

Hands-On: Conversation Chains and Memory with LCEL

Instructor

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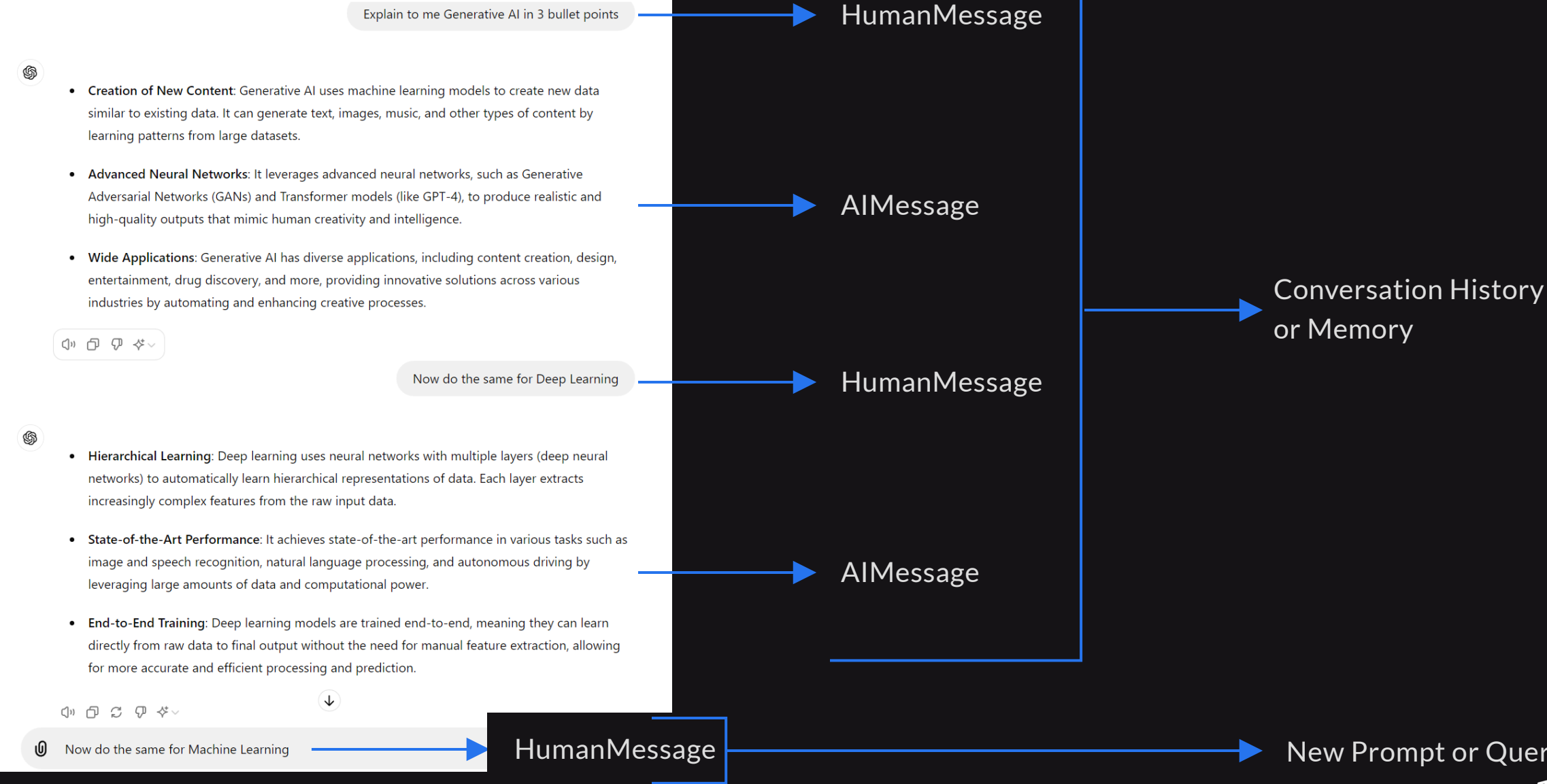
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What is a Conversation?



