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Using AI with Data and Scholarship

GEA Webinar Series: AI Skill Building for Medical Educators
September 2025

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Share Your Story!

What have you done with AI as a result of your participation in this series?
What new tools have you tried, and for what?
Have you formed your own AI community of practice?

Share your AI growth story with us.

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Disclosures

None

The College of Human Medicine Office of CME designates this event for a maximum of 1 *AMA PRA Category 1 Credit(s)™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

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Introductions

Brian Gin, MD, PhD
Associate Professor of Medical Education and Pediatrics
University of Illinois College of Medicine

LaTeesa N. James, MLIS, MA
Health Sciences Informationist
Taubman Health Sciences Library
University of Michigan

Melinda Turner, EdD
Director of Faculty Development
Lincoln Memorial University
DeBusk College of Osteopathic Medicine

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Learning Objectives

- Explore AI tools for analyzing and interpreting educational and research data.
- Use AI to streamline literature reviews, data viz, and academic writing.
- Recognize ethical considerations when using AI for research, scholarly work.
- Practice transparency and attribution for AI contributions in their work

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Should We Trust AI?

Considering the Role of AI in Advancing Research

Brian Gin, MD PhD
University of Illinois Chicago

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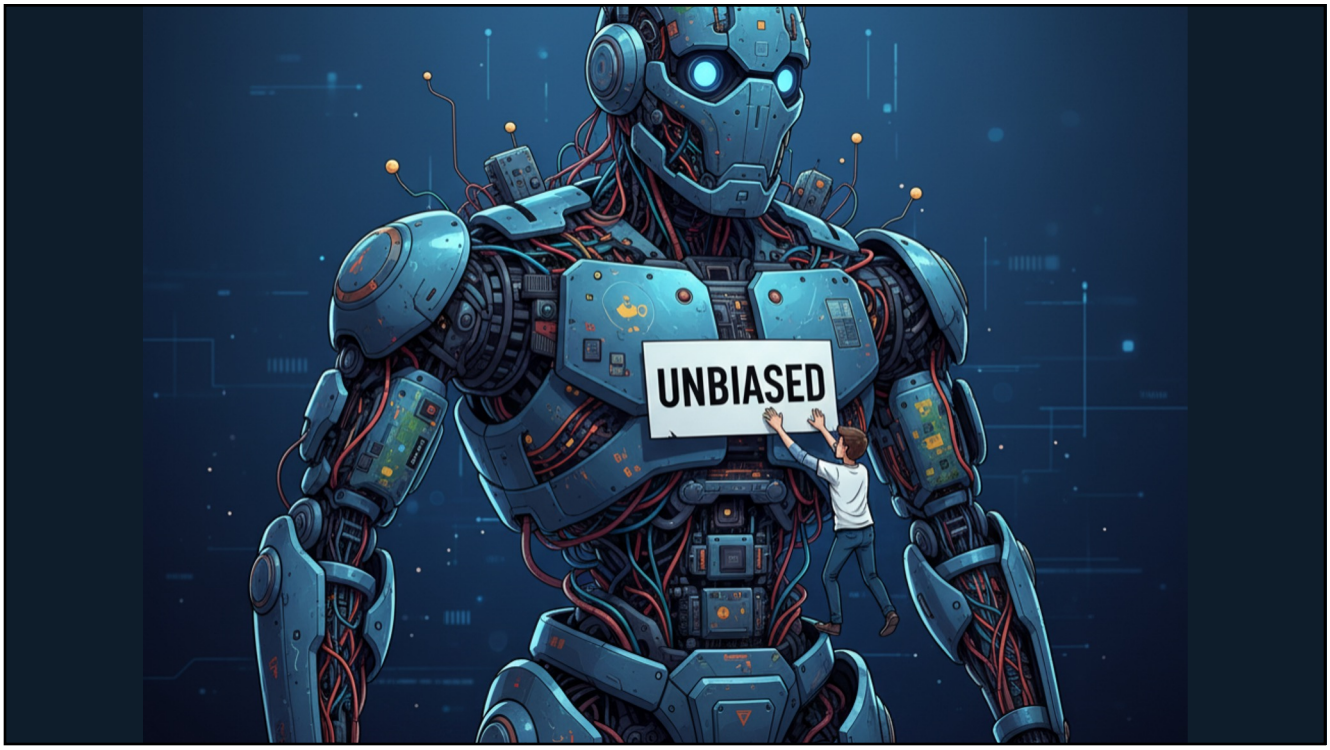

