Moderator

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NVIVO

Who are we?

Lumivero
Leaders in data collaboration software for business and academia.

Our mission
Organize, analyze, and collaborate on data to empower actionable insights and decisions.

Our Qualitative Data Analysis Solution

NVIVO

Learn more about NVivo

Presenters

NVIVO

Dr. Susanne Friese is a highly accomplished and experienced professional in the field of qualitative research. She has established herself as a prominent figure in the qualitative research community and recently emerged as a thought leader in the integration of AI with qualitative research.

With over 30 years of experience in the development of computer-assisted qualitative data analysis software (QDAS), Dr. Friese has been both a witness and active participant in this field's evolution. She firmly believes that AI represents a new player on the scene, bringing us to the brink of a paradigm shift that will revolutionize how we analyze qualitative data in the future.
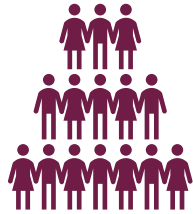
DR SUSANNE FRIESE
Founder,
Qeludra

NVIVO

Issues we could address

Sustainability and Environmental Ethics

Crowdsourcing / Fair compensation / Labour rights / invisible labour and recognition

Mental Health & Well-being

Data Harvesting Practices

Issues we'll address in this presentation

Bias

Protection of research participants

Privacy and Regulatory compliance (GDPR, CPRA)
Consent & Transparency
Data Security

Ethical responsible data analysis with AI

Ethical responsible reporting

Bias

"It is important to highlight the shortcomings and criticisms of AI, such as the potential bias towards data or perspectives. **This is especially true if AI in the form of a depth learning model is trained using a dataset that itself contains biased information,** *which could then lead to the generation of biased responses."*

Christou, P. (2023). How to Use Artificial Intelligence (AI) as a Resource, Methodological and Analysis Tool in Qualitative Research? The Qualitative Report, 28(7), 1968-1980.

Bias

Biases are not inherently bad

- Efficient decision making
- Enhancing learning and adaptation
- Strengthen social bonds
- Facilitate Communication
- Promote Safety and Well-being
- Preserving cultural heritage

What matters is how we deal with it

- Awareness and reflection
- Critical examination

There is no value free science

"The bricoleur understands that research is an interactive process, shaped by his or her personal history, biography, gender, social class, race, and ethnicity, and those of the people in the setting."

Denzin, N. K., & Lincoln, Y. S. (Eds.). (1994). *Handbook of qualitative research*. Sage Publications.

Protecting Research Participants

Confidentiality Agreements

- **Introduction of Parties:** the party owning the data/the party using the data, which could include AI tools

- **Definition of Confidential Information:** Specify what constitutes confidential information in the context of your research. This might include raw data, interview transcripts, audio recordings, AI-generated reports, and any notes or analyses produced during the study.

- **Purpose of the Confidentiality Agreement:** (solely for the intended research and not disclosed to any unauthorized parties)

- **Obligations of the Receiving Party:** (using the information only for the purposes of the research, not disclosing the information to third parties, their team members or subcontractors)

Confidentiality Agreements

- **Duration of the Confidentiality:** e.g. duration of the research project and a specified period thereafter

- **Handling of Data:** how data will be stored, processed, and protected during the research. Include details about encryption, access controls, and the use of anonymization or pseudonymization where appropriate,

- **Use of AI Tools:** Describe how AI tools will be used in the data analysis, including any specific software or algorithms.

- **Return or Destruction of Confidential Information:** what will happen to the confidential information at the end of the agreement or project

Confidentiality Agreements

- **Exclusions from Confidential Information:** Define what information is not considered confidential, such as information that is already in the public domain or independently obtained without breach of the agreement.

- **Disclosure Required by Law:** Acknowledge that confidential information may be disclosed if required by law, regulation, or a valid court order, and outline the process for such a situation.

- **No License or Ownership Transfer**: Clarify that the agreement does not constitute a license or transfer of rights or ownership in the confidential information.

- **Breach of Agreement:** Describe the consequences of breaching the agreement, including any potential legal actions or penalties.

