**AI Terms Glossary**

**🔍 AI Agent**

A program that can understand your goal, make decisions, and take actions (like calling APIs or searching data) to help you get what you want — often autonomously.  
An **AI agent** is a software component that can **perceive, reason, and act autonomously** toward goals using AI. It can process inputs (like user queries), decide what to do (e.g., search, summarize), and interact with APIs or tools.

Think of it as an intelligent "worker" or "assistant" in your app

**🤖 Chatbot**

A conversational interface that responds to user input, typically with scripted or model-based replies. Most chatbots don’t plan or reason deeply — they just "chat."

**🧠 MCP (Memory, Code, Planning)**

A concept in advanced AI agents where:

* **Memory** = stores knowledge or facts
* **Code** = can run functions or access tools
* **Planning** = breaks big tasks into small steps

Used to build smart agents that can "think" before acting.  
  
Another version:  
**MCP (Memory, Cognition, Planning)**

* **Memory** = Stores past interactions/data (like past queries).
* **Cognition** = The agent’s reasoning engine (e.g., uses GPT to decide what to do).
* **Planning** = Determines which tools or steps to take to answer a user.

It's the **mental model** of a smart agent.

**📦 Vector Embeddings**

A way to turn text (or images, audio, etc.) into a list of numbers (a "vector") so it can be compared to other text **by meaning**, not exact words. Vectors of similar **meaning** will be numerically **close**. They can be created by ChatGPT API: https://api.openai.com/v1/embeddings

Example:  
"Obama" → [0.024, -0.88, 0.19, ...]

**📊 Vector Database (Vector DB)**

A special kind of database designed to **store and search vector embeddings**, usually by similarity (e.g., "find things most similar to this text"). A **vector DB** stores and searches for **embeddings** (numeric vectors). Instead of filtering by keywords, it finds **semantically similar** items using **vector math**. Vector DBs specialize in **similarity search**, not structured querying like SQL.

Popular ones: Qdrant, Pinecone, Weaviate. (open source free version)

**📐 Cosine Similarity Search**

A mathematical way to compare two vectors (e.g., user query and transcript). It finds how "close in meaning" they are — angle close to 0 = more similar. Used to rank and find best matches for a question.  
  
A way to compare two vectors (embeddings) by **how close their direction is**.

* **1.0** = exactly same meaning
* **0.0** = totally unrelated
* **-1.0** = opposite meaning

Used by vector DBs to **rank and return similar documents** to your query.

**🧰 Semantic Kernel (Microsoft)**

An open-source .NET framework that helps you build **AI agents**. It connects:

* Prompts (like ChatGPT) - for reasoning
* Plugins to access APIs/tools
* Planners to choose next steps It’s

like Lang Chain, but built for C#.