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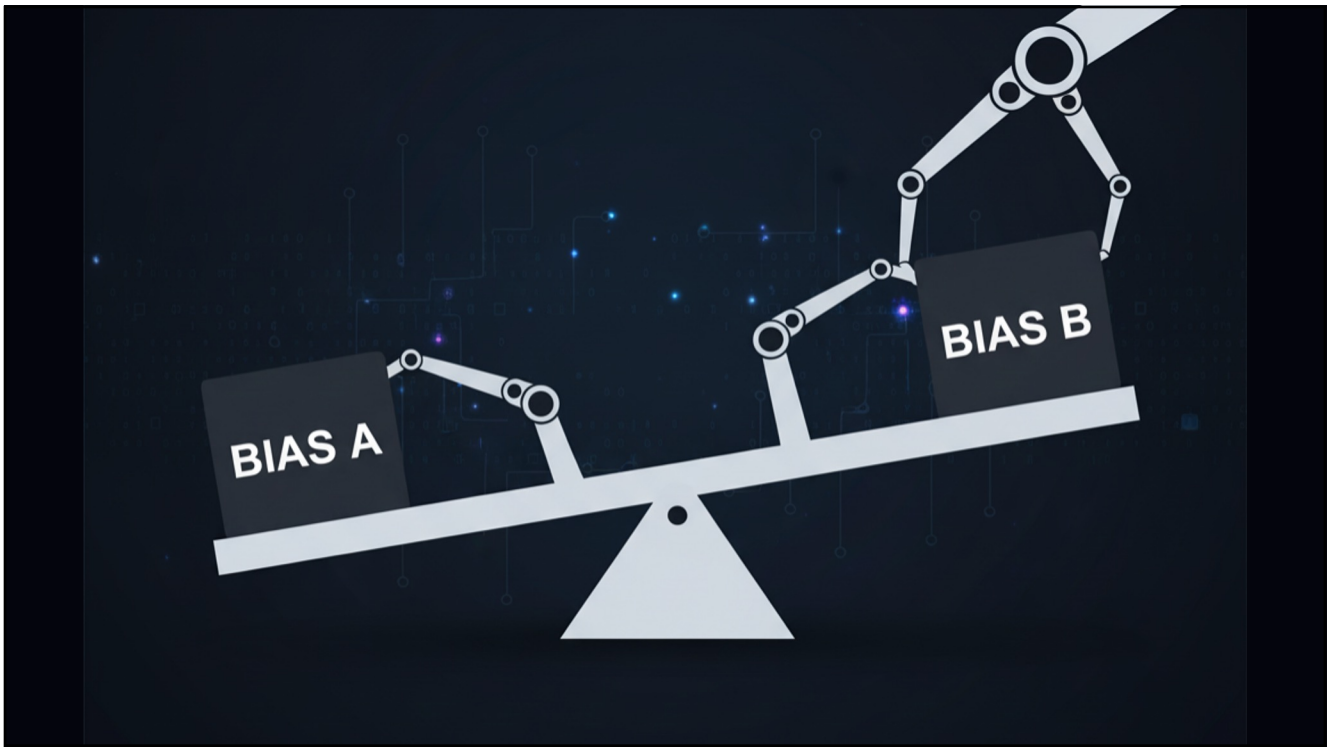

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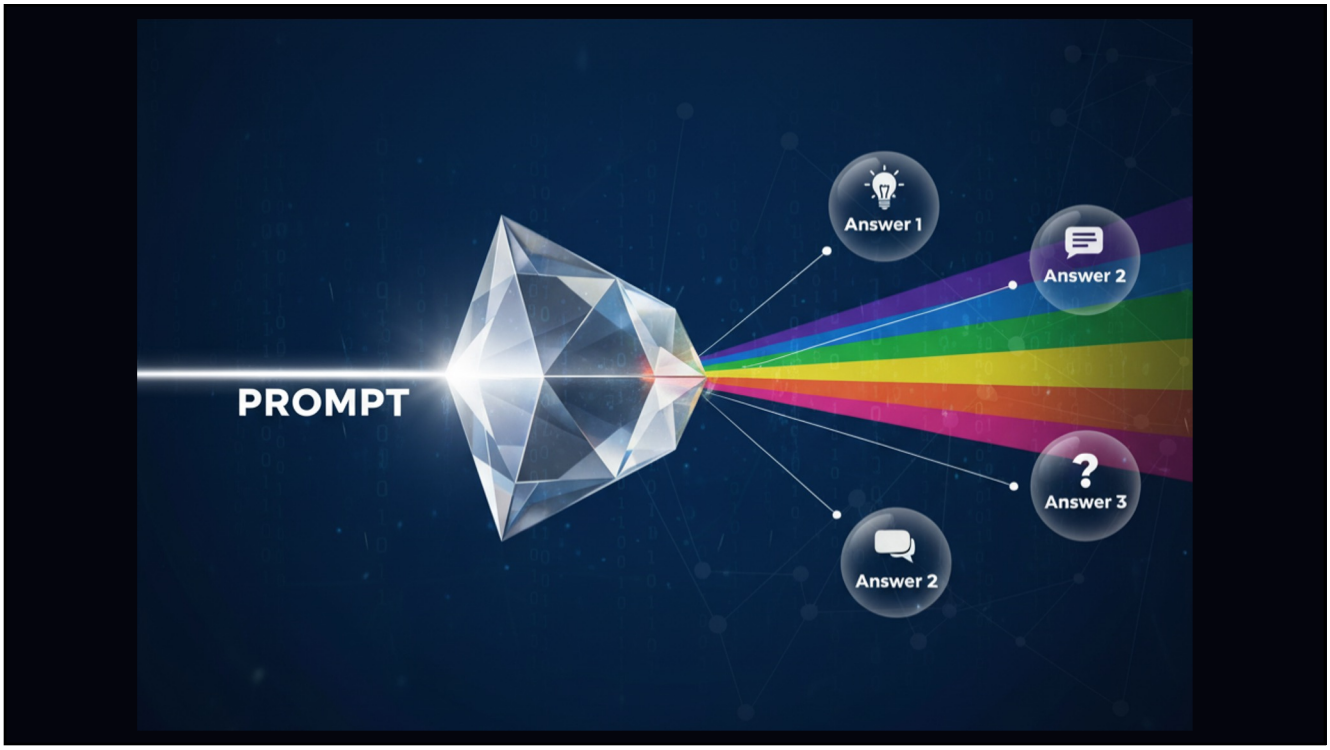

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Tell me 3 ways ….