Anonymizing Data

Open-Source tools, that can be run offline on your own computer
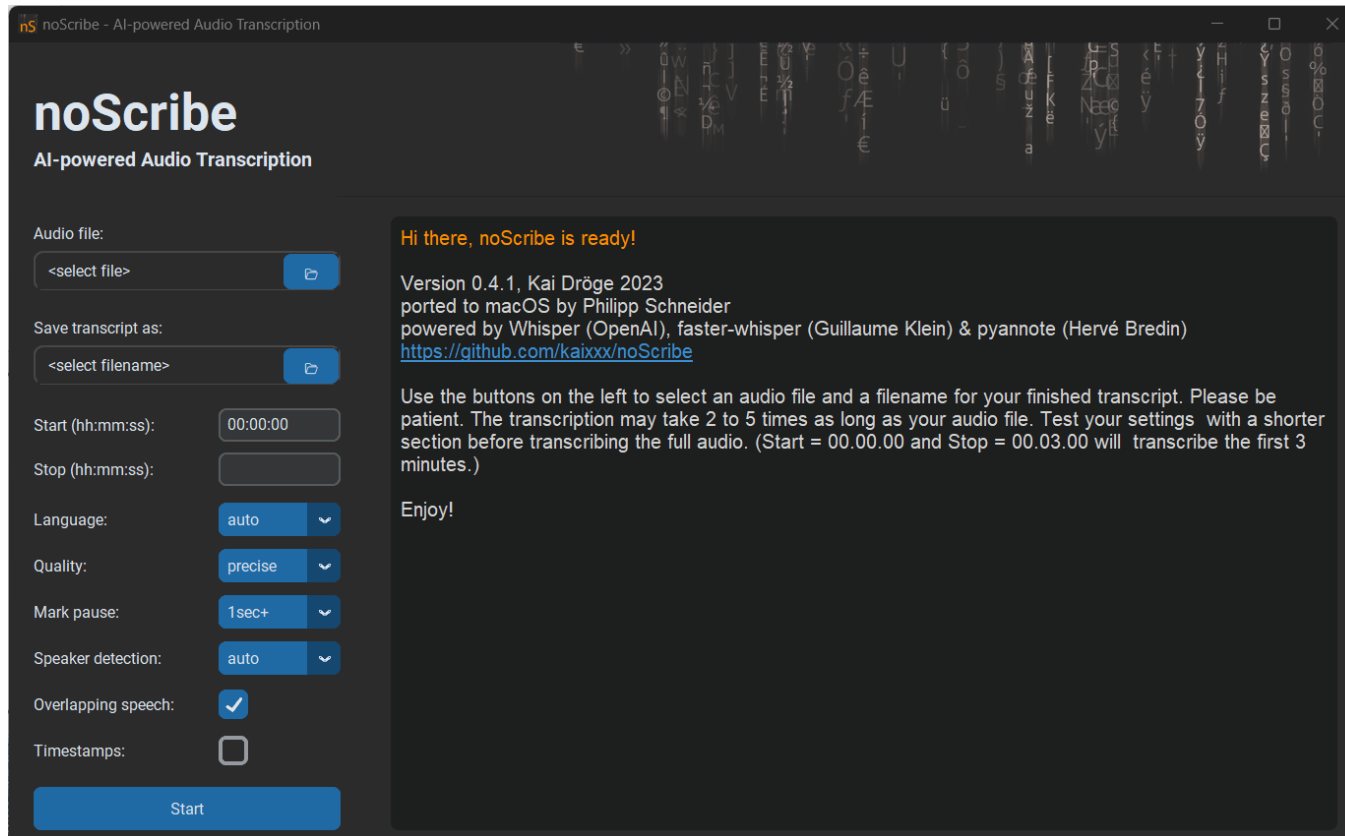
- [noSribe](#)

- [aTrain](#)
  (Windows only)

- [Buzz](#)

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AI and Data Security

How is data stored and protected against unauthorized access?

How is my data processed?

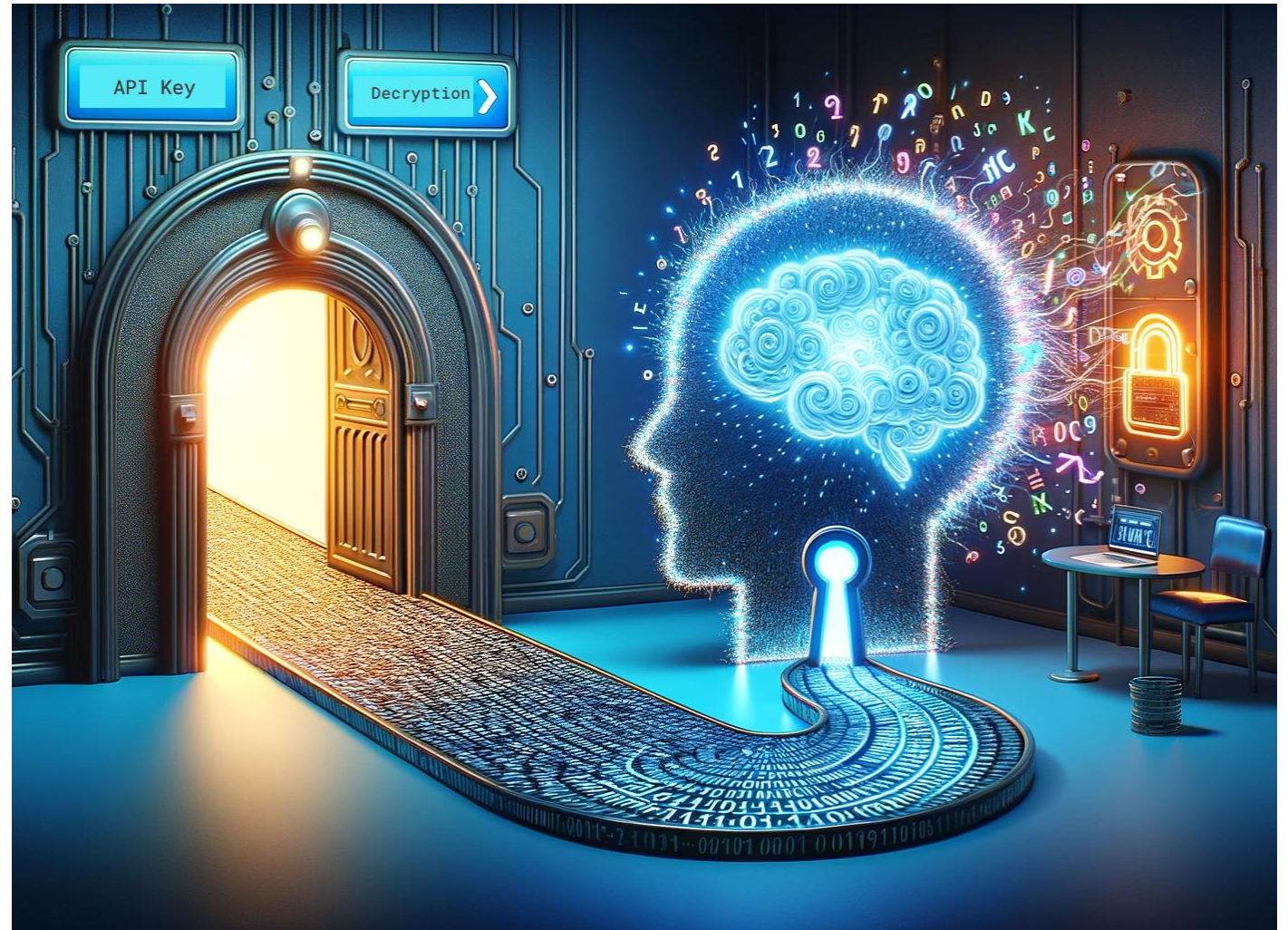Is the AI system compliant with data protection regulations?

