

# Using Generative AI for Finding Data

Todd Quinn

Business & Economics Librarian

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Associate Professor

University of New Mexico

tq@unm.edu

[Bio?](#)

# Agenda

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**What are Generative Artificial Intelligence (Gen AI) tools**

**Caveats**

**Prompt engineering**

**Finding data**

**Other uses**

**Discussion**

**Resources**

# Gen AI

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Generative AI can be thought of as a machine-learning model that is trained to create new data, rather than making a prediction about a specific dataset. A generative AI system is one that learns to generate more objects that look like the data it was trained on.

Zewe, Adam. (November 2023) Explained: Generative AI. *MIT News*.  
<https://news.mit.edu/2023/explained-generative-ai-1109>

# Gen AI

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“An artificial intelligence language model that uses deep learning algorithms to comprehend and generate text in natural language”

Lo, Leo S. (2023) My new favorite research partner is an AI: What roles can librarians play in the future? *College & Research Libraries News* 84(6). <https://doi.org/10.5860/crln.84.6.209>

# Gen AI

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“Generative AI is a type of artificial intelligence that can create new data, such as text, images, code, and music. This is in contrast to traditional AI, which is more focused on tasks such as classification and prediction.”

Bard by Google



# Caveats / Risks

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Hallucinations (page 9 of doc)

Bias / misinformation

- Amplification
- *Weapons of Math Destruction* by Cathy O'Neil
- *Algorithms of the Oppressed* by Safiya Noble

Hostile takeover

Privacy

Lack of transparency

Jobs

Environmental

# Prompt engineering

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“Constructing queries or inputs for AI language models so as to elicit the most precise, coherent, and pertinent responses.

“The art of fine tuning the questions or commands provided to AI models in order to optimize their performance...”

# CLEAR Framework for prompts

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**Concise:** brevity and clarity

**Logical:** structured and coherent

**Explicit:** clear output specifications

**Adaptive:** flexibility and customization

**Reflective:** continuous evaluation and improvement

Lo, Leo S. (2023). The CLEAR path: A framework for enhancing information literacy through prompt engineering. *The Journal of Academic Librarianship*, 49(4). <https://doi.org/10.1016/j.acalib.2023.102720>



# Concise

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“Can you provide me with a detailed explanation of the process of data collection?”

“Explain the process of demographic survey data collection”

<https://g.co/bard/share/131d5ec8a541>

# Logical

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*List the steps* to conduct a research survey, beginning with selecting a population and ending with data cleaning”

*Describe the steps* in writing a policy review on poverty for state government.

<https://claude.ai/chat/7e304ec9-777b-4a13-951a-fc40a2e08403>

# Explicit

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*Instead of, “Tell me about the Data Science,”*

**an explicit prompt** - “Provide a concise overview of the Data Science and its use in public policy

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*Instead of “What are some data sources?”*

**an explicit prompt** - “Identify five sources for renewable energy data and provide a short overview of each source.”

<https://chat.openai.com/share/c8322006-637c-422e-b422-ac657ee8e250>

# Adaptive

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Start - “Discuss the impact of social media on mental health”

Adaptable prompt “Examine the relationship between social media usage and anxiety in adolescents.”

Start - What are some ways to conserve water?”

Adaptive prompt, “List 10 water agency practices for conserving water and their potential impact.”

<https://g.co/bard/share/fc89fc7ca1d1>

# Reflective

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Always review and evaluate

# Examples of finding data

**Provide me three census acs tables that help explain poverty in new Mexico**

<https://chat.openai.com/share/436f8104-32f2-42c0-aa75-0106ba8cd8d7>

**what ACS 5 yr census tables help explain poverty in New Mexico?**

<https://g.co/bard/share/aaf68d4ed305>

**what reports from the department of homeland security cover immigration?**

<https://chat.openai.com/share/227fbf8d-bef9-46c6-8514-a2cc33561318>

**Price elasticity example from FRED**

<https://chat.openai.com/share/86244ebe-9223-4b37-8403-b8e3bc7fa975>

# Examples of finding data

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**Can you provide a comma-delimited table of latitude, longitude, and city name for 10 cities in the northern new mexico?**

<https://g.co/bard/share/9a484f8d2529>

**You are gis analyst - using usgs data, create a comma-delimited list of earthquakes from November 12, 2023 0:00:00 (UTC) that have a magnitude 5.0 or greater. Include latitude, longitude, magnitude, date, and nearest location.**

<https://g.co/bard/share/09f42e3204c1>

**I want data on the colorado river flow into New Mexico, what three sources are good starting points**

<https://g.co/bard/share/4c380695fe0b>

# Some other uses

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Upload a document to help with review or analysis

*New Mexico Association of Grantmakers: The Economic Impact of  
Nonprofit Organizations in New Mexico - BBERs*

<https://claude.ai/chat/b898d265-5b19-4726-ba6d-3da30274921b>

[Formula](#) help in Excel

Economic development - [barbershop](#)



# Gen AI Tools used

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Bard by Google

ChatGPT 3.5 by OpenAI

Claude.ai by Anthropic

Perplexity.ai

# Resources 1

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Zewe, Adam. (November 2023) Explained: Generative AI. *MIT News*.

<https://news.mit.edu/2023/explained-generative-ai-1109>

Gartner (2023). Gartner Experts Answer the Top Generative AI Questions for Your Enterprise.

<https://www.gartner.com/en/topics/generative-ai>

Pavlick, Ellie (March 2023). A Crash Course in Generative AI. *MIT GenAI Summit*.

<https://youtu.be/f5Cm68GzEDE>

Artificial Intelligence (AI) in Education (UNM Libraries) -

<https://libguides.unm.edu/AInEducation>

Muro, Mark & Liu, Sifan (September 2023). The geography of AI: Which cities will drive the artificial intelligence revolution? *Brookings Institute*. <https://www.brookings.edu/articles/the-geography-of-ai/>

# Resources 2

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Generative AI as a Research Tool. *Brown University OTI*

<https://ithelp.brown.edu/kb/articles/generative-ai-as-a-research-tool>

Baker, Tom (July 2023). Using generative AI to write a map description. *ESRI blog*.

<https://community.esri.com/t5/education-blog/using-generative-ai-to-write-a-map-description/ba-p/1311046>

Baker, Tom (August 2023). Using generative AI to create geographic data. *ESRI blog*.

<https://community.esri.com/t5/education-blog/using-generative-ai-to-create-geographic-data/ba-p/1321777>

Urban AI. The Power of Generative AI in Urban Planning: Text2Map Revolution. *Medium*.

<https://medium.com/urban-ai/the-power-of-generative-ai-in-urban-planning-text2map-revolution-38544f02fb29>