

25 AI TERMS EXPLAINED





Artificial Intelligence



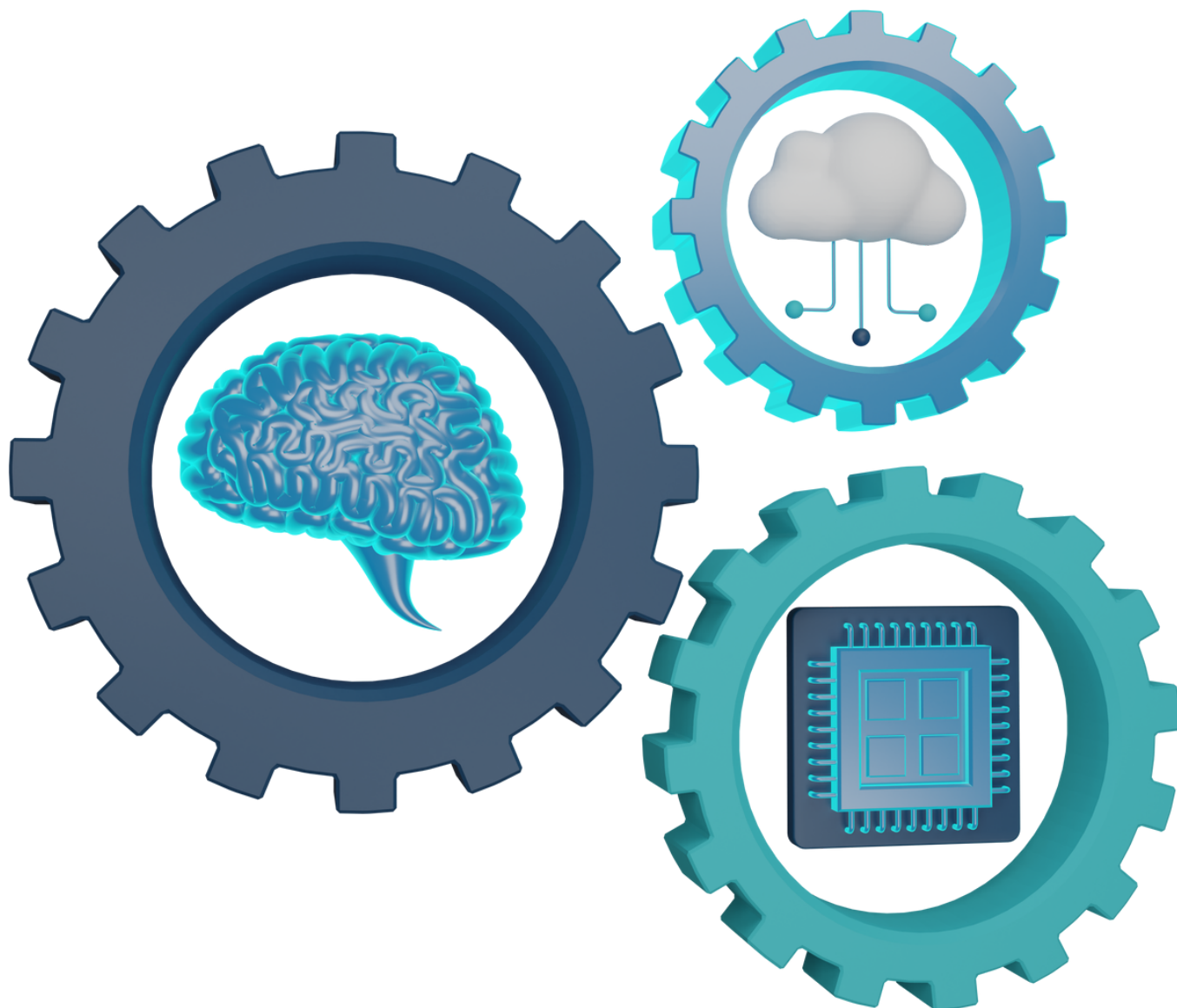
Artificial Intelligence is the simulation of **human intelligence in machines**, allowing them to perform tasks like learning, reasoning, decision-making, and problem-solving autonomously.

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Machine Learning



Machine Learning is a **subset of AI** that focuses on teaching machines to learn from data and improve their performance over time without explicit programming.

