tools could disrupt scientific publishing

A world of AI-assisted writing and reviewing might transform the nature of the scientific paper.

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Why this is an important topic:

CAREER FEATURE | 16 October 2023

How ChatGPT is transforming the postdoc experience

Around one in three respondents to *Nature*'s global postdoc survey are using AI chatbots to help to refine text, generate or edit code, wrangle the literature in their field and more.

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Why this is an important topic:

How Chatbots and Large Language Model Artificial Intelligence Systems Will Reshape Modern Medicine
Fountain of Creativity or Pandora's Box?

Ron Li, MD[1,2]; Andre Kumar, MD, MEd[1]; Jonathan H. Chen, MD, PhD[1,2,3]

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Why this is an important topic:

CAREER COLUMN | 13 October 2023

ChatGPT use shows that the grant-application system is broken

The fact that artificial intelligence can do much of the work makes a mockery of the process. It's time to make it easier for scientists to ask for research funding.

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Why this is an important topic:

Scientists used ChatGPT to generate an entire paper from scratch – but is it any good?

By designing an autonomous system that fed prompts to the chatbot, researchers produced a paper that was fluent and insightful. Yet they still have concerns.

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Why this is an important topic:

But it's not all roses...

Stop talking about tomorrow's AI doomsday when AI poses risks today

Talk of artificial intelligence destroying humanity plays into the tech companies' agenda, and hinders effective regulation of the societal harms AI is causing right now.

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Your researchers are using AI / LLMs:

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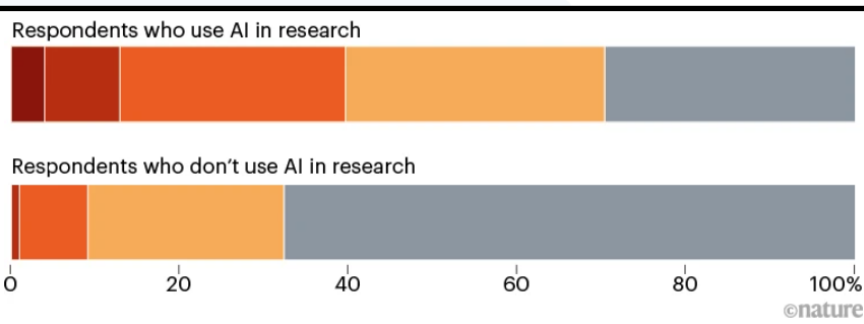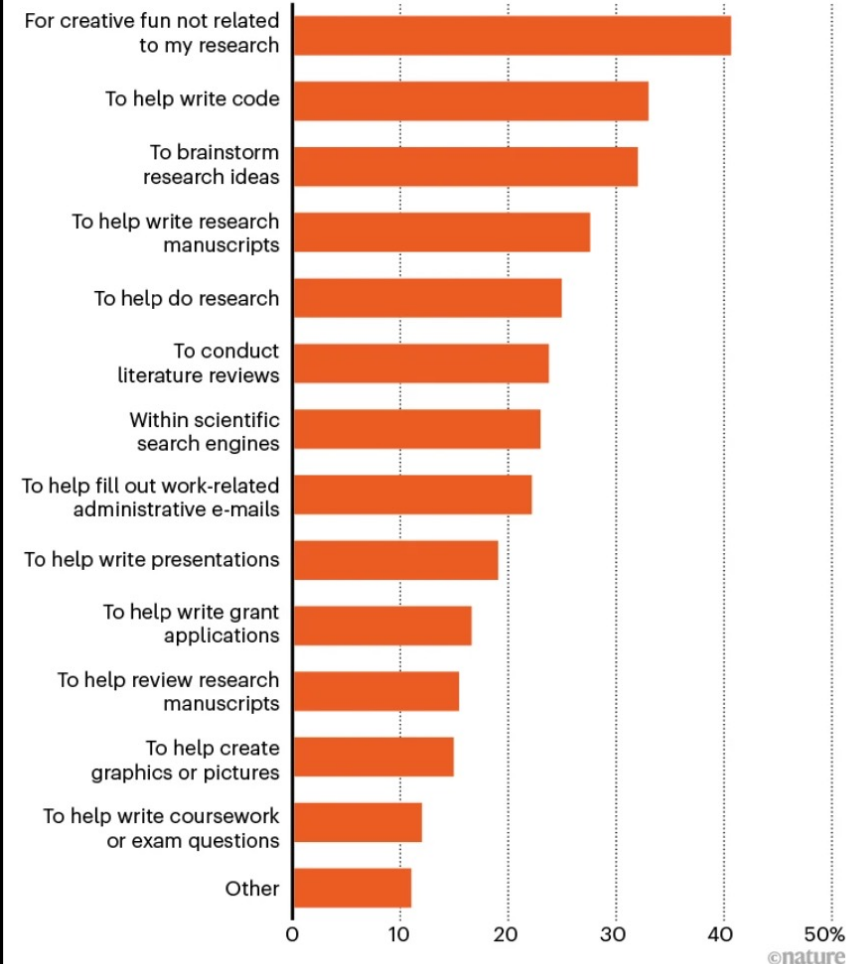
Your researchers are using AI / LLMs:

PROBLEMS OF GENERATIVE AI
Q: Where do you think generative AI may have negative impacts on research? (Choose all that apply.)