Answer 1

Answer 2

Answer 3

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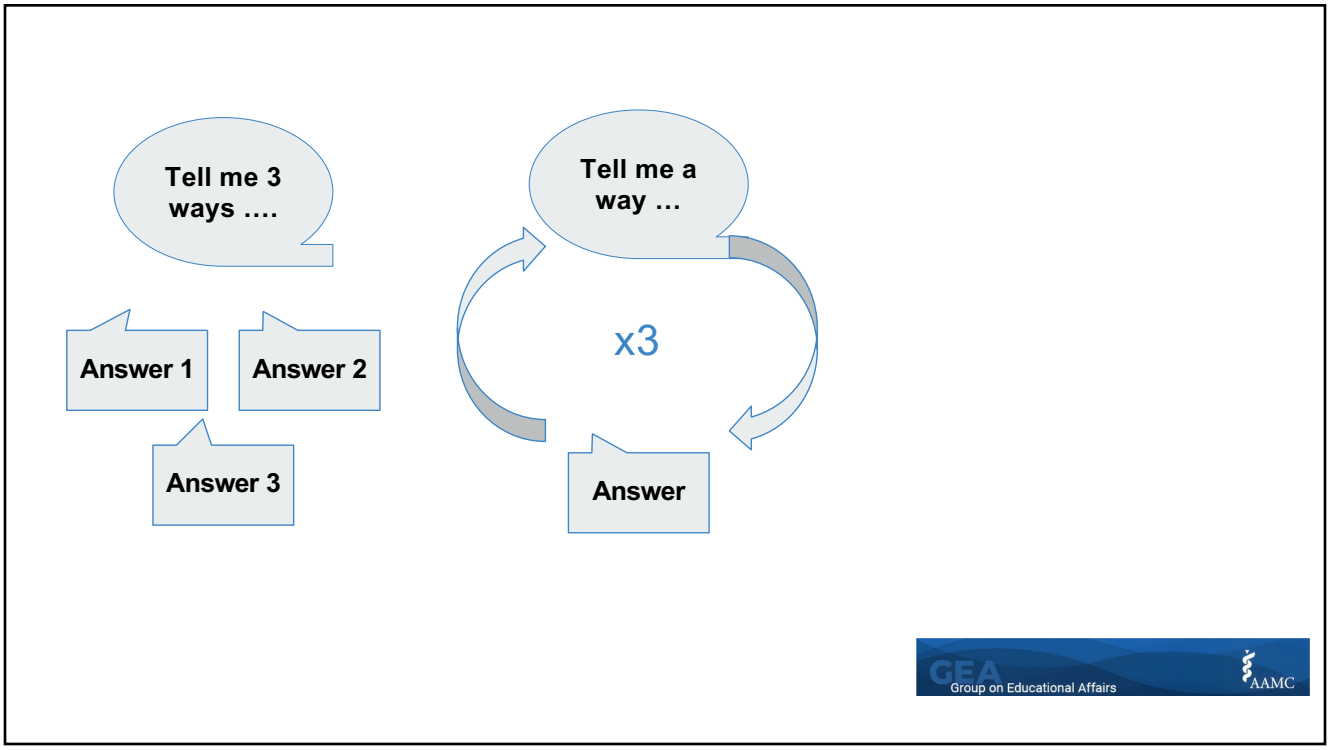
Tell me 3 ways ….
Answer 1
Answer 2
Answer 3
Tell me a way …
x3
Answer
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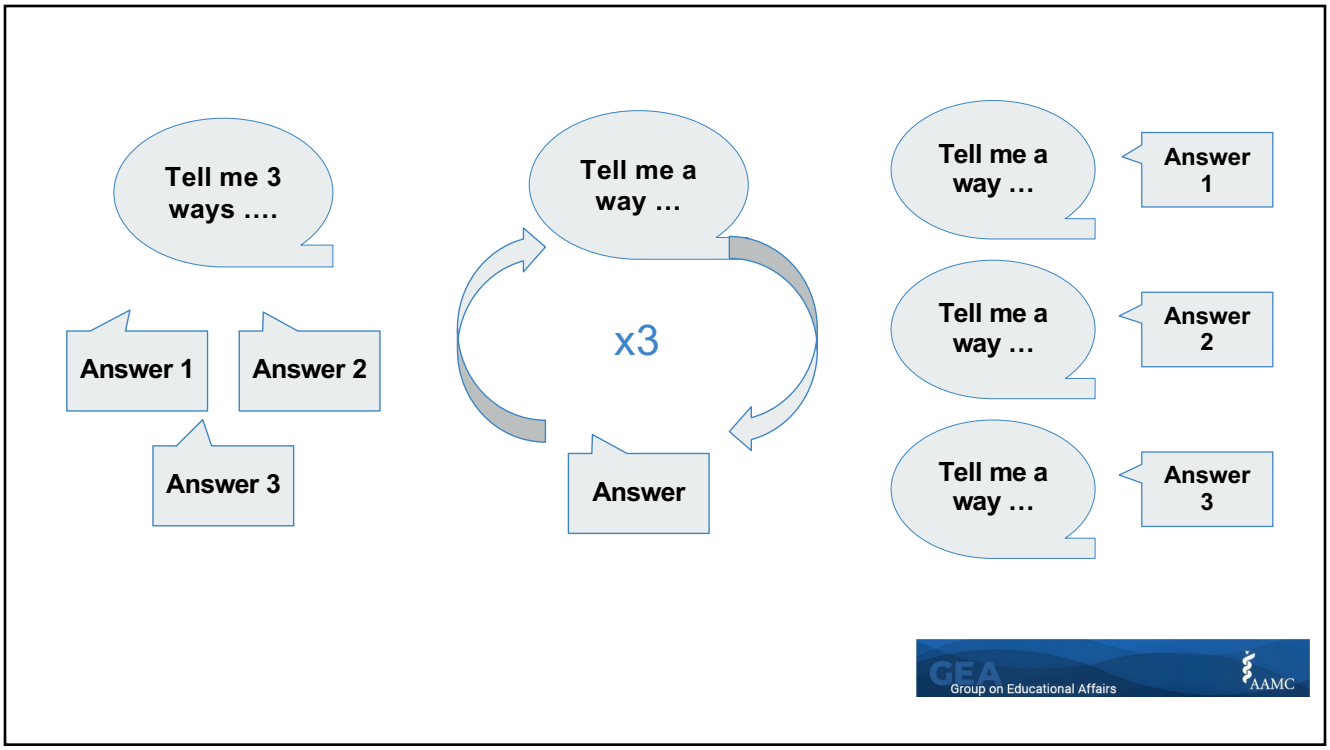
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x3
Answer
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Long X, Boscardin C, Maggio LA, Costello JA, Gonzales R, Hammoudeh R, Lai K, Park YS, Gin BC. Hallucination vs interpretation. (2025) https://doi.org/10.48550/arXiv.2508.09458

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What is the title of the paper?

