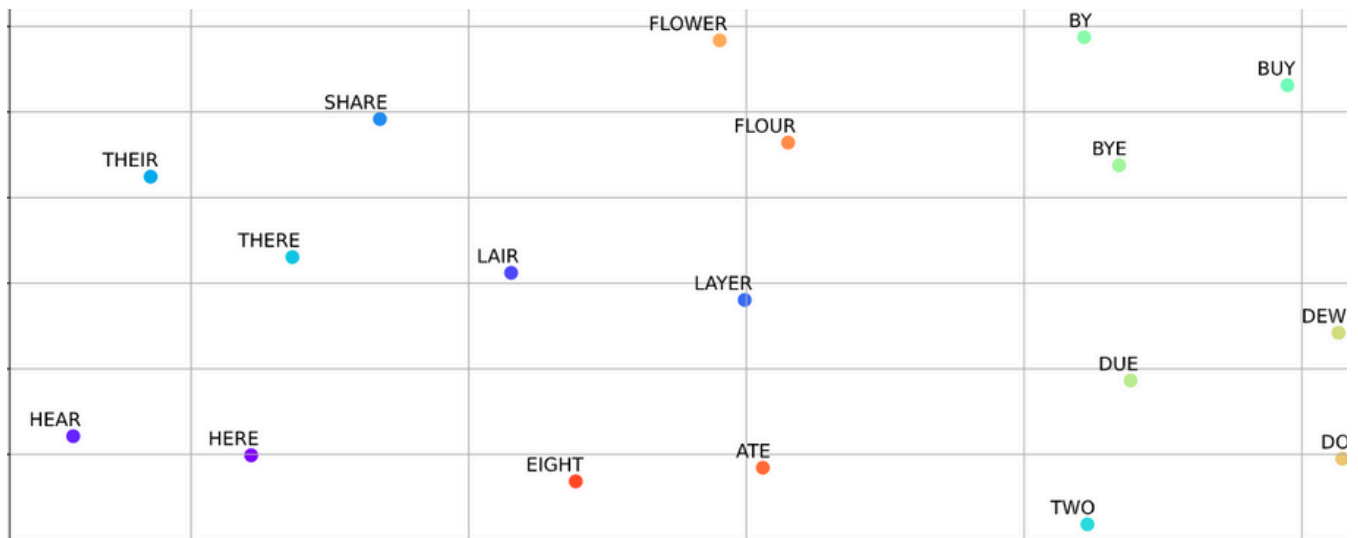# AI POWERED VECTOR SEARCH

📊 What is a Vector Database?

A vector database is designed to store, manage, and query vector embeddings efficiently. These embeddings are numerical representations of data, such as text, images, or audio, generated by machine learning models.

🗄 What is Milvus?

Milvus is an open-source vector database specifically built for fast similarity search and retrieval of high-dimensional vectors. It supports large-scale datasets, making it ideal for AI and machine learning applications.

Key Features of Milvus:

Scalability: Handles millions or billions of vectors.

Speed: Optimized with indexing techniques for rapid similarity searches.

Compatibility: Integrates well with AI/ML frameworks.

Versatility: Stores various data types, such as text, images, and audio.

⚙ How the System Works

Data Preparation:

Titles are collected and converted into vector embeddings using ML models. Titles are also processed using Metaphones for phonetic similarity.

Storing Vectors in Milvus:

The vector embeddings are stored and indexed in Milvus for efficient retrieval.

Vector Workflow:

A title is entered into Program->It sends a similarity search request to Milvus.->It applies metaphone algorithms to refine and rank results->Results are sorted alphabetically.->Matched titles are presented to the user.