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Deep Learning



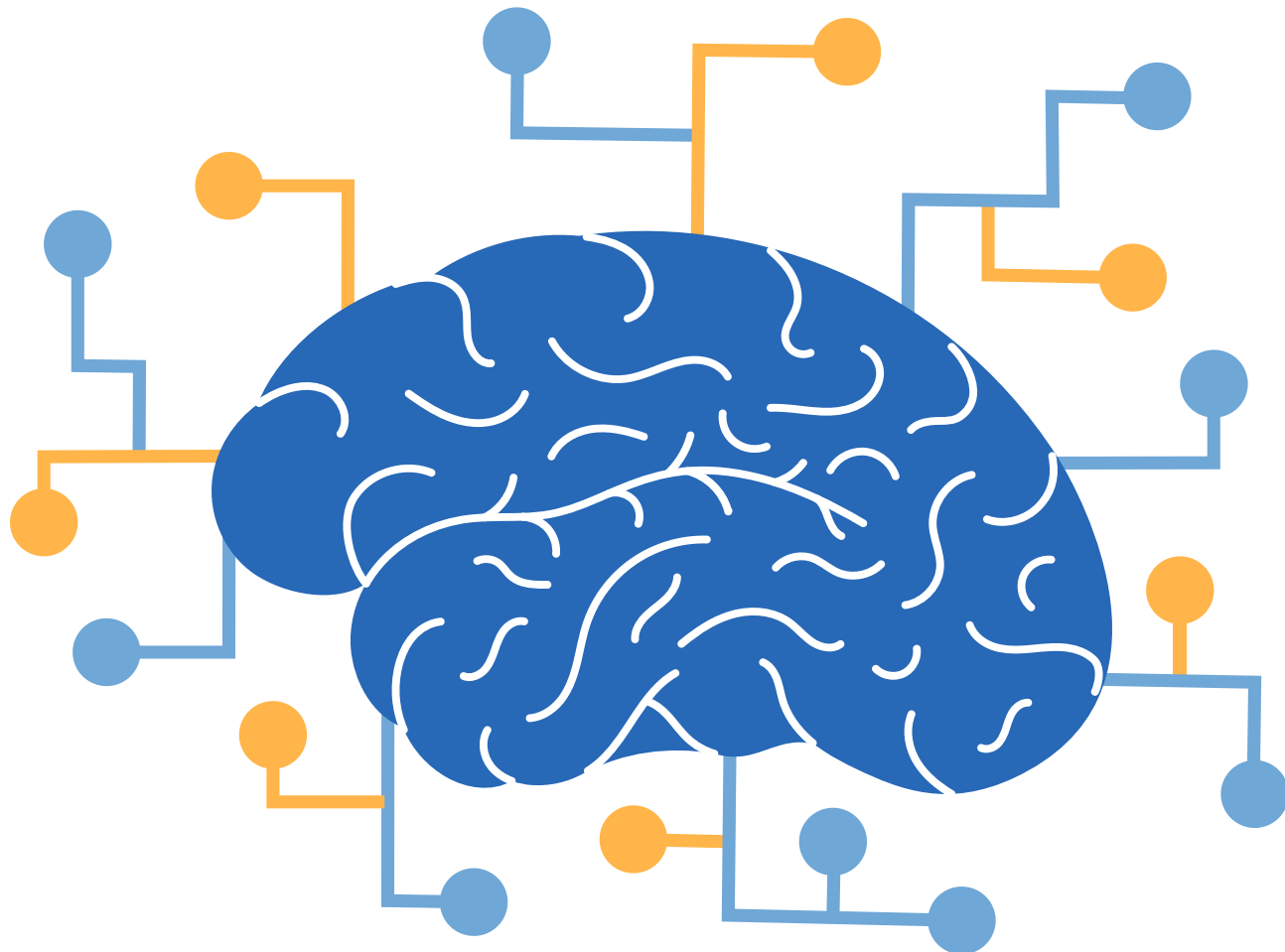
Deep Learning is a type of machine learning that uses neural networks with many layers (deep networks) to analyze complex patterns in large datasets.

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Neural Network



Neural Network: A series of algorithms that mimic the human brain's structure and function, used to recognize patterns and solve complex problems in data.

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Natural Language Processing (NLP)



Natural Language Processing (NLP) is a field of AI that enables machines to understand, interpret, and generate human language, facilitating human-computer interactions.

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Computer Vision



Computer Vision: A field of AI that trains machines to interpret and understand visual information from the world, such as images and videos.

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Supervised Learning



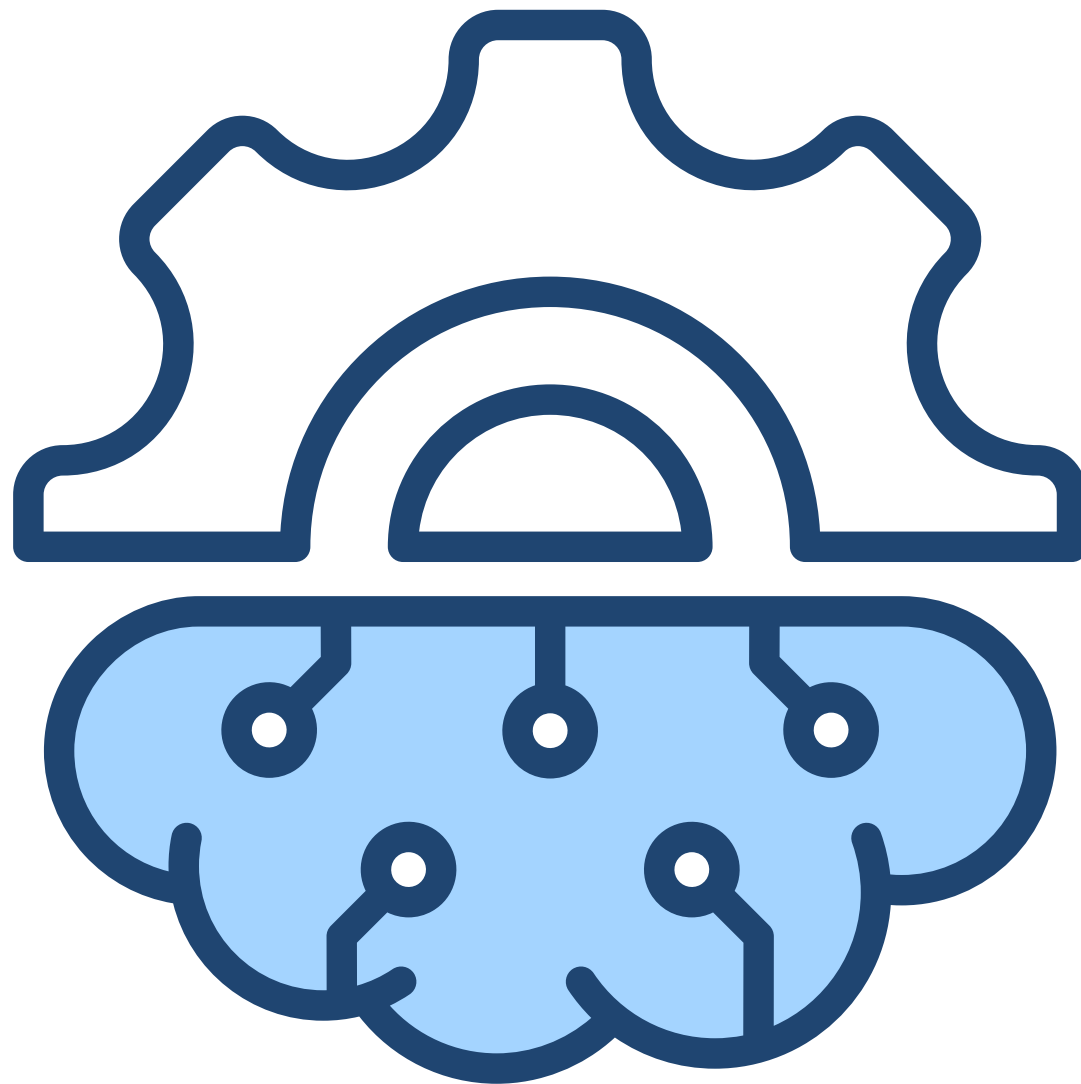
Supervised Learning is a type of machine learning where the model is trained on labeled data, meaning the input data is paired with the correct output.

