PAI_LAB_Task11

1. **Lang Chain**:

   Lang Chain is a framework designed to facilitate the development of applications using large language models (LLMs). It helps connect language models with external data sources, APIs, and other tools for more sophisticated interactions.

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

   RAG is a method that combines the strengths of retrieval-based and generative models. It retrieves relevant information from an external database or knowledge base and augments the generation process by incorporating the retrieved content.

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

   LLMs are AI models designed to process and generate human language at scale. They are typically based on transformer architectures, such as GPT (Generative Pretrained Transformer).

   - .

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

   FAISS is a library developed by Facebook AI that is designed for efficient similarity search and clustering of dense vectors. It is often used for searching and retrieving information from large datasets of high-dimensional vectors.

5. **Vector**:

   In machine learning and AI, a vector is a mathematical representation of data, typically as a list or array of numbers. Vectors are used to represent various entities like words, sentences, images, or even products in a high-dimensional space.

6. **Vector DB (Vector Database)**:

   A Vector Database is a specialized type of database designed to store, index, and search through high-dimensional vectors efficiently. These databases are optimized for storing large collections of vectors and enabling fast similarity searches.

7. **Generative AI**:
   - **Definition**: Generative AI refers to models and algorithms that can generate new content, such as text, images, music, etc., based on patterns learned from existing data. It encompasses models like GANs, Variational Autoencoders (VAEs), and other generative models.

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

   GANs are a type of generative AI architecture consisting of two neural networks: the generator and the discriminator. The generator creates synthetic data (e.g., images), while the discriminator evaluates its authenticity.