May proliferate misinformation

Makes plagiarism easier, and harder to detect

May bring mistakes or inaccuracies into research texts (papers, code)

Makes it easier to fabricate or falsify research and harder to detect

May bring biases into literature searches

Makes it harder to assess student learning

May entrench bias or inequities into research texts

Raises energy consumption and carbon footprint of research

Other

0   100%

BENEFITS OF GENERATIVE AI
Q: What do you think are currently the biggest benefits of generative AI for research? (Choose all that apply.)

Helps researchers without English as a first language (through editing or translation)

Makes coding easier and faster

Summarizes other research to save time reading it

Speeds administrative tasks

Helps write manuscripts faster

Improves scientific search

Helps creative work by brainstorming new ideas

Generates new research hypotheses

Helps peer-review manuscripts faster

Other

0   100%

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What we do:

- Discuss AI policy across the grant making lifecycle

- Discuss AI implications for patients

- Discuss use cases

- TBD!

What we don't do:

- Discuss AI – based grant programs or individual awards

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Previous Open Mic Discission Topics:

- Policy/implementation/compliance around using AI in funded research

  - Peer Review

  - Grant Writing

  - Organizational Policies

- Patient-centered AI implementation (how do we ensure the patient is educated, aware of what is happening with AI in clinical decision making)

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Policy Development / Implementation / Compliance –

Peer Review

- NIH Peer Review Policy
  - "The Use of Generative Artificial Intelligence Technologies is Prohibited for the NIH Peer Review Process"

Confidentiality and AI Technologies

Maintaining security and confidentiality in the NIH peer review process is essential for safeguarding the exchange of scientific opinions and evaluations. Materials pertaining to an application or proposal, and any other associated privileged information, cannot be disclosed, transmitted, or discussed with another individual through any means, except as authorized by the Designated Federal Officer (DFO) in charge of the review meeting, or other designated NIH official, as stated in the NIH Security, Confidentiality, and Non-disclosure Agreements for Peer Reviewers. The use of generative AI tools to output a peer reviewer critique on a specific grant application or contract proposal requires substantial and detailed information inputs. AI tools have no guarantee of where data are being sent, saved, viewed, or used in the future, and thus NIH is revising its Confidentiality Agreements for Peer Reviewers to clarify that reviewers are prohibited from using AI tools in analyzing and critiquing NIH grant applications and R&D contract proposals. Such actions violate NIH's peer review confidentiality requirements.

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Policy Development / Implementation / Compliance –

Peer Review

- NIH Peer Review Policy
  - "The Use of Generative Artificial Intelligence Technologies is Prohibited for the NIH Peer Review Process"
  - August 15 Update:

> If My Institution Has a Locally Hosted Generative AI Technology That Does Not Share Information Online, May I Use It To Help Me Write My Review Critiques?

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Policy Development / Implementation / Compliance –

Grant Writing

Was generative artificial intelligence (AI) or other large language model (LLM) tool, such as ChatGPT, used in the preparation of this proposal?

Applicants are fully responsible for the content of their proposal, even those parts produced by an AI tool.

Disclaimer: selecting yes will not affect whether your grant application will be funded.

5% > 9% >13%

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Policy Development / Implementation / Compliance:

Organizational Policies

- This is where a lot of organizations are now
- General sense is most are being *extremely* cautious

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Patient-centered AI Implementation:

Regardless, Patients are using them!

ChatGPT Provides Sensible Diagnosis of Boy Who Suffers From Chronic Pain, Other Symptoms For 3 Years

Caleb White Sep 13, 2023 04:45 AM EDT

ChatGPT Rated as Better Than Real Doctors for Empathy, Advice

By HealthDay | April 28, 2023, at 2:09 p.m.

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Challenges, Opportunities, and Principles when using AI / LLMs

1. AI / LLMs are just one *Tool* in the toolbox

2. Ensure Human Accountability

3. Maintain Confidentiality and Privacy

4. Manage and Mitigate Bias

5. Minimize Misinformation

6. Understand the Chain of Logic / Provenance of outputs

7. Utilize Broad-based Input for all decision-making

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Open Mic!

- Contribute to our Google Doc

- Share your Use Cases!

- Join us for future events (Suggestions welcome!!)

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