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Unsupervised Learning



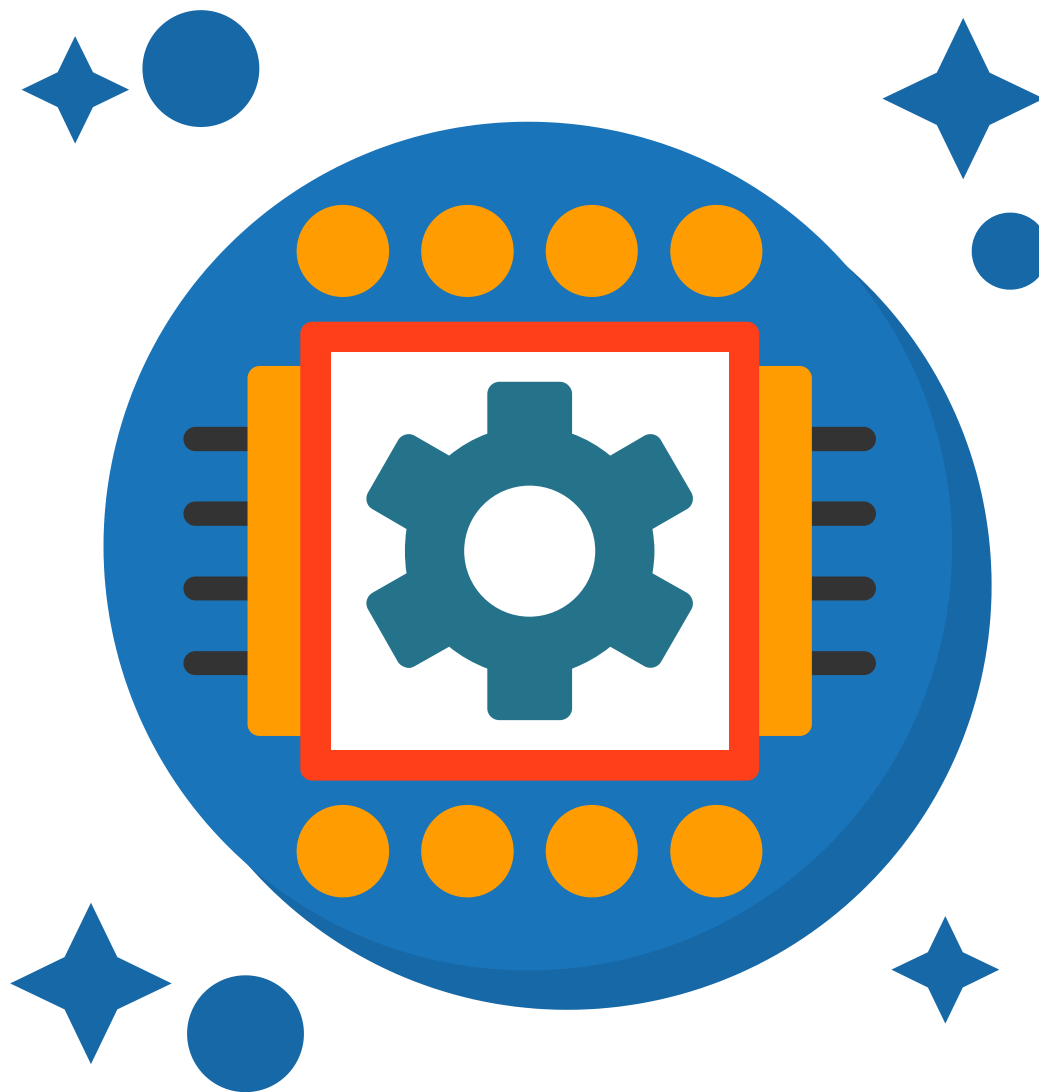
Unsupervised Learning is a type of machine learning where the model is trained on unlabeled data and must find patterns and relationships in the data on its own.

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Reinforcement Learning



Reinforcement Learning: A type of machine learning where an agent learns to make decisions by receiving rewards or penalties for its actions in an environment.

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Data Mining



Data Mining is the process of discovering patterns and insights from large datasets using techniques from statistics, machine learning, and database systems.

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Algorithm



A step-by-step procedure or formula for solving a problem, often used in computer programming and AI to perform calculations or process data is called **Algorithm**.

