

What is Generative AI?

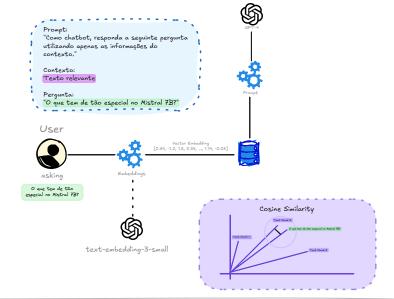
- D · Models capable of generating textual, visual, audio or multimodal content.
- D . Widely used to support writing, analysis, automation and creativity.

Paradigms for using Generative AI

- Traditional prompt: generation without additional
 context.
- PAG (Retrieval-Augmented Generation): querying relevant documents to provide context to the model.
- Agents: models that use memory and external tools to solve tasks.

RAG (Retrieval-Augmented Generation) Architecture

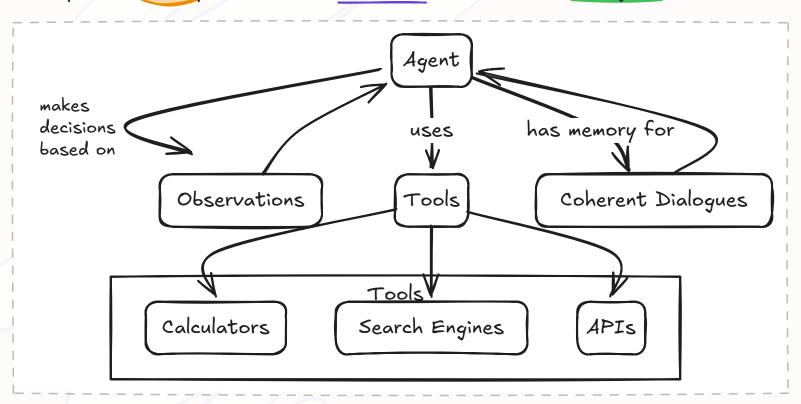
- 1. Splitter divides the text into chunks.
- 2. Embeddings are generated and stored (e.g. Qdrant).
- 3. A retriever finds the most relevant chunks.
- 4. The LLM model responds based on these chunks.





Agents with Tools and Memory

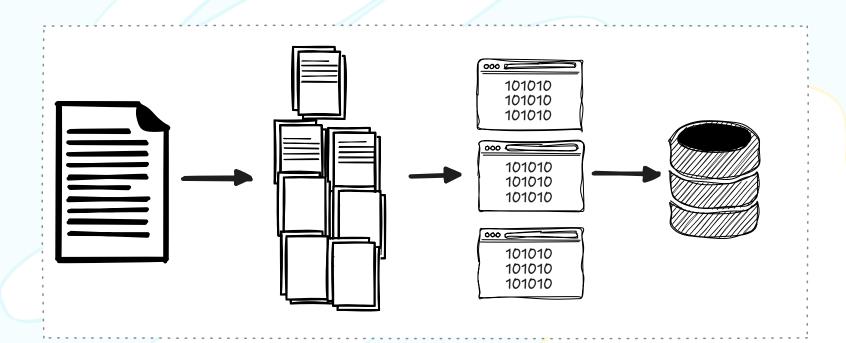
- D Agents can make decisions based on observations.
- D They can use tools such as calculators, search engines, APIs,
- D They have memory to maintain coherence in continuous dialogues.



Possible applications in research

- D Chatbot for reading scientific articles.
- > Agent to assist in writing reports
- D Consultant on standards and laws using RAG.
- D'Teaching assistant with teaching material.

Possible applications in research



Thank you for your attention