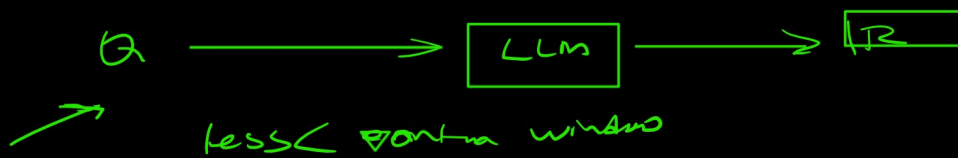


#1 Agenda:

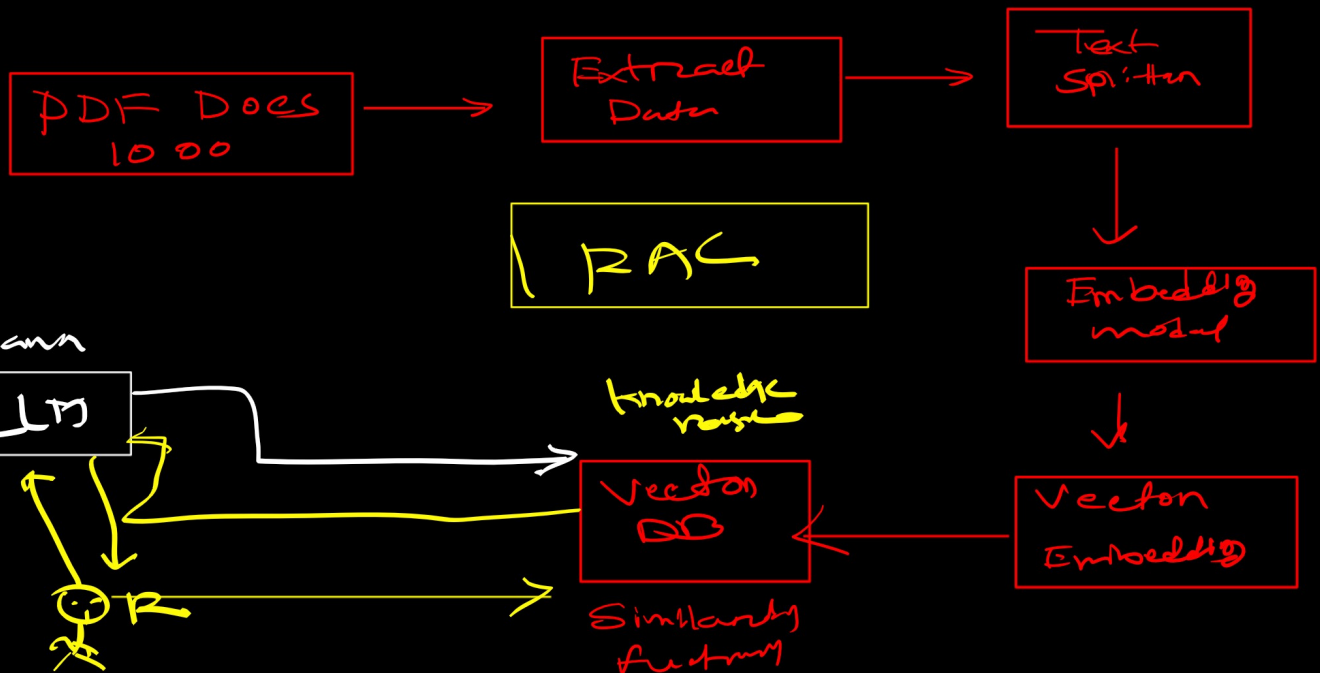
- ✓ ① Importance of RAG ✓
- ✓ ② Incontext Learning vs RAG ✓
- ③ RAG core components
- ④ Langchain: conceptual intro, Evolution and Learning Roadmap

LLMs → Limit of the context window

Inferencing



Chunks



Chunk_size = 500

Chunk_overlap = 50

1st chunk

500 < LLM

→ Longchain

ds with bappy focuses on providing content on Data Science, Artificial Intelligence, Machine Learning, Deep Learning, Computer Vision,

chunk 2 Natural language processing, Python programming, etc. in English.

chunk 3 "Real creativity won't make things more complex. Instead, I will simplify them. I have been working in the Data Science field, spearheading in machine learning, deep learning, and computer vision. Typically this is my YouTube channel where I clarify different themes on machine learning, deep learning, and AI with numerous real-world issue scenarios. My primary point is to create everybody commonplace of ML and AI. Please subscribe and support the channel. As I come up with new innovations. These recordings are free and I guarantee to create more curious substance as we go ahead.

☺ Please donate if you want to support the channel through Buy me a coffee: <https://www.buymeacoffee.com/dswithbappy>

RAG components:

- ✓ ① Data Loader
- ✓ ② Text splitter
- ✓ ③ Embedding model
- ✓ ④ Vector DB
- ✓ ⑤ Retriever
- ✓ ⑥ LLM Integration

Language

LLM → Limited power

Many API:

- ① OpenAI API
- ② Llama
- ③ Mistral
- so on - - -

LLM

problem:

- * Limited context window
- * Outdated KB
- * Data privacy
- * Cost
- * No connection with 3rd party tools
- * so on - - -

Gen AI Apps

<u>Data in</u>	<u>Action</u>	<u>Data out</u>
<ul style="list-style-type: none">• .txt• .pdf• .csv• .sql• .xls• .html• .pngso on - -	<ul style="list-style-type: none">• LLM• agents• format• manipulate• Transform• store• memory• 3rd partyso on	anything

Langchain

- ① Langsmith → monitoring
- ② Langserve → model serving
- ③ Langgraph → Agents / multi agents
- ④ LCEL ← 2nd gen

✓
- tensorflow / keras

Gen AI

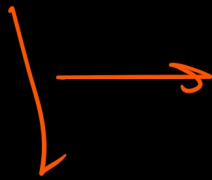
Langchain Evolution:

- * From LM model to chat model
- * From legacy to LCEL - 2nd gen Langchain
- * From LC to LC Ecosystem
- * From terrible Documentation to - - - -

Generative AI space is the fastest evolving space in software. No matter how hard I work the content will never be 100% up to date

Note: But you will be ready:-

I do not give you fish
I teach you how to fish -

- ① Explore
 - ② Research
 - ③ Practice
- 

Learning roadmap:

- ① Introduction
- ② How to talk with LLM / openAI / open source
- ③ How to use custom data — RAG
- ④ Chain / Runnable
- ⑤ memory
- ⑥ Ecosystem
 - LangSmith
 - LangChain
 - LangGraph

⑦ Level - 1

Level - 2

Level - 3