

# GenAI for Research

Student Training Workshop (UTS)

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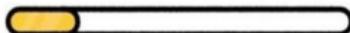
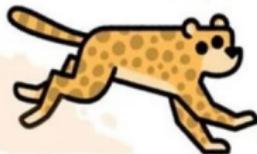
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# Overview

- 1 Examples of Generative AI Tools
- 2 Prompt Writing for Research Tasks
- 3 AI Tools for Literature Search
- 4 Using AI for Literature Review
- 5 Writing with AI

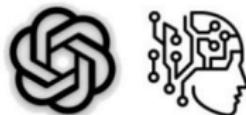
## THE FASTEST THINGS ON EARTH



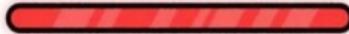
CHEETAH



AIRPLANE



SPEED OF LIGHT

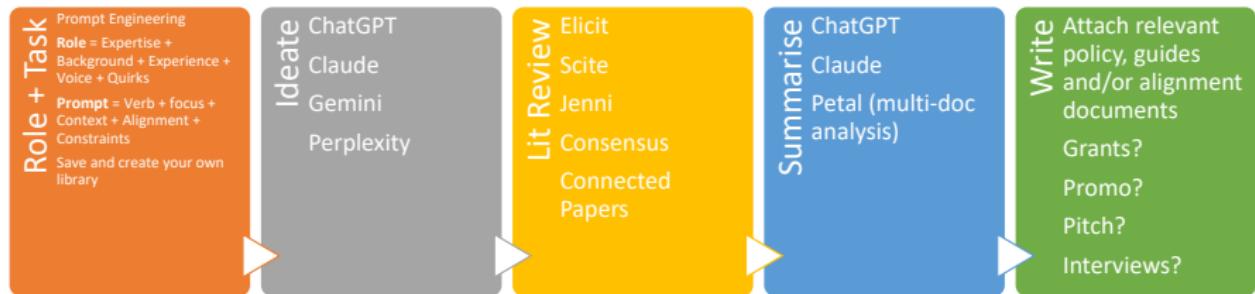


PEOPLE BECOMING EXPERTS IN AI

# Examples of Generative AI Tools

- ChatGPT (OpenAI)
  - URL: <https://chat.openai.com/>
- Claude (Anthropic)
  - URL: <https://claude.ai/chats>
- Gemini (Google)
  - URL: <https://gemini.google.com/app>
- Perplexity
  - URL: <https://www.perplexity.ai/>

# The process



Data extraction, analysis, and modeling using AI?

- A separate workshop.
- Still evolving but...
- <https://iris.ai/product>

# Writing Effective Prompts

Ask the right questions (...and be specific):

- Be specific about the task and desired outcome.
- Use clear and concise language.
- Iterate and refine prompts to improve responses.

## Prompt Engineering Resources

- Anthropic Prompt Library
  - URL:  
<https://docs.anthropic.com/en/prompt-library/library>
- AI Workbook by Bron Eager
  - URL: <https://broneager.com/workbook>

# Prompt Example: Lesson Plan

## Initial Prompt

- "Please write a lesson plan for my upcoming class on the topic of entrepreneurial mindset, including practical activities, critical thinking exercises, and discussion points."

## Iterative Refinement

- "Ensure the lesson plan aligns with the learning outcomes: 1) Evaluate small business management theories, 2) Address contemporary challenges, 3) Communicate strategies."

# Semantic Search Tools

- Elicit
  - URL: <https://elicit.com/>
  - structured lit review
- Scite
  - URL: <https://scite.ai/>
- Consensus
  - URL: <https://consensus.app/>
- Research Rabbit
  - URL: <https://www.researchrabbit.ai/>
- Connected Papers
  - URL: <https://www.connectedpapers.com/>
- Litmaps
  - URL: <https://www.litmaps.com/features>

# YouTube Tutorials for Literature Search

Andy Stapleton:

- Semantic Search Tutorial 1
- Semantic Search Tutorial 2

# Multi-Doc Chat with Petal

- URL: <https://www.petal.org/?via=broneager>
- Blog Post: Petal AI Literature Review
- Example Application: Scoping review using Petal.