What is the risk of data breaches or cyber attacks?

AI and Data Security

We need to differentiate between:

- A chat with ChatGPT or other chatbots
- An applications that make use of LLMs

AI and Data Security

Data is transferred via an API interface.

To use an API, a developer must first obtain an API key from the provider.

AI and Data Security

When the user makes a request through the application, the API key is included in the request.

As soon as the data is let through the "gate", it travels through a virtual tunnel to its destination.

The data is encrypted during transmission.

Data Encryption

A computer can test 10^{12} (one trillion) keys per second.

Key Length	Number of possible combinations	Time to crack
56-Bit	$2^{56} = 72.057.594.037.927.936 \approx 7{,}2 \times 10^{16}$	20 hours
128-Bit	$2^{128} \approx 3{,}4 \times 10^{38}$	$1{,}08 \times 10^{19}$ years
192-Bit g	$2^{192} \approx 6{,}28 \times 10^{57}$	$1{,}99 \times 10^{38}$ years
256-Bit	$2^{256} \approx 1{,}16 \times 10^{78}$	$3{,}68 \times 10^{57}$ years

$3.68 \times 1057 =$

3.68 octodecillion years

Age of the universe: About 13.8 billion years (1.38×10^{10} years).

Ratio: 3.68×1057 years $\div 1.38 \times 1010$ years $\approx 2.67 \times 10^{47}$ universes = 267 Quattuordezillion universes

AI and Data Security

When the data arrives at its destination, the receiving system has another key that converts the encrypted message so it can be processed.
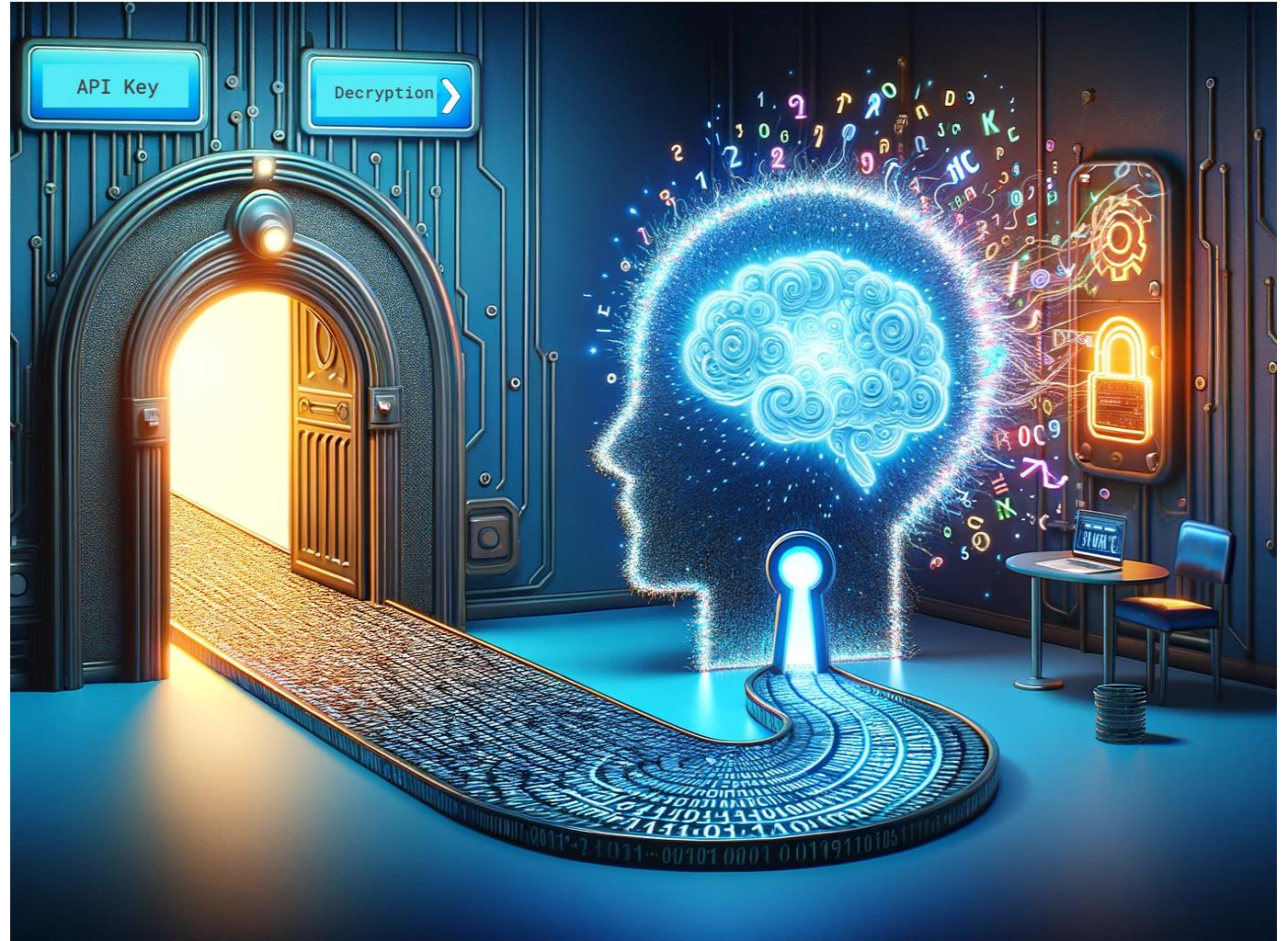
A Matter of Trust?