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Training Data



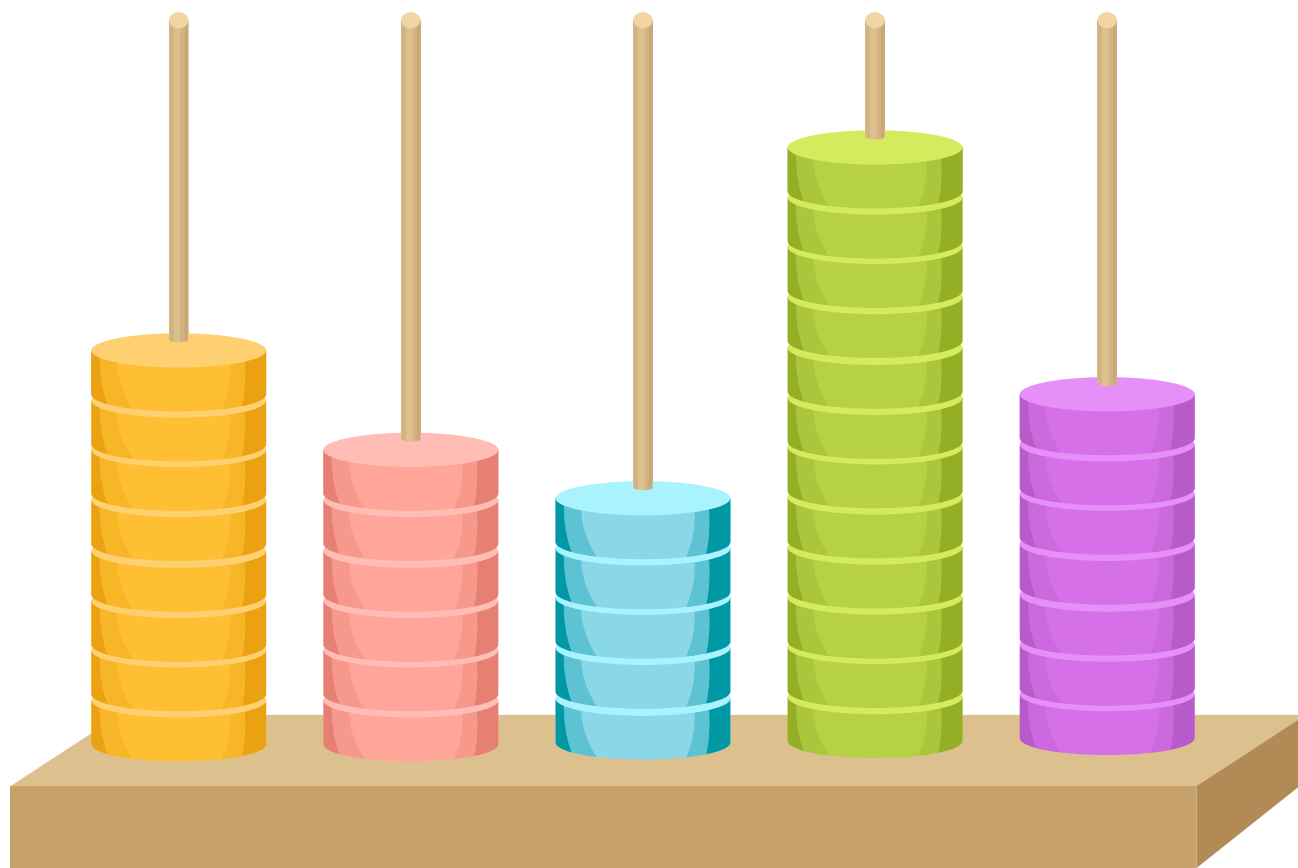
Training Data: The dataset used to train a machine learning model, helping it learn patterns and make accurate predictions or decisions on new data.

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Model



Model: A mathematical representation of a real-world process, trained using data to make predictions or decisions based on learned patterns.

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Overfitting



Overfitting: A modeling error that occurs when a machine learning model learns the training data too well, including its noise, leading to poor performance on new data.

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Underfitting



Underfitting: A modeling error that occurs when a machine learning model is too simple to capture the underlying patterns in the data, leading to poor performance.

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Feature



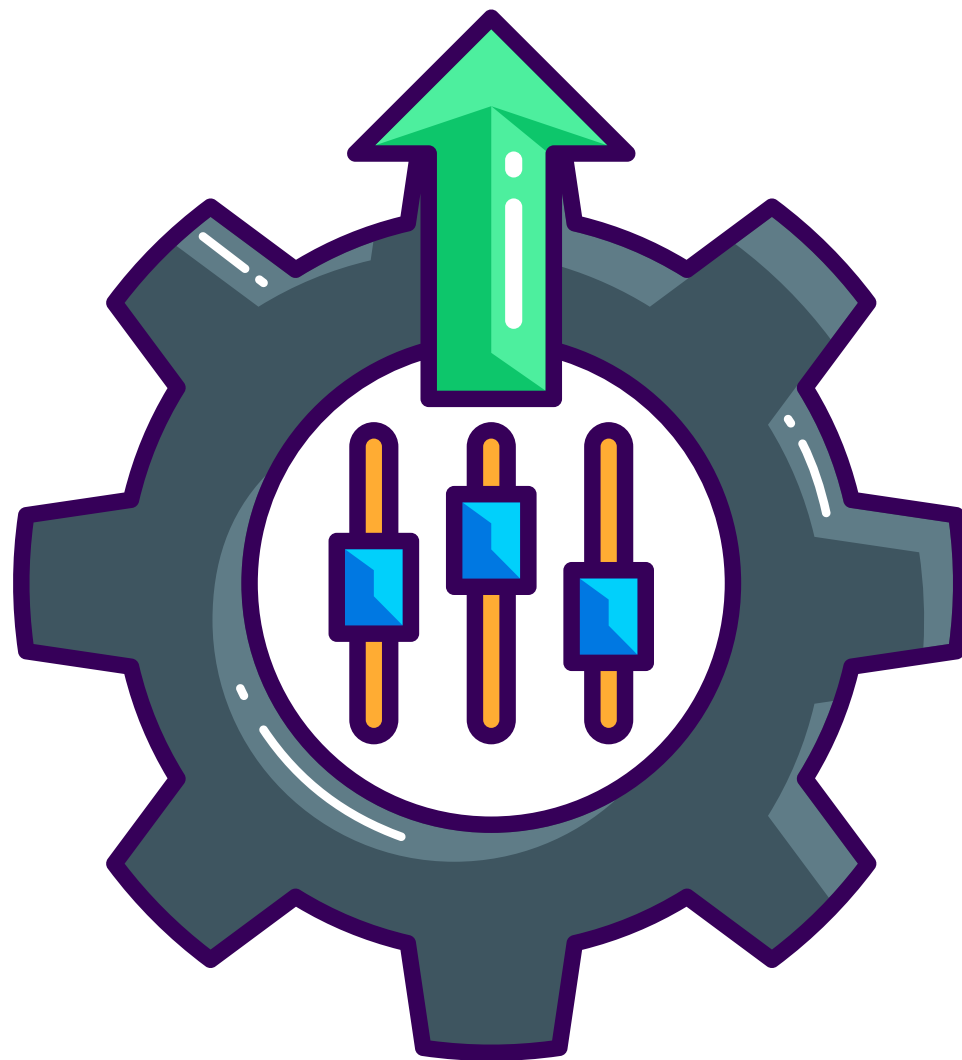
Feature is an individual measurable property or characteristic of a dataset, used as input in building and training a machine learning model.