# Visualise your literature

<https://www.litmaps.com/features>



- displays papers in a graph
- x: Date, y: Citations
- Because older papers get cited more, papers tend to be sitting close to a diagonal.
- look right and up from the diagonal and you will immediately find papers that have many citations **AND** are recent.

# Editing Capabilities

- Shortening text
- Expanding text
- Changing tone

# Prompts for editing: Verbs

The image shows a screenshot of an Instagram post. The post is from a user named ABI Bouhmaida (@forgoodcode). The caption reads: "AI Prompts that are better than 'Rewrite':". Below the caption is a numbered list of five AI prompt types. The background of the post is black.

1. **Paraphrase:** This is useful when you want to avoid plagiarism.
2. **Reframe:** Change the perspective or focus of the rewrite.
3. **Summarize:** When you want a quick overview of a lengthy topic.
4. **Expand:** For a more comprehensive understanding of a topic.
5. **Explain:** Make the meaning of something clearer in the rewrite.

# Prompts for editing: Verbs

6. Reinterpret: Provide a possible meaning or understanding.
7. Simplify: Reduce the complexity of the language.
8. Elaborate: Add more detail or explanation to a given point.
9. Amplify: Strengthen the message or point in the rewrite.
10. Clarify: Make a confusing point or statement clearer.
11. Adapt: Modify the text for a different audience or purpose.
12. Modernize: Update older language or concepts to be more current.

# Prompts for editing: Verbs

13. **Formalize:** This asks to rewrite informal or casual language into a more formal or professional style. Useful for business or academic contexts.
14. **Informalize:** Use this for social media posts, blogs, email campaigns, or any context where a more colloquial style and relaxed tone is right.
15. **Condense:** Make the rewrite shorter by restricting it to key points.
16. **Emphasize/Reiterate:** Highlight certain points more than others.

# Prompts for editing: Verbs

17. Diversify: Add variety, perhaps in sentence structure or vocabulary.
18. Neutralize: Remove bias or opinion, making the text more objective.
19. Streamline: Remove unnecessary content or fluff.
20. Enrich/Embellish: Add more pizzazz or detail to the rewrite.
21. Illustrate: Provide examples to better explain the point.
22. Synthesize: Combine different pieces of information.

# Prompts for editing: Verbs

23. **Sensationalize:** Make the rewrite more dramatic. Great for clickbait!
24. **Humanize:** Make the text more relatable or personal. Great for blogs!
25. **Elevate:** Prompt for a rewrite that is more sophisticated or impressive.
26. **Illuminate:** Prompt for a rewrite that is crystal-clear or enlightening.
27. **Enliven/Energize:** Means make the text more lively or interesting.

# Prompts for editing: Verbs

23. **Soft-pedal:** Means to downplay or reduce the intensity of the text.
24. **Exaggerate:** When you want to hype-up hyperbole in the rewrite. Great for sales pitches (just watch those pesky facts)!
25. **Downplay:** When you want a more mellow, mild-mannered tone. Great for research, and no-nonsense evidence-based testimonials.
26. **Glamorize:** Prompt to make the rewrite sexier and more appealing.

# Additional Tools I

Citation of statements and claims:

- URL: <https://jenni.ai/>
- URL: <https://aithor.com/>
- URL: <https://paperpal.com/>
- URL: <https://search.crossref.org/> - just a database for BibTeX citations

Collects and organizes AI tools:

- URL: <https://http://futuretools.io/>

Presentations in minutes:

- URL: <https://www.beautiful.ai/>

# Additional Tools II

AI grammar and style analysers:

- URL: <https://prowritingaid.com/>
- URL: <https://www.trinka.ai/features/latex-grammar-checker>
- URL: <https://quillbot.com/>
- URL: <https://hix.ai/>
- URL: <https://rytr.me/>

SEOs to create content based on top web search results:

- URL: <https://www.frase.io/>
- URL: <https://aiseo.ai/>
- URL: <https://easy-peasy.ai/>

# Questions and Discussion



This message brought to you by that  
manuscript you're supposed to be writing.