In:

- Server

- Infrastructure

- Provider

Data security indicators

Ethical Responsible Data Analysis with AI

Ethics & AI Assisted Analysis

Ethics & AI Assisted Analysis

Integrity

As an aid to human endeavor and not as a substitute.

Validity

- Make sure AI-generated content is factually correct

- Identify biases

- Check references.

Integrity & Validity

"Automated qualitative coding can only examine syntax but cannot genuinely grasp data's semantic and pragmatic aspects. […]

An automated coding process could lead to a banal and neutral analysis that fails to identify or disclose hidden aspects in the qualitative data.

The output analysis will then incorporate an incomplete and potentially superficial reading of the data. Further, mainstream (or neutral) chunking and coding could influence and limit our potential learning from the data analysis."

Davidson, et al. (2024). The ethics of using generative AI for qualitative data analysis. Information Systems Journal. 34. n/a-n/a. 10.1111/isj.12504.

Conversational Analysis with AI

in four steps

Step 1: Get to know your data

- Read automatic generated summaries
- Prompt your own summaries

Step 1: Get to know your data

Summarize the interview [NAME] with focussing on the following topics:

1. definition of success

2. Most important achievements

3. values and leadership philosophy

4. Influential relationships and mentors

5. obstacles and challenges

6. strategies for overcoming challenges

7. Impact and Legacy

Step 2: Ask questions about a specific aspect or topic

- Possible starting point: Generating themes

- I want to learn more about [topic X]. Provide more detailed insight into the following: [Specific question or areas]

- Extract quotes that support [topic].

- What are the differences between respondents?

- Now let's talk about similarities. Which respondents express similar perspectives/have had similar experiences related to [topic X]?
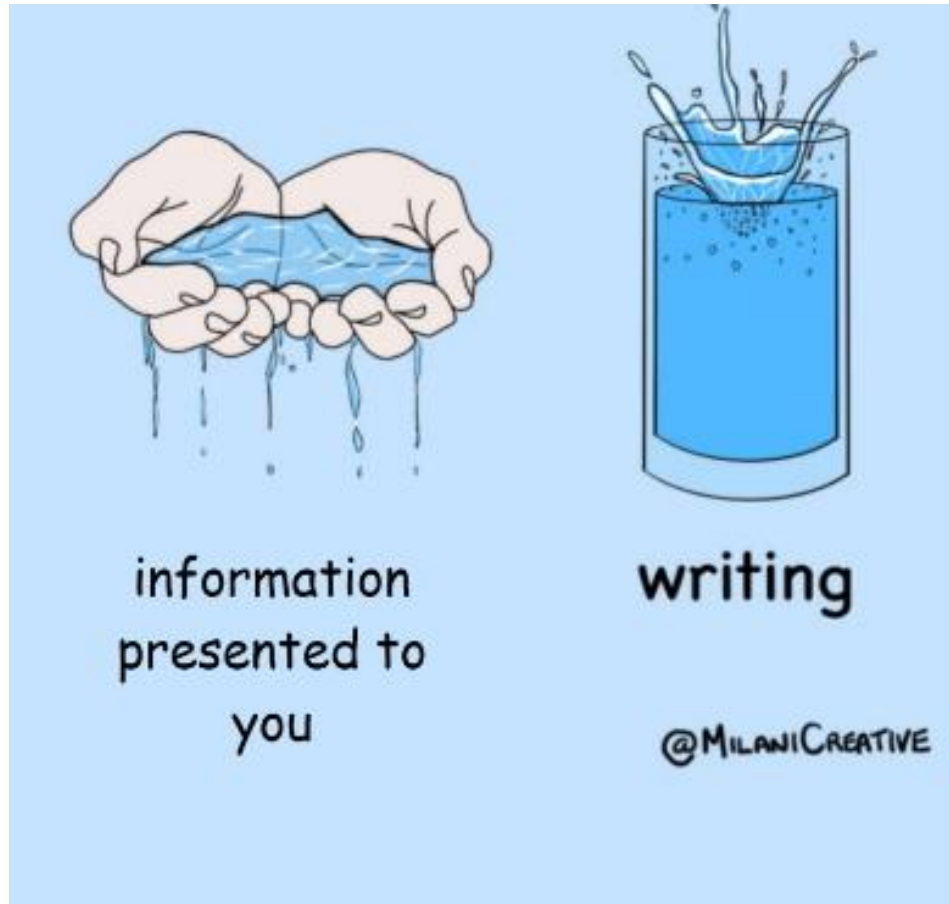
Step 2: Ask questions about a specific aspect or topic