Long X, Boscardin C, Maggio LA, Costello JA, Gonzales R, Hammoudeh R, Lai K, Park YS, Gin BC. Hallucination vs interpretation. (2025) https://doi.org/10.48550/arXiv.2508.09458

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Frame this paper in the literature.

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No autonomy
Level of Trust in AI
Full autonomy
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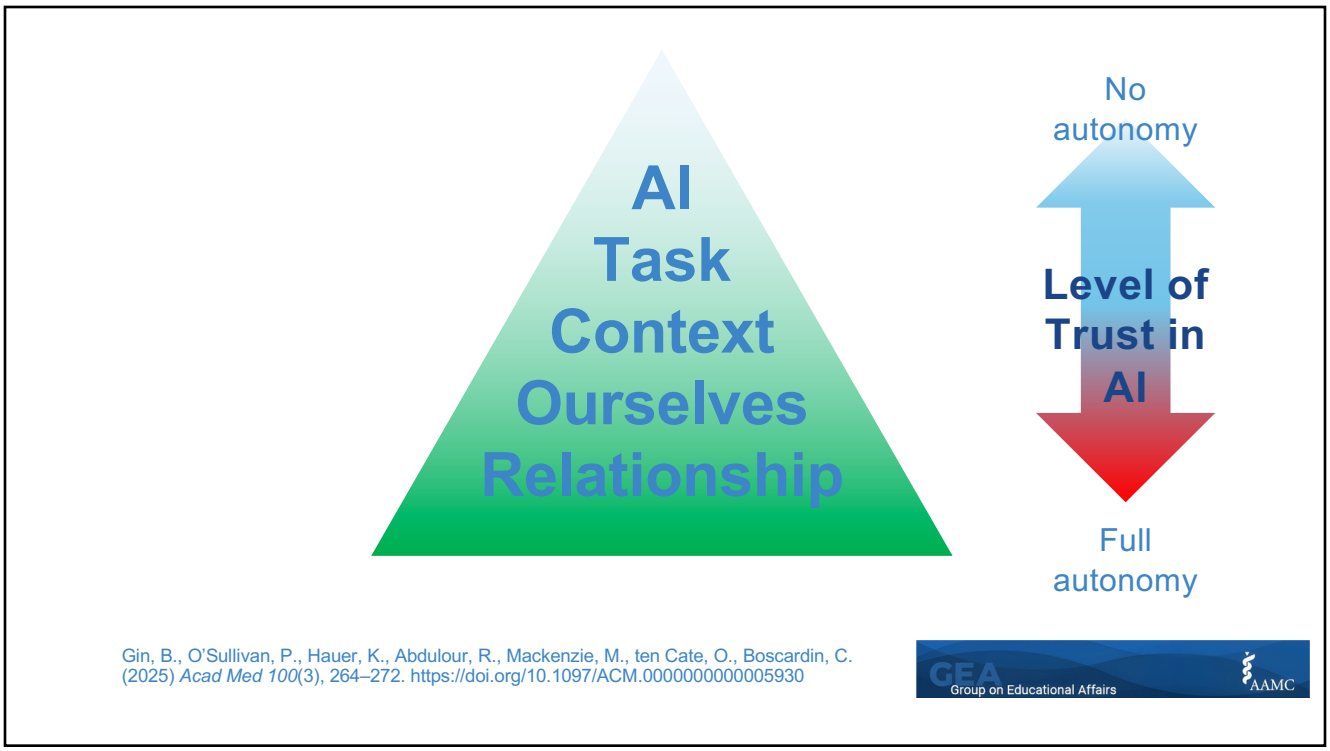
AI
Task
Context
Ourselves
Relationship
No autonomy
Level of Trust in AI
Full autonomy
Gin, B., O'Sullivan, P., Hauer, K., Abdulour, R., Mackenzie, M., ten Cate, O., Boscardin, C. (2025) Acad Med 100(3), 264–272. https://doi.org/10.1097/ACM.0000000000005930
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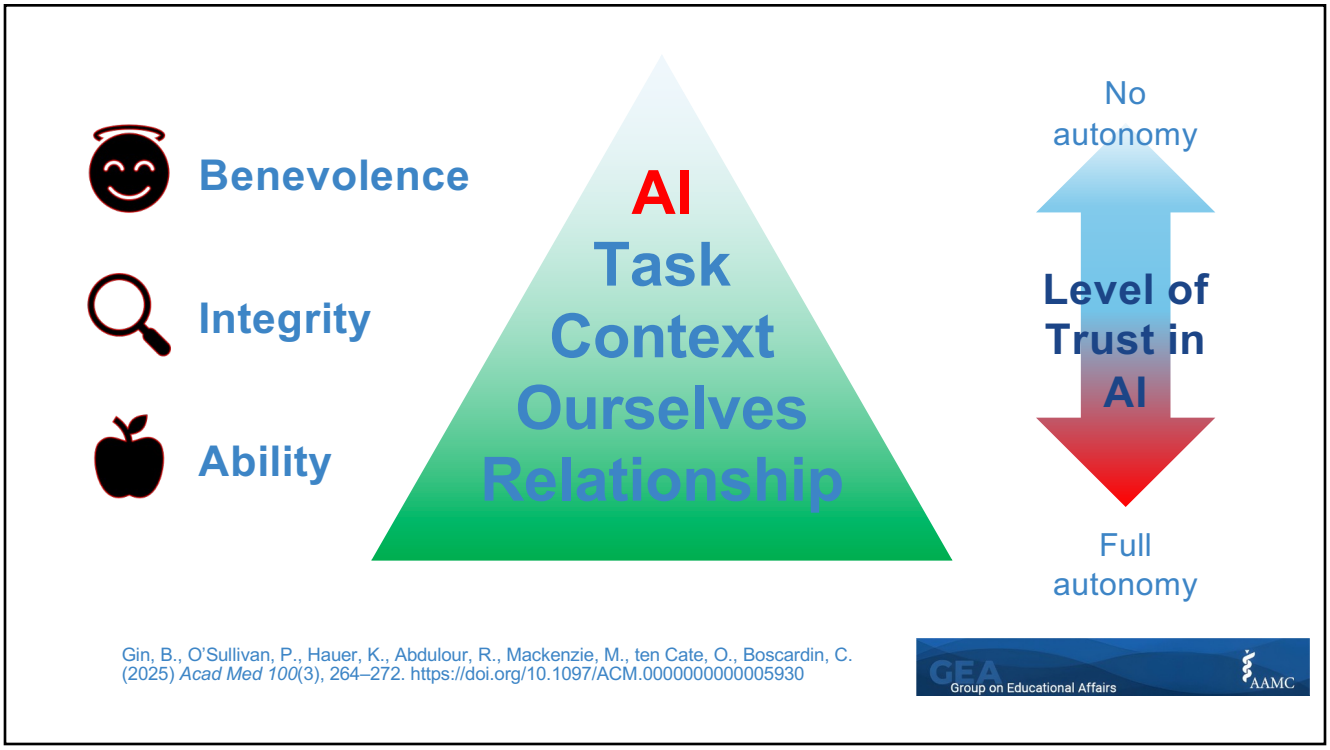

