



SUPERIOR UNIVERSITY

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Subject:Programming for AI

LAB TASK 11

Q: Describe the Difference between:

1. **LangChain:** A framework that connects large language models with external data sources APIs to build smart applications such as chatbots or search assistants.
2. **RAG (Retrieval-Augmented Generation):** A method where an AI model first retrieves relevant information like documents and then generates an answer based on that information. It improves accuracy by grounding answers in real data.
3. **LLMs (Large Language Models):** Advanced AI models like GPT that understand and generate human-like text using huge amounts of training data.
4. **FAISS (Facebook AI Similarity Search):** A library for fast searching of similar items in large datasets using vectors. It's often used to find related text or images quickly.
5. **Vector:** A list of numbers that represents text, images, or data in a format machines can understand. In AI, vectors help compare how similar different pieces of content are.

6. **VectorDB (Vector Database):** A special type of database that stores and searches vectors efficiently. Examples include Pinecone, Weaviate, and FAISS.
7. **Generative AI:** AI that can **create** new content like text, images, music, or videos. It learns from examples and then generates something similar but new.
8. **GANs (Generative Adversarial Networks):** A type of generative AI with two models—one generates fake content, and the other tries to detect if it's fake. They compete and improve each other, leading to very realistic outputs like deep fake images or art.