- Recommendation
  - start with a subset of your data
  - work on one aspect at a time.
  - extend your analysis by including more cases.

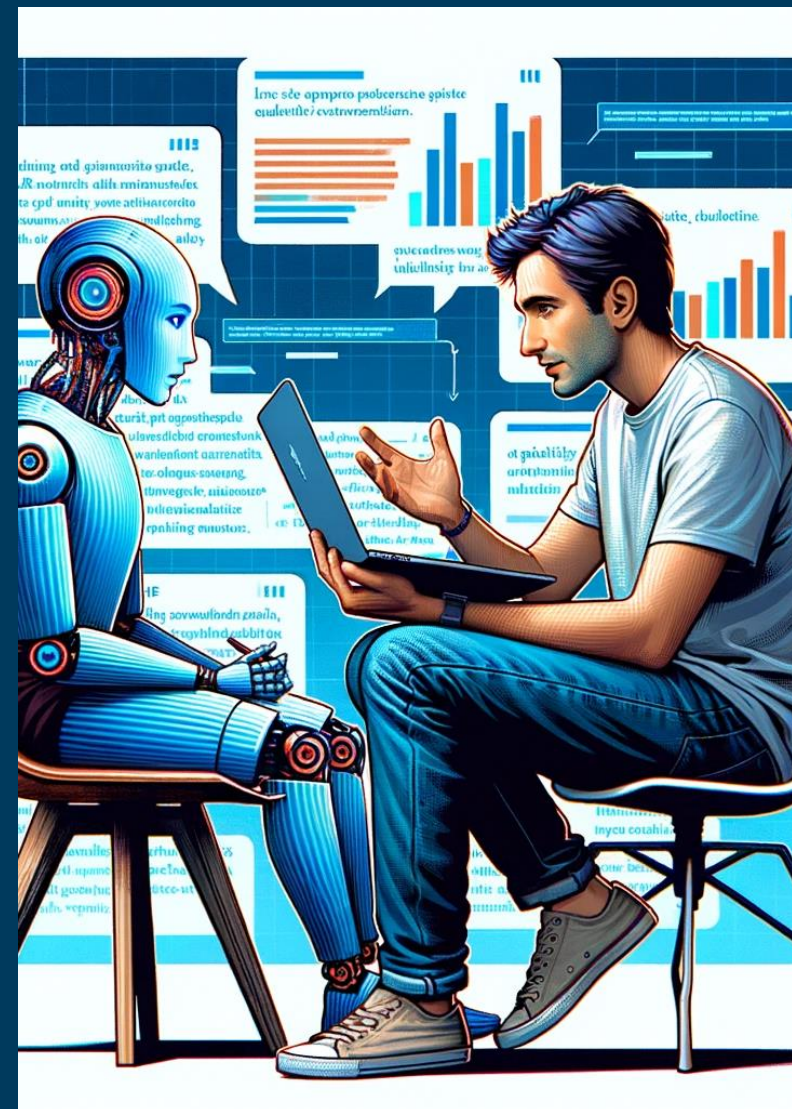# Step 3: Synthesize the results in your own words

information presented to you

writing

@MilaniCreative

BEFORE WRITING

AFTER WRITING

Iterate

Ask questions, compare and contrast, synthesize, ask questions, synthesize, see relations, ask questions, etc.

