Research GenAI

Situating Generative AI in the Scholarly Economy

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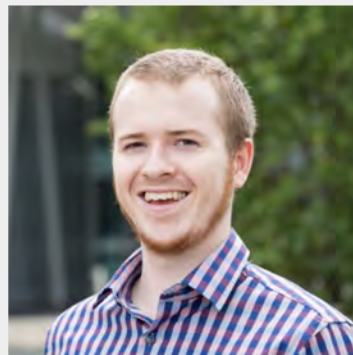michelle.riedlinger@qut.edu.au

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Overview

1. Research GenAI (RGAI) as an emergent GenAI category/market
2. Situating RGAI within the scholarly economy and ongoing platformisation and automation of academic work
3. Approaching RGAI tools as sociotechnical systems: exploring Consensus and Writefull

1. Research GenAI as an emergent market

- ChatGPT
- Consensus
- Elicit
- Perplexity
- IrisAI
- Scholarcy
- Scite
- SciSpace
- Writefull
- Plus more…
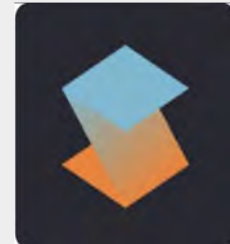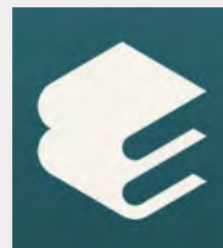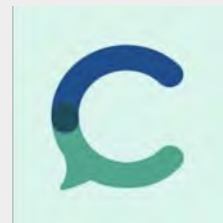
Consensus

AI Search Engine for Research

Find & understand the best science, faster.

- Does exercise improve cognition?
- Can cash transfers reduce poverty?
- Are statins effective in the elderly?
- Can mindfulness help with sleep?

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- How does climate change impact biodiversity?
- Why are aging Covid patients more susceptible to severe complications?
- How does social media affect the college selection process?
- What are the interesting theories about dark matter and dark energy?
- What is the significance of higher-dimensional algebra?

Popular Tools

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What's interesting about RGAI?

RGAI tools are

- generally overlooked in (current) institutional and publisher policies

- being adopted in context of experimentation, uncertainty, and controversy

- becoming embedded within digital infrastructures and entangled with human practices (cultures of use)

- bound up in ongoing processes of platformisation and automation of academic/scholarly work

- an emergent player within the "scholarly economy"

RGAI and the scholarly economy

- The "scholarly economy" (e.g., Goldenfein & Griffin, 2022; Hyland, 2023)

- "platform capitalism" reshaping universities and academic research (Mirowski 2018; Mirowski 2023).

- Google Scholar, academia.edu, and ResearchGate roles in mediating academic research discovery, dissemination, and citation practices (e.g., Goldenfein & Griffin, 2022; Darvin, 2022)

- RGAI platforms contributing to the growth and complexity of automation and platformisation of scholarly research and publishing:

  - freemium pricing models

  - endorsement and promotion by academic AI "thought leaders"

  - inclusion on lists of recommended research tools developed by university libraries

Research on GenAI and academic publishing: the current state of play

- Most research on GenAI and academic publishing/research focuses on technological limitations, risks of bias, lack of transparency, etc. (e.g., Bell, 2023; Oduoye et al., 2023)

- Limited research addressing ongoing automation and platformisation of academic research and publishing (Watermeyer et al., 2023)

Approaching RGAI as sociotechnical systems

- What's missing?: Understanding/approaching (Research) GenAI tools as "communicative AI" (Hepp et al., 2023) and as sociotechnical systems embedded within and contributing to a scholarly economy

- Walkthrough method (Light, Burgess & Duguay, 2016) as a way of approaching RGAI tools as sociotechnical systems

  - Environment of expected use: vision, operating model and governance

  - Technical walkthrough: registration and entry, everyday use (functionality and affordances), app suspension closure and leaving

Comparison walkthrough of 2 RGAI tools

Consensus

- Focus: Search and discovery
- Founded: 2019

Writefull

- Focus: Academic writing
- Founded: 2014

1. Landing pages
2. Functionalities/affordances
3. Governance models

Landing pages

AI Search Engine
for Research

Find & understand the best science, faster.

Ask the research... 🔍

🏃 Does exercise improve cognition? 🔍   📖 Can cash transfers reduce poverty? 🔍

💊 Are statins effective in the elderly? 🔍   🛏 Can mindfulness help with sleep? 🔍

Try an example search

Used by researchers at the world's top institutes

Northwestern University   PRINCETON UNIVERSITY   MERCK   IEEE Advancing Technology for Humanity   Berkeley UNIVERSITY OF CALIFORNIA   NASA   McKinsey&Company   NATIONAL ACADEMY OF SCIENCES   HARVARD UNIVERSITY   MIT

Why Consensus?