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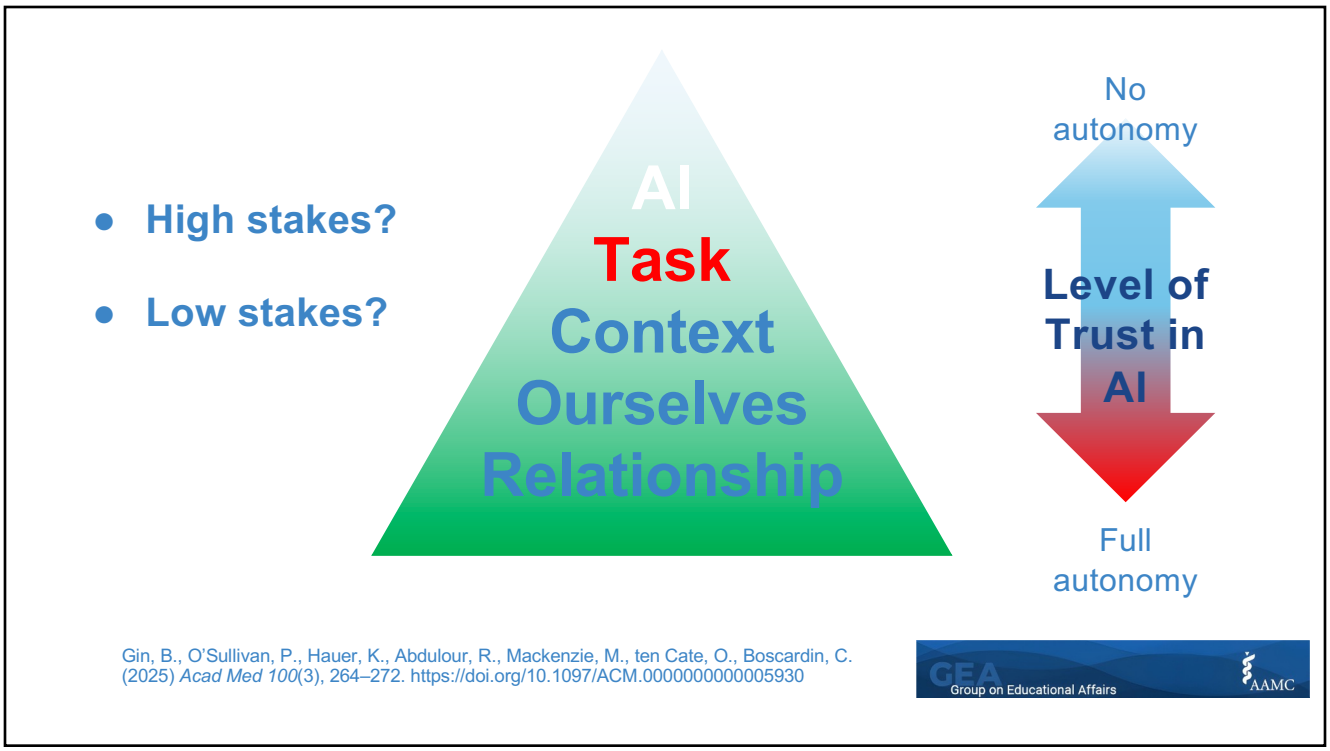

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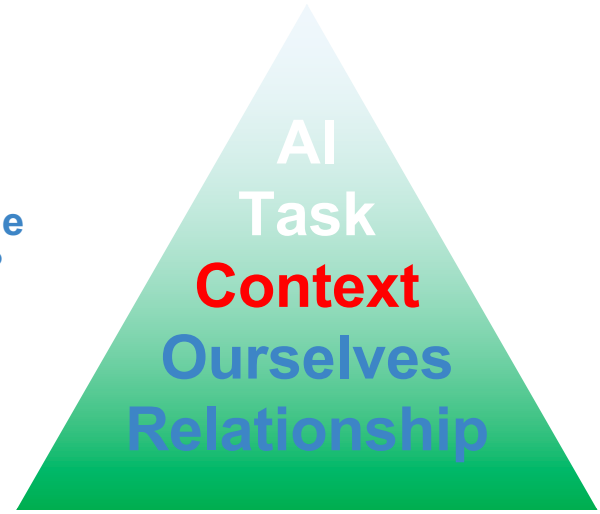
- What is the **added value** of using AI?