From description to interpretation ▶ What have I learned so far? ▶ In later rounds: Where do I see connections?
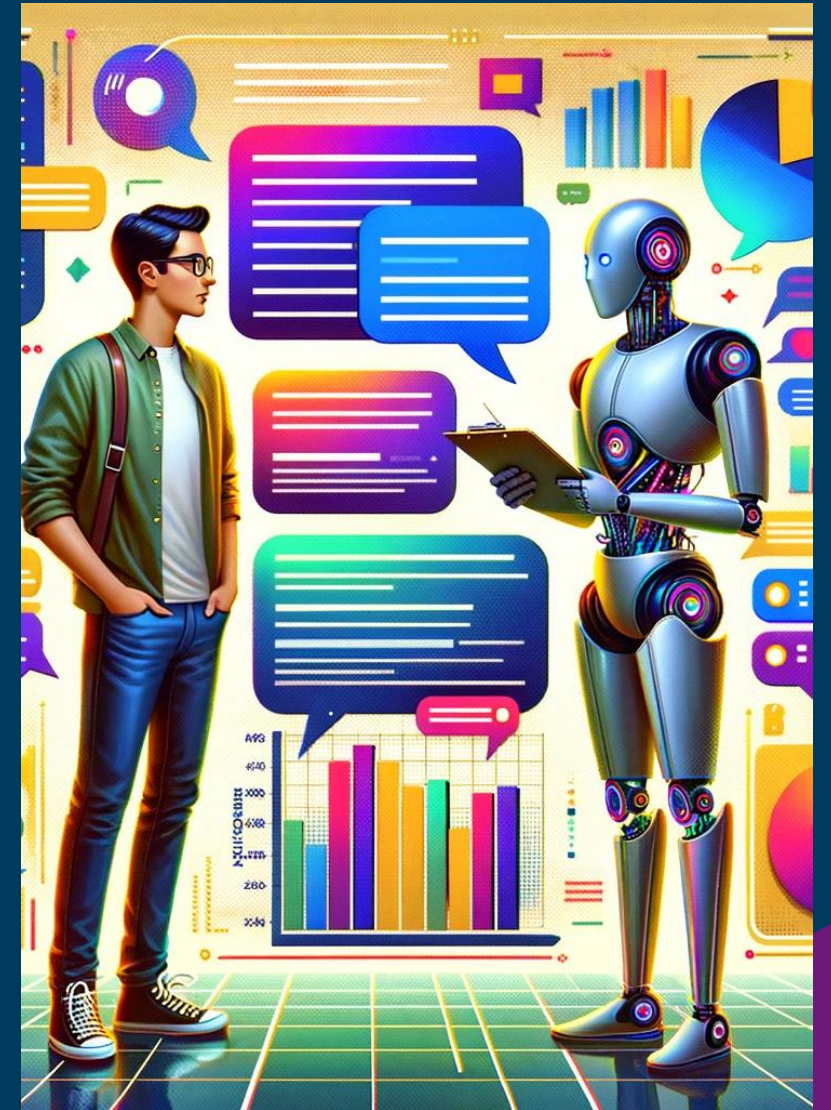
Repeat steps 2 and 3

One topic at a time

# Step 4: Take your analysis to the conceptual level

When you start seeing connections in the data, talk about them with your AI assistant.

Step 4: Understanding concepts and contexts

Another possibility is to relate your findings to existing theories:

- *Are you familiar with [Theory X]? If so, please provide a detailed description, including key concepts.*

- *Here is a brief description of [Theory X] and its key concepts: [insert description]. How can [specific findings or relationships in the data] be explained based on this theory?*

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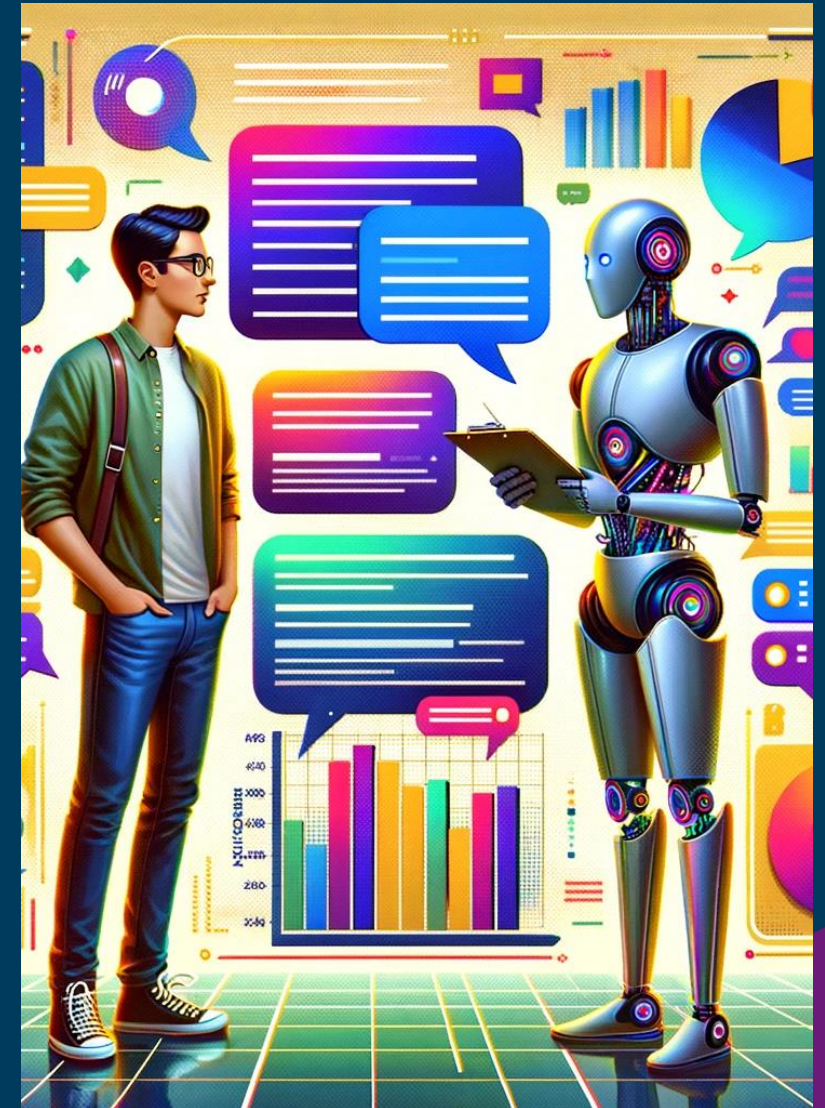
Modes of Thinking in Qualitative Analysis

Melissa Freeman, 2016.