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Hyperparameter



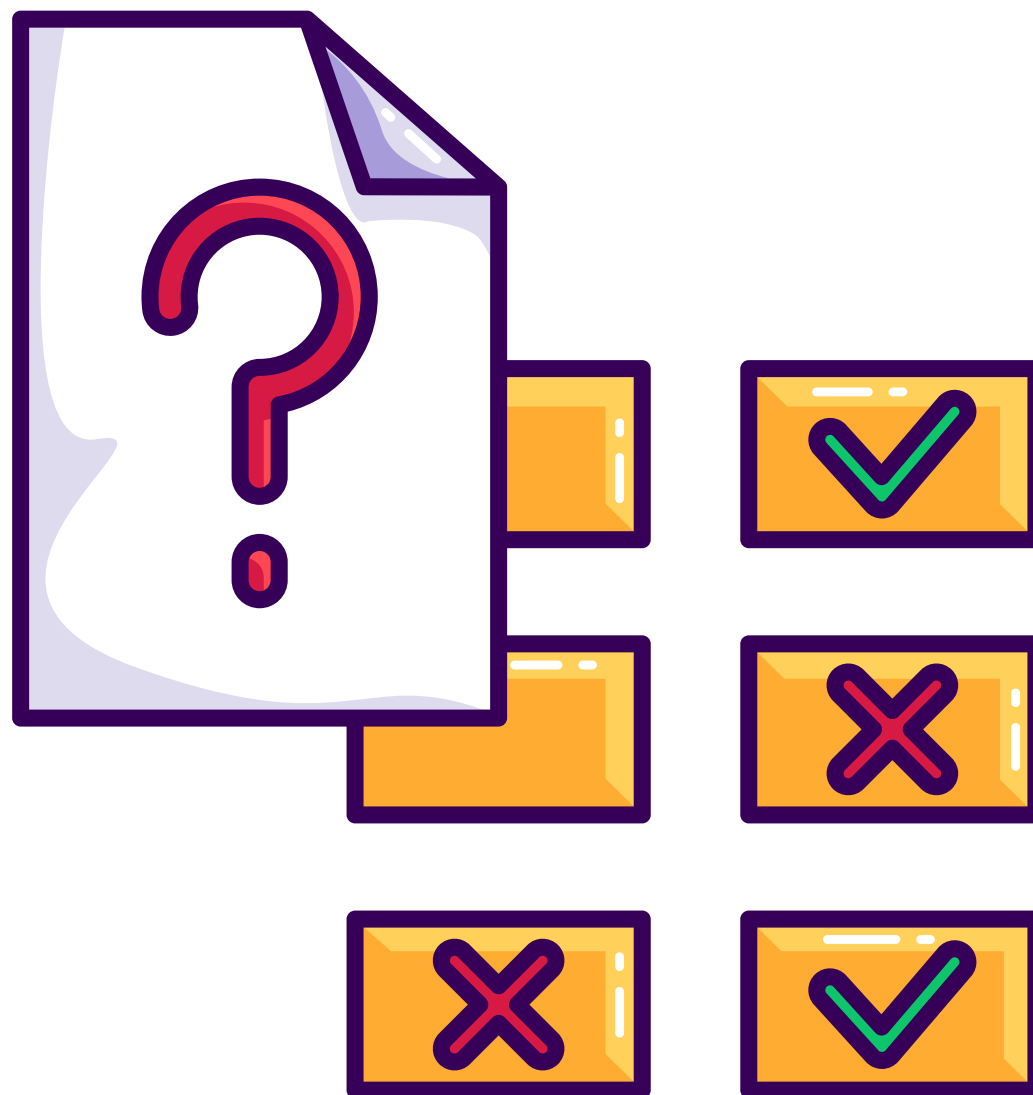
Hyperparameter is an External settings for machine learning algorithms that need to be set before training and significantly affect the model's performance and accuracy.

