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**1. LangChain**

**LangChain** is a library designed to help build language-based applications by connecting different models, databases, APIs, and tools. It’s especially useful in systems like **Retrieval-Augmented Generation (RAG)**, enabling developers to orchestrate LLMs, prompts, and external data sources in a single workflow.

**2. RAG (Retrieval-Augmented Generation)**

**RAG** is a technique that combines information retrieval with text generation. When a question is asked, it first retrieves relevant documents from a knowledge base, then uses a generative model to produce a final response using that context. It enhances LLMs by grounding them in external factual data.

**3. LLMs (Large Language Models)**

**Large Language Models** are AI models trained on vast amounts of text data to understand and generate human language. They can perform a wide range of tasks such as translation, summarization, question answering, and more. Examples include **GPT**, **BERT**, and **Claude**.

**4. FAISS (Facebook AI Similarity Search)**

**FAISS** is an open-source library developed by Facebook for efficient similarity search. It helps find the most similar vectors from a large collection, making it extremely useful in vector search and recommendation systems, especially for embedding-based search tasks.

**5. Vector**

In machine learning, a **vector** is a list of numbers that represents features or attributes of an item (like a word, image, or document). Vectors help computers understand and compare the meaning or similarity of different data items numerically.

**6. VectorDB (Vector Database)**

A **Vector Database** is designed to store and retrieve data in vector format. It enables similarity search based on embeddings, making it a key part of AI applications like semantic search, recommendation engines, and question answering systems. Examples include **FAISS**, **Pinecone**, and **Weaviate**.

**7. Generative AI**

**Generative AI** refers to AI that can **create new content** such as text, images, music, or code. It generates outputs based on patterns it has learned from training data. Examples include models like **ChatGPT** (for text), **DALL·E** (for images), and **MusicLM** (for music).

**8. GANs (Generative Adversarial Networks)**

**GANs** are a type of neural network architecture where two networks—the **generator** and the **discriminator**—compete. The generator creates fake data, while the discriminator tries to detect whether data is real or generated. This training method helps produce highly realistic content, such as synthetic images and videos.