- **Categorical Thinking:** Involves organizing data into categories to identify patterns and themes.

- **Narrative Thinking:** Focuses on understanding experiences through storytelling and personal accounts.

- **Dialectical Thinking:** Examines contradictions and oppositions within the data to understand complex phenomena.

- **Poetical Thinking:** Emphasizes the use of language, metaphor, and symbolism to convey meaning.

- **Diagrammatical Thinking:** Utilizes visual representations to map relationships and structures within the data.

Writing and Reporting when using AI

Accountability and Responsibility

AI Explainability

Transparency

A clear disclosure of AI involvement
and the extent of human oversight

- **Indicate the level of AI support** (proofreading, restructuring, designing)
- **Describe human involvement and supervision**

# Level of AI Support For Writing

- **Proofreading**
  - human author is responsible for the written content
  - AI tools are used to ensure grammatical accuracy and correct syntactical errors.

- **Restructuring**
  - rewording, paraphrasing, and reorganizing existing content
  - idea or content generation that is revised by authors, leaving the initial output only minimally recognizable.

- **Drafting**
  - AI generate a working draft based on input data and human guidance
  - Human authors significantly revised the AI-generated content, creating clear distinctions from the initial output.
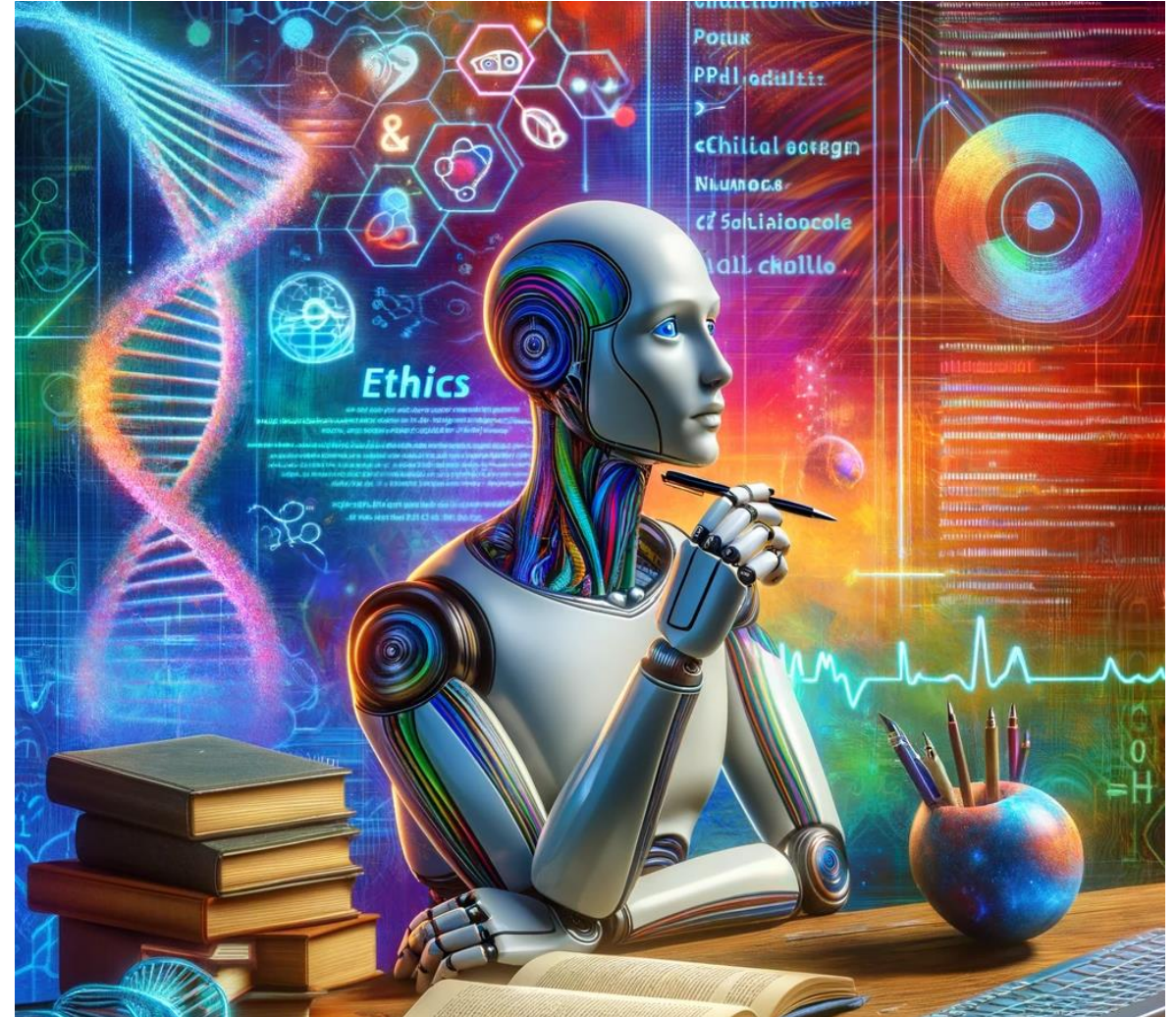
Should I Cite the AI Tool that I Used? (Moxie)

| AI Tool Use Case	Recommendation
Find sources for an informal literature review to contextualize empirical research (i.e., introductory literature review)	🚫 Do not cite the AI tool
Assist with finding sources for a systematic literature review	✅ Cite the AI tool
Assist with data collection or analysis in empirical research study	✅ Cite the AI tool
Assist with writing up a research article (e.g., generating, editing, or giving feedback on article content)	🚫 Do not cite the AI tool