Need for Conversational Memory

With Conversational Memory

I am interested in integrating LLMs with external knowledge

LLMs are great at generating human-like text. Yet, integrating external knowledge can enhance their capabilities even more.

What are the different possible methods for doing this?

You could use pre-existing knowledge graphs, allow LLMs access to tools like APIs, or retrieval augmentation with vector DBs!

..... Conversation History

Interesting! What was it I wanted to know about?

You were interested in integrating LLMs with external knowledge.

Without Conversational Memory

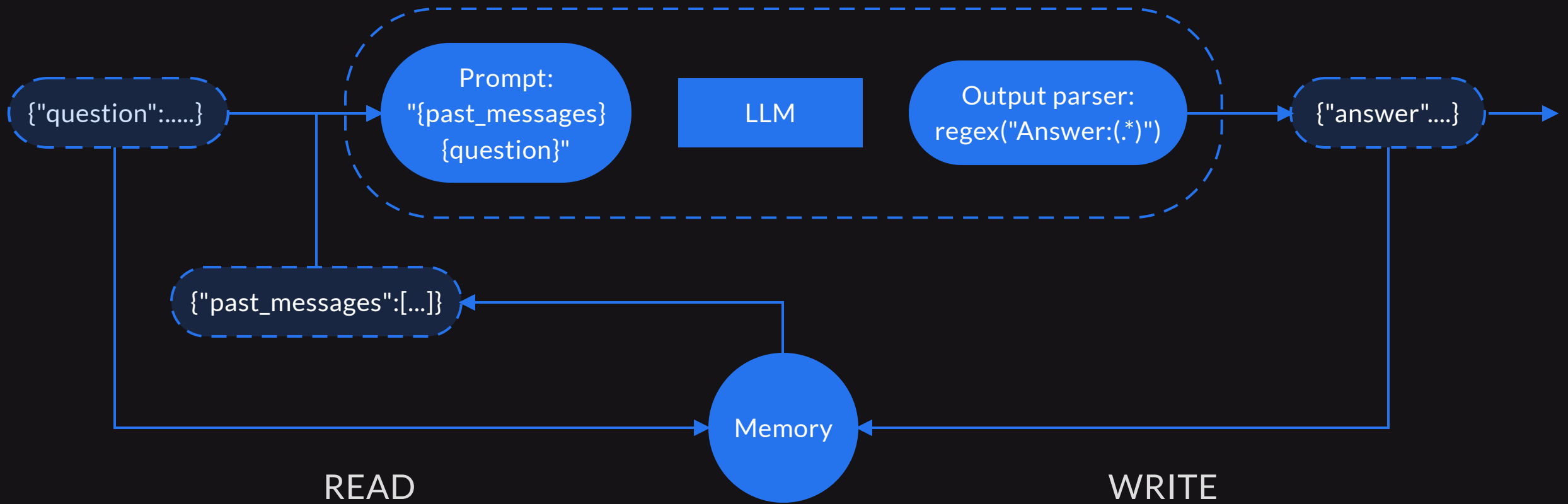
(No conversation history is stored)

..... Conversation History

Interesting! What was it I wanted to know about?

Sorry, I have no idea what you're talking about!

Conversation Chain with Memory in LCEL



Popular LangChain Built-in Memory Constructs

Memory Type	Description
<u>ConversationBufferMemory</u>	This memory allows for storing messages of conversation history and then extracts the messages in a variable
<u>ConversationBufferWindowMemory</u>	Stores only the the last K messages of conversation history. This can be useful for keeping a sliding window of the most recent interactions with the LLM
<u>ConversationSummaryMemory</u>	Summarizes the conversation history and stores the current summary in memory instead of actual conversation messages
<u>VectorStoreRetrieverMemory</u>	Stores conversation history in a vector database and queries the top-K most relevant docs every time a new message or query is sent to the LLM. Doesn't care about the order of conversations
<u>ChatMessageHistory</u>	Simple but highly configurable wrapper to store messages in an in-memory list. Easy to manage memory for multiple users and sessions.
<u>SQLChatMessageHistory</u>	Same as ChatMessageHistory but persists conversations in a SQL database. Very useful when managing multiple long conversations

Thank You