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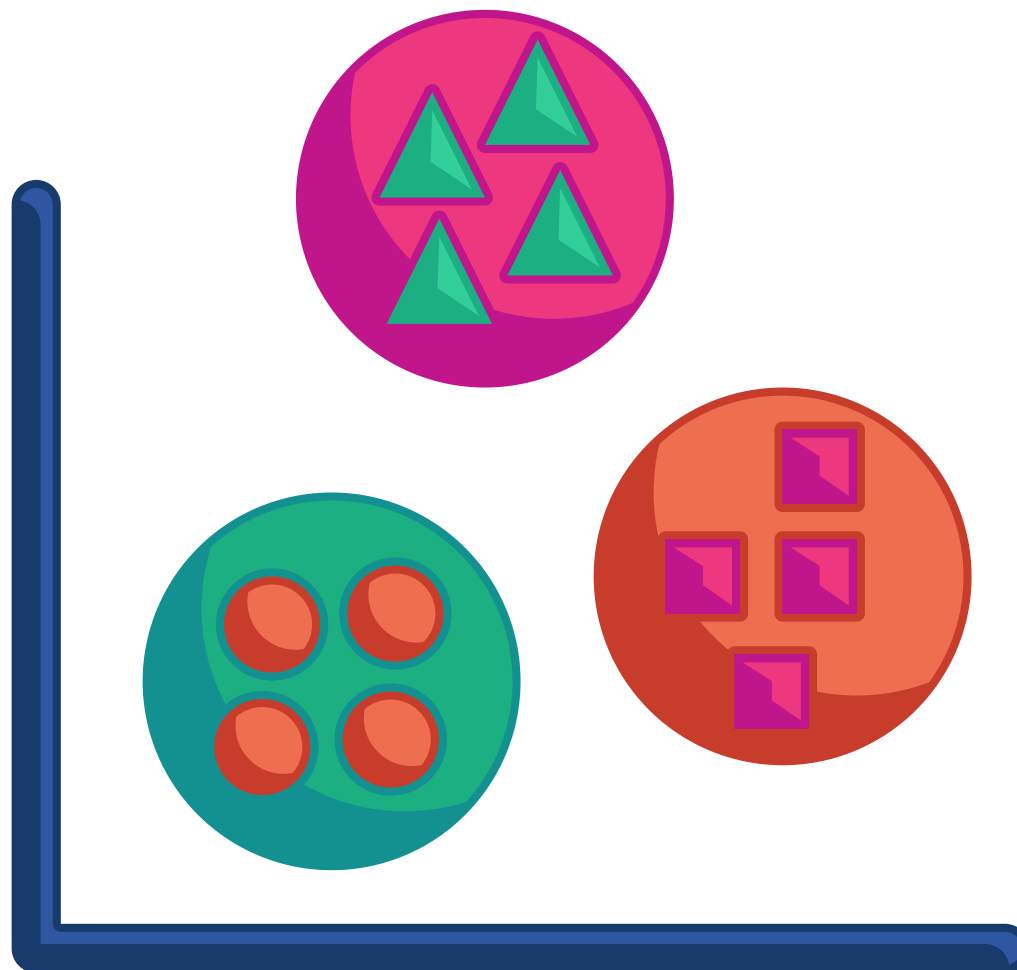
Confusion Matrix



Confusion Matrix: A table used to evaluate the performance of a classification model by comparing the predicted and actual values, showing accuracy and errors.



Clustering



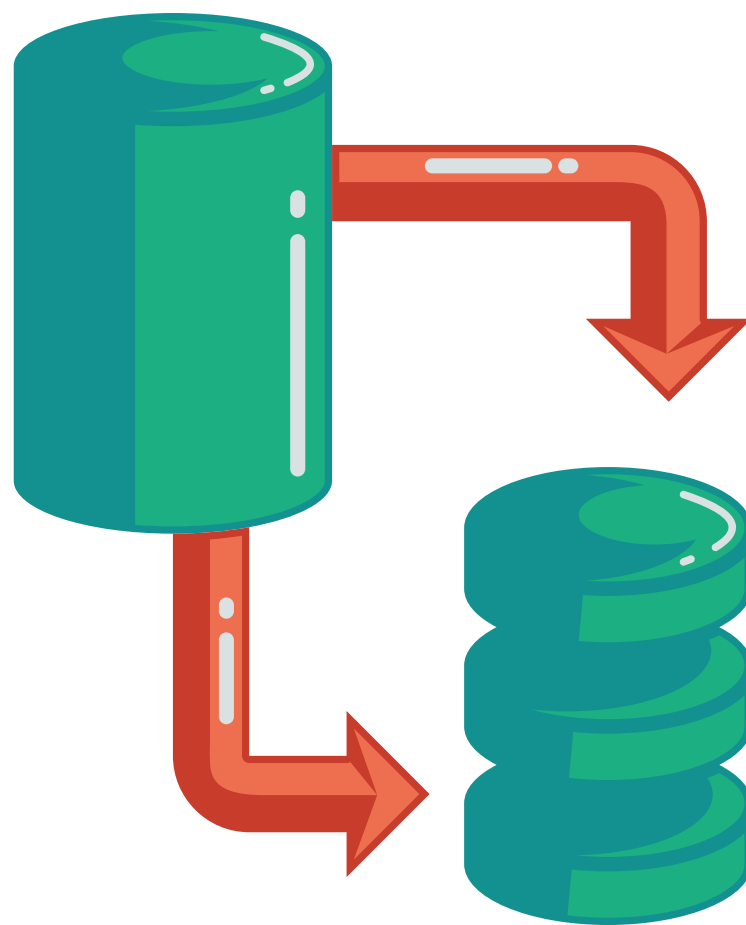
Clustering: An unsupervised learning technique that groups similar data points together based on their features, helping identify patterns and relationships.