Transparency

- **Cite or acknowledge the AI tool**

- The author of the software (often corporations)

- The full title of the software

- The version that you used

- Include the general URL for the tool

Examples:

- OpenAI (2023) *ChatGPT* (Mar 14 version) [Large language model]. https://chat.openai.com/chat

- Lumivero (2024). AI Assistant in NVivo15 [Computer Software]. https://lumivero.com/product/nvivo/
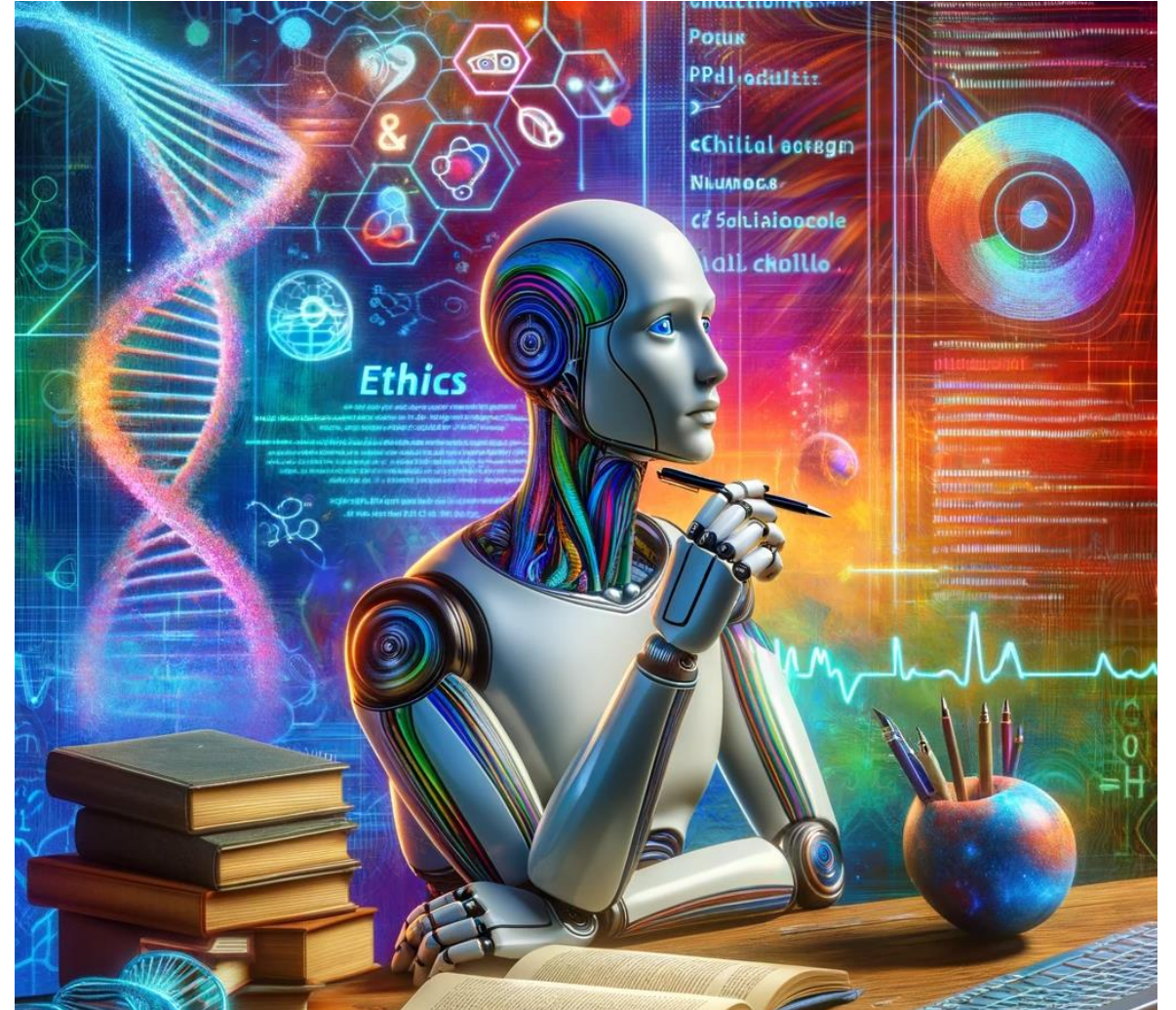
Contact: susanne.friese@qeludra.com

Community: community.qeludra.com

Web: qeludra.com

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- Research Webinars
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- Research Online Groups

Funding Opportunities

- Early Career Researcher Grant

Join Now

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Leave your feedback on the webinar
or
request a free demo below!

LINK

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