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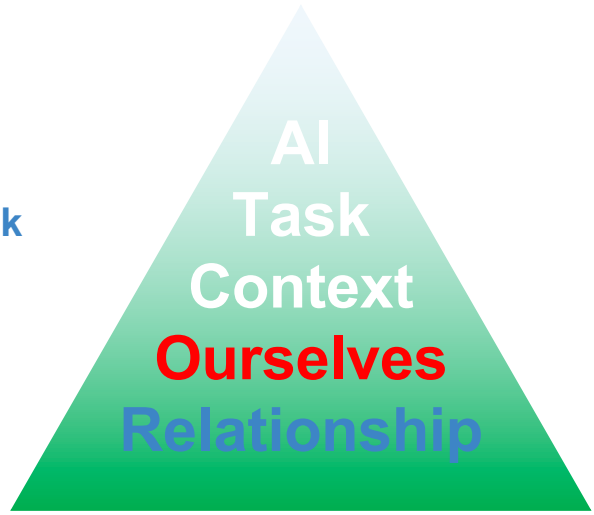
- What is our personal **risk tolerance?**



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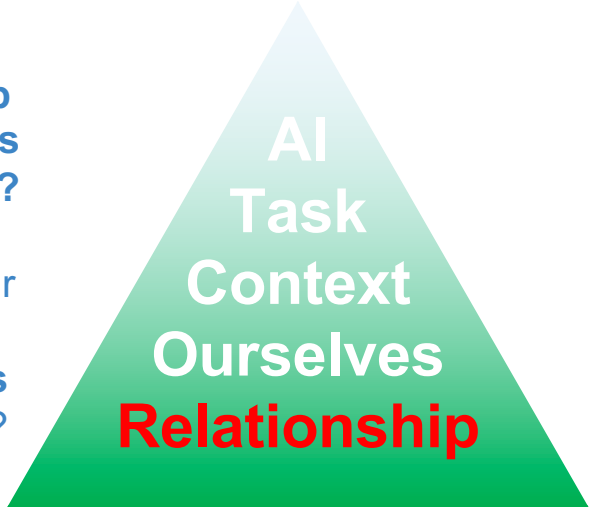
- What is our **relationship with the AI's developers?**
- What are our **shared motivations** for using AI?



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An Entrustment Scale for AI

Entrustment Level	Task Examples	Stakes
1 - **AI is ineligible** for any autonomous role in task performance		
2 - AI may take **a supporting role** in task performance, with constant human supervision		
3 – AI may contribute to task performance via **equivalent collaboration** with humans		
4 – AI may take a **leading role** in task performance, with limited human supervision		
5 – AI may take **full autonomy** in task performance		

Gin, B., O'Sullivan, P., Hauer, K., Abdulour, R., Mackenzie, M., ten Cate, O., Boscardin, C. (2025) *Acad Med 100*(3), 264–272. https://doi.org/10.1097/ACM.0000000000005930

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An Entrustment Scale for AI

Example: a consensus study to develop "AI milestones"

Entrustment Level	Task Examples	Stakes
1 - **AI is ineligible** for any autonomous role in task performance	Final definitions of the milestones and and their level descriptions	High
2 - AI may take **a supporting role** in task performance, with constant human supervision	Drafting of prospective milestone descriptions based on human-written outlines	Moderate
3 – AI may contribute to task performance via **equivalent collaboration** with humans	Extracting data and examples from prior studies and literature	Moderate
4 – AI may take a **leading role** in task performance, with limited human supervision	Organizing meeting transcripts into notes and themes	Moderate
5 – AI may take **full autonomy** in task performance	Transcribing meetings or discussions between human experts	Low

Gin, B., O'Sullivan, P., Hauer, K., Abdulour, R., Mackenzie, M., ten Cate, O., Boscardin, C. (2025) *Acad Med 100*(3), 264–272. https://doi.org/10.1097/ACM.0000000000005930

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Augmenting Literature Reviews Using Elicit

LaTeesa N. James, MLIS, MA
Taubman Health Sciences Library
University of Michigan

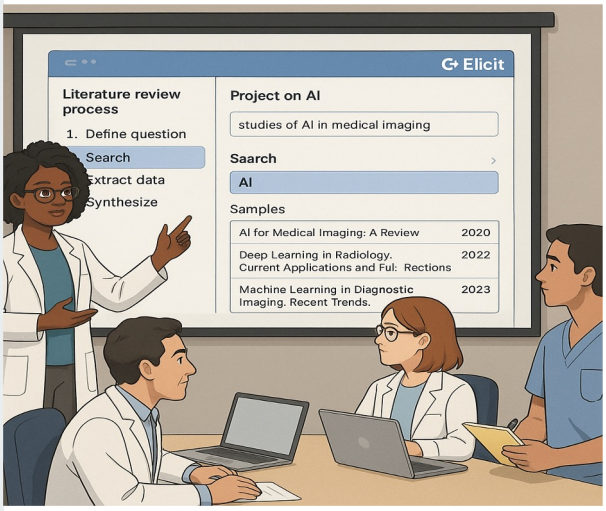

Image created by U-M GPT Image Generator

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Logo provided by Google Images

https://elicit.com/ *[CORPUS = Semantic Scholar]*

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Why Use Elicit for Literature Reviews?

1. Efficiency

- Summarizes abstracts and full-texts in seconds. Extracts outcomes, interventions, and study details into structured tables — tasks that otherwise take hours.

2. Breadth

- Searches across **125M+ papers** (Semantic Scholar, PubMed, etc.).
  Useful for scoping reviews, rapid evidence scans, or horizon scanning.

3. Transparency & Structure

- Provides metadata (study design, sample size, outcomes).
- AI-generated summaries are linked back to source text for verification.

4. Versatility

- **Discovery**: Identify interventions, outcomes, and populations studied.
- **Comparison**: Contrast interventions vs. comparators across studies.
- **Extraction**: Build structured datasets (e.g., adverse events, sample sizes).
- **Gap Identification**: Highlight where evidence is thin or missing.