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Dimensionality Reduction



Dimensionality Reduction are techniques used to reduce the number of input variables in a dataset, simplifying the model, improving performance, and making visualization easier.

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Large Language Model



Large Language Models (LLMs): Extensive neural networks trained on vast amounts of text data, enabling them to generate and understand human-like text, like GPT-4.

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Small Language Model



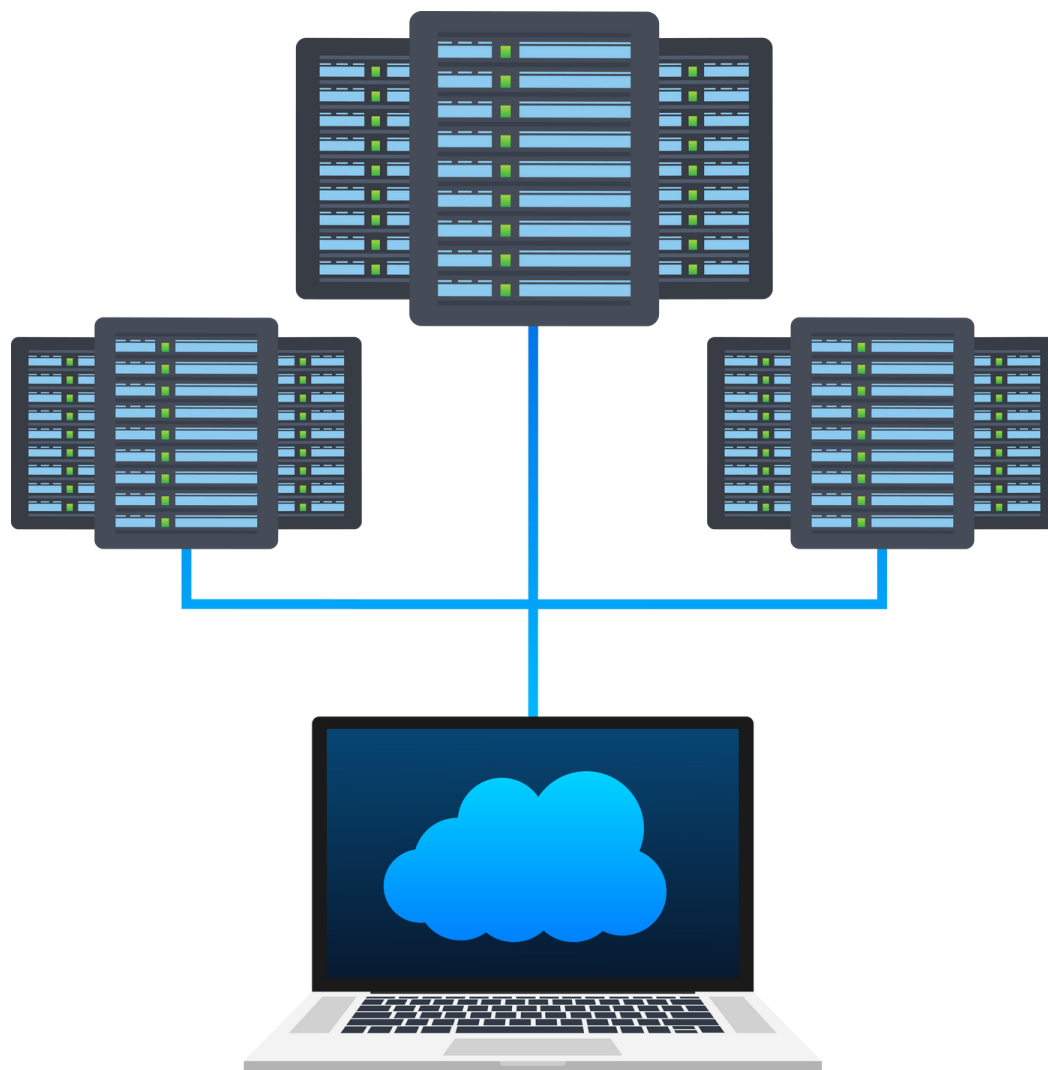
Small Language Models (SLMs) are more compact versions of language models that are optimized for specific tasks or resource constraints, balancing performance with efficiency.

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Vector Database



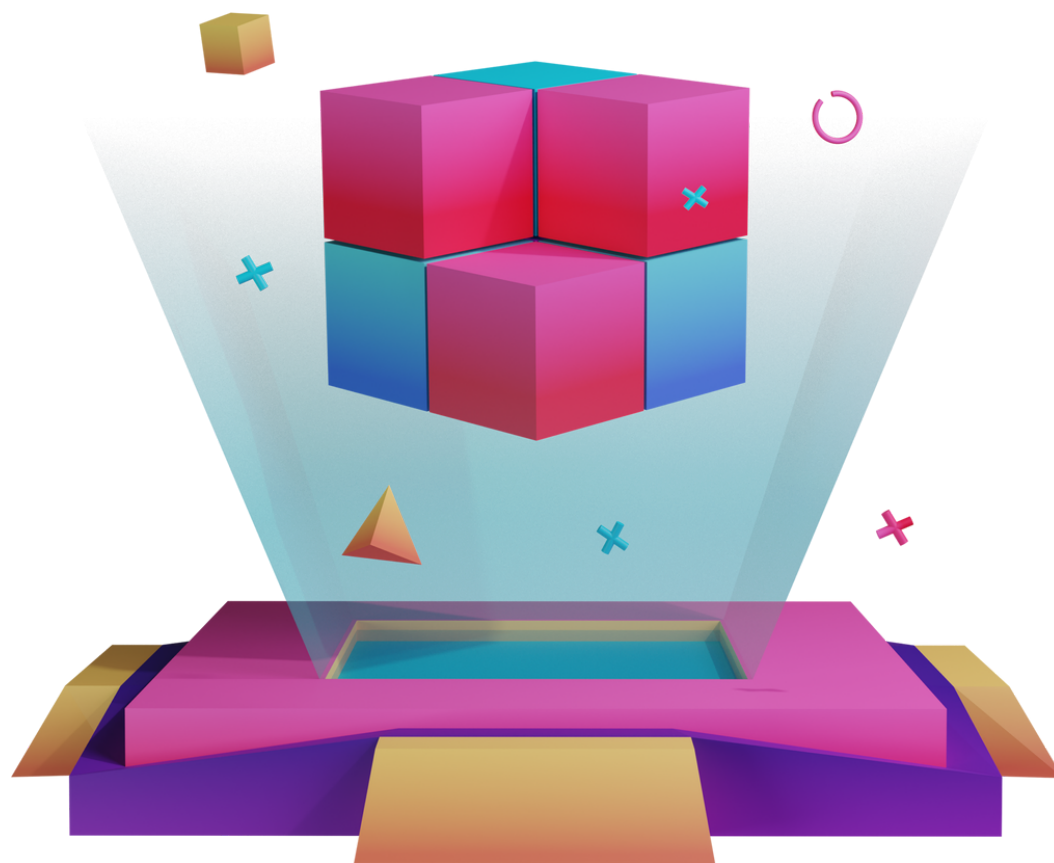
Vector Database: A database designed to store and manage vector embeddings, facilitating efficient similarity searches and machine learning applications.