Consensus responsibly uses AI to help you conduct research faster.

Extensive research coverage

Search through over 200M research papers across every domain of science & academia.

200M

Academic papers covering every field

Thanks to our
~~partnership with~~   SEMANTIC SCHOLAR

Time-saving AI insights

Gain insight faster with our Pro Analysis and Consensus Meter. We leverage both OpenAI & custom LLMs.

Consensus Meter   10 papers analyzed

✓ Yes - 82%

— Possibly - 10%
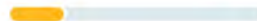
✗ No - 8%
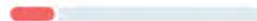
🔵 **Pro Analysis**   10 papers analyzed

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Title

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Yifei Hu
Major in AI, Monash University

As a non-native English speaker, I should edit my writing carefully. I use many apps to do so. Writefull spots mistakes others do not . Incredible.

Andrea Beltran Lizarazo
PhD student in Sociology, Boston University

It is clearly designed for researchers by researchers! I have used other more generic proofreading software as well, but it is really clearly calibrated for academic writing!

Afshin Jafari

Functionalities/affordances

Product

New features

🎓 Universities & Students

🤖 Consensus Copilot

🏥 Doctors & Clinicians

⏱ Consensus Meter

🔍 How to search

⚙ Our API

📖 How it works

🔍 Start a new search

Is exercise good for your health
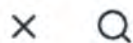
Synthesize   Copilot

Filter   Share

Summary Beta
10 papers analyzed

These studies suggest that exercise is beneficial for both physical and mental health, improving conditions such as cardiovascular disease, diabetes, depression, and anxiety, while also enhancing mood, self-esteem, and cognitive function.

Consensus Meter Beta
11 papers analyzed

✓ Yes - 100%

— Possibly - 0%

✗ No - 0%
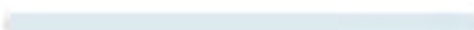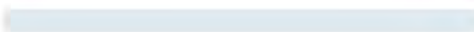
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Enter your abstract and get a title.

≣ **Abstract Generator**
Enter your text and get an abstract.

↻ **Paraphraser**
Enter an academic sentence and have it rephrased.

🎓 **Academizer**
Enter an informal sentence and get an academic rewrite.

🔍 **Language Search**
Write each sentence with confidence.

🖌 **Sentence Palette**
Browse phrases and connectors for each section in your paper.

⚗ **Writefull X**

If we don't validate this approach, we keep doing research that might be crap.

Academize ⚡

Without validation of this approach, we continue to do research that is deemed to be merely flawed.

If this approach is not validated, research that might be a bit ad hoc continues to be conducted.

If this approach is not validated, we continue to do research that may be ineffective.

Governance models

Our vision & mission

Our mission is to make the world's expert knowledge discoverable and consumable. Searching for scientific research has long been a painful process, no matter your background. If used thoughtfully, carefully, and elegantly, we believe AI can change this equation.

Whether you are a lifelong researcher or an everyday consumer, we aim to be your go-to source in the search for expert knowledge.

And we're just getting started.

Our story

Christian and I are former D1 athlete teammates from the families of professors, scientists, and teachers. We deeply love and appreciate the value of consuming evidence-based content. However, it felt inaccessible to us, we didn't have the skills (or the attention span) to find and process the information with traditional academic tools.

We wanted to build a product that would allow anyone to engage with and consume the best sources of data on the planet. A product that would democratize access to science.

- Eric Olson, co-founder

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Where to from here?

- In-depth walkthroughs of RGAI platforms

- Cultures of use (survey/ethnographic research)

- Developing an RGAI Index for use by individuals/institutions

RGAI Index pretotype

Environmental Scan					Walkthrough & Technical testing			
Company Name	Organisation Type	Business Model	Intended Users	Transparency	Functionality	Source Data	Automation Level	Accessibility
Grammarly	Inc.	Freemium	Writers	Documentation / Technical Openness	Text improvement suggestions	"Vast amount of literature", & user data *to be investigated*	2	R S / I A
					Style and tone adjustments		2	R S / I A
					Corporate voice		2	R S / I A
Elicit	Inc.	Freemium	Researchers	Documentation / Technical Openness	Summarise papers	Semantic scholar database *to be investigated*	4	R S / I A
					Search for papers		3	R S / I A
					Extract concepts across papers		3	R S / I A
					Talk to paper		3	R S / I A

Thank you!