5. Human-in-the-Loop

- Doesn't replace critical appraisal — instead, accelerates repetitive tasks.
- Frees researchers to focus on synthesis, judgment, and interpretation.

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How to use Elicit to Augment Literature Review Processes

Image created by U-M GPT Image Generator

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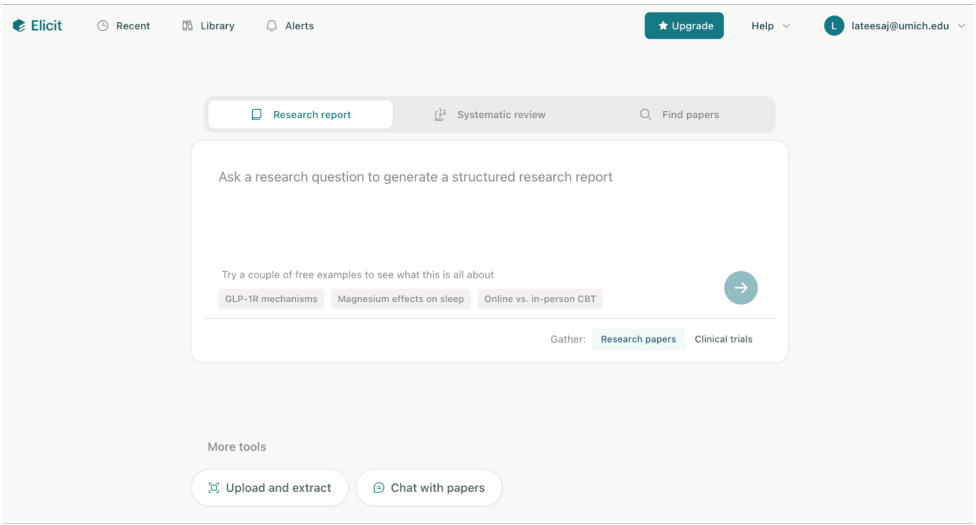
Let's Practice with Use Cases



https://elicit.com/

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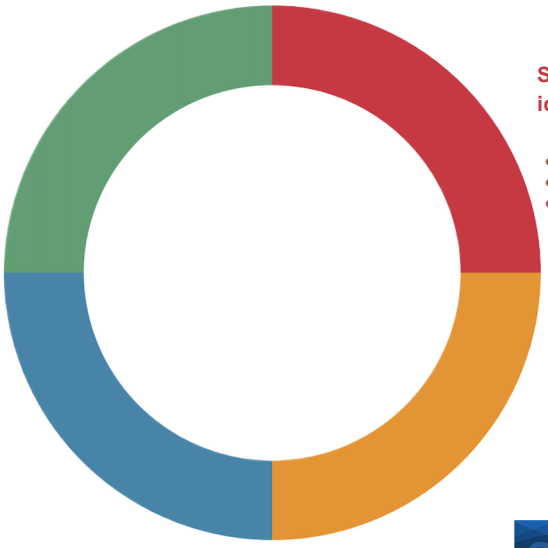
Elicit Use Cases for Literature Reviews

Defining the research question

- Refine research idea
- Identify related concepts
- Ensure clarity and precision



Synthesizing evidence & identifying gaps

- Group by outcome or population
- Spot trends in evidence
- Identify research gaps

Exploring existing evidence

- Map the evidence landscape
- Surface key studies
- Spot commonly studied interventions

Extracting and organizing study data

- Pull structured outcomes from studies
- Summarize key characteristics
- Save time before manual extraction

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Strengths for Literature Reviews

- 💪🏾 Summarizes abstracts & full texts quickly
- 💪🏾 Builds structured tables (intervention, comparator, outcomes)
- 💪🏾 Exports (CSV, RIS, BibTeX) for transparency & reproducibility
- 💪🏾 Keeps the researcher in control — human-in-the-loop

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Limitations for Literature Reviews

- Limited database coverage (relies mainly on Semantic Scholar)
- Summaries/extractions may be inaccurate or incomplete
- Cannot assess study quality, risk of bias, or relevance
- Workflow limits (PDF quotas, column caps, and higher features locked behind Pro/Team)
- Lacks advanced Boolean precision of PubMed/Embase searches
- Requires manual verification of extracted data

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Elicit Subscription Plans & Features (2025)

Feature	Basic (Free)	Plus ($12/mo)	Pro ($49/mo)	Team ($79/seat/mo)
Search & Summaries	Unlimited search across 125M+ papers Summarize & chat with up to 4 PDFs	Up to 8 PDFs	Same as Plus	Same as Pro
PDF Data Extraction	**20 PDFs / month**	**50 PDFs / month (600/year)**	**200 PDFs / month (2,400/year)**	**300 PDFs / user / month (3,600/year pooled)**
Extraction Table Columns	Up to 2 columns	Up to 5 columns	Up to 20 columns	Up to 30 columns
Exports	Limited (tables, small sets)	Unlimited (CSV, BIB, RIS)	Unlimited (all workflows)	Unlimited (all workflows)
Systematic Review Workflow	Not available	Not available	**Full guided flow: search → screening → extraction → report**	Same as Pro, but collaborative
Alerts (new research monitoring)	None	None	**10 concurrent alerts**	**10 concurrent alerts / user**
Collaboration	Individual only	Individual only	Individual only	**Shared notebooks, systematic reviews, team editing**
Admin & Support	Standard	Standard	Priority	**Admin panel + priority support**

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Tips/Warnings for Literature Reviews

- Cross-verify with trusted databases
- Use Elicit to aid, not replace
- Evaluate results for bias
- Use established checklists: Apply tools like the GRADE system, Cochrane Risk of Bias Tool, or PRISMA guidelines to evaluate the methodological rigor and reporting of the included studies
- Proper citation practices
- Check if potential publication prohibits AI use in submissions
- Ensure compliance with licensing regulations when uploading PDFs to Elicit or any AI tool (don't violate copyright or licensing policies)

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Transparency is Key

Document the use of Elicit in the methods of your review just like you would another tool (e.g., Covidence, Rayyan)

Example language:

"We used Elicit, an AI-powered evidence synthesis tool, to support the creation of our search strategy by generating related keywords, concepts and term variations. All AI-suggested terms and queries were reviewed and refined by the research team, then cross-checked against standard databases (e.g., PubMed, Embase) to ensure completeness."