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Retrieval-Augmented Generation



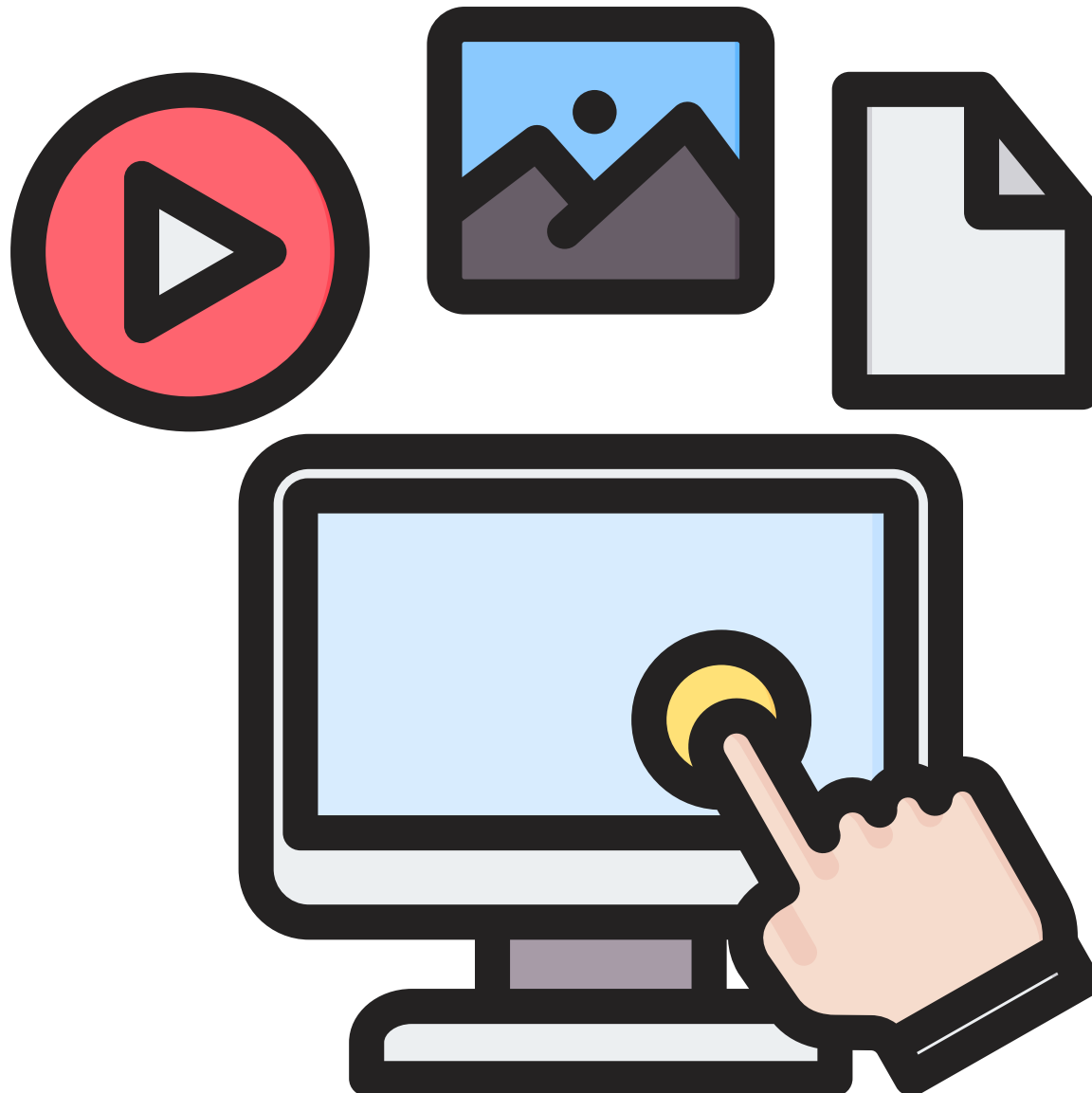
Retrieval-Augmented Generation (RAG): A technique that combines retrieval of relevant documents with generative models to produce accurate and contextually relevant responses.

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Multimodality



Multimodality is the ability of AI systems to process and understand multiple types of data, such as text, images, and audio, simultaneously.



Was it useful?

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