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Think of Elicit as Complementary

Elicit can help us with the literature review process, but PRISMA reporting guidelines, along with other guidelines, are what keeps our reviews rigorous and transparent.

*Remember to reach out to a medical librarian for assistance!

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Augmenting Analysis

ONE method & example
Melinda Turner, EdD

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Why This Matters

- Qualitative analysis = turning stories into meaning
- Qualitative analysis is interpretive by nature - perfect place to thoughtfully use AI as a partner (not replacement)
- AI can help organize, surface, and compare themes — without replacing researcher judgment
- Recognize ethical considerations when using AI for research and scholarly work

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Notebook LM

NotebookLM

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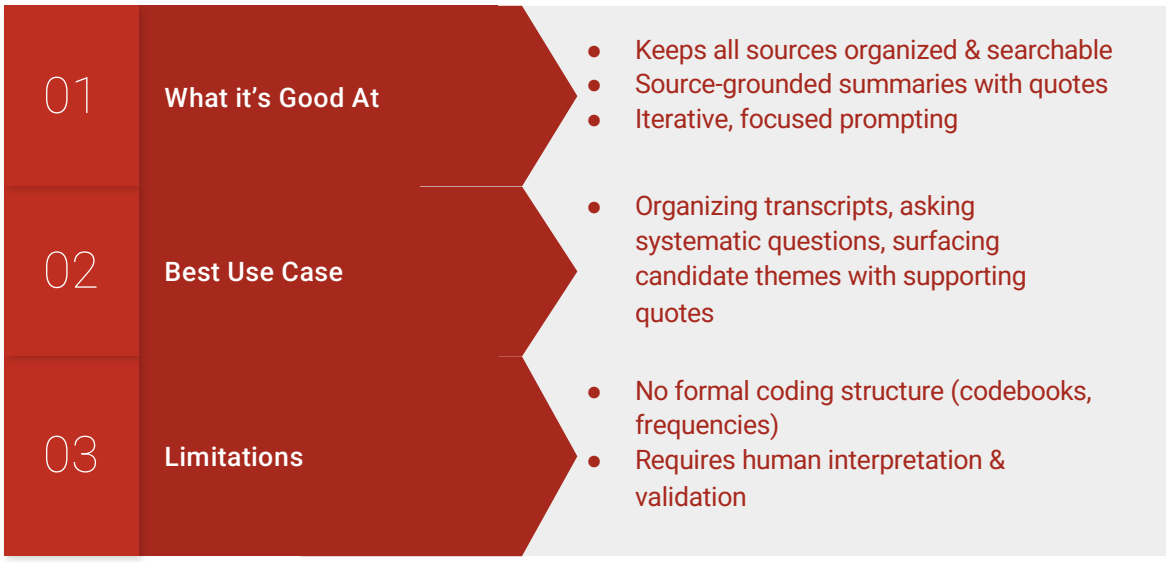

Notebook LM

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Comparison - Focus on Qualitative Analysis

Tool	What It's Good At	Best Use Case
ChatGPT	Quick summaries, brainstorming codes, exploring multiple viewpoints	Early thematic probing, memo drafting
NotebookLM	**Keeps sources organized, generates source-grounded notes with quotes**	**Systematic questioning of transcripts, surfacing candidate themes**
Elicit	Finds/summarizes research papers, organizes evidence	Building theoretical frameworks, synthesizing literature
CAQDAS (NVivo, ATLAS.ti, MAXQDA)	Manual coding, codebooks, audit trails, team workflows	Rigorous coding projects needing defensible methodology

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How to Use NotebookLM for Qualitative Analysis

Demo

NotebookLM

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Takeaways

Things to remember…

1. When deciding how much to trust an AI, we can also consider the range of responses it produces, and the viewpoint(s) it may or may not reflect.
2. AI tools like Elicit can enhance evidence discovery and skill-building but must be used responsibly and transparently.
3. NotebookLM helps you quickly organize and explore qualitative data, but you — not the AI — make the final decisions about themes and meaning.

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Stay Connected & Continue Learning

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CME & Session Evaluation

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CME ACTIVITY INFORMATION

Activity Name: Enduring: Using AI with Data and Scholarship

Date: September 19, 2025 – May 14, 2028

Activity Code: 95271

Speaker Name: Heather Billings; Brian Gin, MD, PhD; LaTeesa James, MLIS; Melinda Turner, EdD

Target Audience: Regional physicians, residents, students, faculty

Learning Objectives: *at the conclusion of this educational activity, learners will be able to:*
Objective 1: Explore AI tools for analyzing and interpreting educational and research data.
Objective 2: Use AI to streamline literature reviews, data visualization, and academic writing.
Objective 3: Recognize ethical considerations when using AI for research and scholarly work.
Objective 4: Practice transparency and attribution for AI contributions in their work.

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Michigan State University designates this activity for a maximum of 1.0 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Summary of Financial Disclosures:
All planners, reviewers, faculty presenters have nothing to disclose.

Commercial Support Disclosure:
No commercial support was provided for this CME activity

Review Date: SEPTEMBER 19, 2025
Original Release Date: SEPTEMBER 18, 2025
Termination Date: MAY 14, 2028

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   - Click on the **Sign In** option on the left menu
   - Enter your email and password to log into the system. You will be required to create a profile if you have not used the system before.
   - Enter the activity code provided on this sheet.
   - Complete the evaluation and attest to your time in attendance, then follow the screen instructions to print your certificate. Make sure your computer is set to allow pop-ups from the site or the certificate will not show.

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