

Artificial Intelligence Glossary

This document will provide you with the definitions and examples of language used around AI to help further your understanding and use of artificial intelligence.

Big Ideas in AI

Artificial Intelligence (AI)

A branch of computer science focused on creating systems capable of performing tasks that typically require human intelligence, such as learning, reasoning, problem-solving, and understanding natural language.

Generative AI (GenAI)

A type of AI that can create new content such as text, images, audio, or video, based on patterns it has learned from large datasets. Gemini, which generates human-like text responses, is an example of generative AI.

Large Language Model (LLM)

A type of AI model, like Gemini or Firefly, which is trained on vast amounts of text data to understand and generate natural language. LLMs can answer questions, complete sentences, translate text, and assist with various language-based tasks.

Machine Learning (ML)

Machine Learning is a subset of AI that enables computers to learn from data and improve their performance on tasks without being explicitly programmed. Machine learning algorithms use data to identify patterns and make decisions or predictions.

Types of Machine Learning

Deep Learning

A subset of machine learning that uses neural networks with many layers (often referred to as “deep” neural networks). It’s particularly effective for tasks like image recognition, natural language processing, and generating text.

Neural Networks

A series of algorithms modeled after the human brain, designed to recognize patterns. Neural networks are composed of layers of interconnected “neurons,” where data passes through and is processed to make predictions or decisions.

Natural Language Processing (NLP)

A field of AI focused on the interaction between computers and humans through natural language. NLP enables AI models to understand, interpret, and generate human language. ChatGPT is an NLP-based tool.

Transformer Model

A type of neural network architecture that has become the backbone of most state-of-the-art AI models, including GPT (Generative Pre-trained Transformer). Transformers process input data in parallel and can handle complex language tasks more efficiently.

Other Terms to Keep in Mind for Using AI

Pre-Training

The process where an AI model, such as GPT, is trained on vast amounts of text data before being fine-tuned for specific tasks. Pre-training allows the model to learn language patterns, grammar, facts, and general knowledge.

Fine-Tuning

A process that takes a pre-trained AI model and adjusts it to perform specific tasks or specialize in certain areas, often using a smaller dataset that is relevant to the task.

Prompt

The input or question that a user provides to a generative AI model to generate a response. The more specific and clear a prompt is, the better the output from the AI.

Token

A token is a piece of text (word or sub-word) used by AI models to process input and generate responses. In languages, tokens can be as short as one letter or as long as a complete word.

Response

The output generated by an AI model based on the prompt or input it received. For ChatGPT, the response would be the text it generates in reply to a user's question or request.

Bias in AI

AI models can reflect the biases present in the data they are trained on. Bias in AI refers to the unintentional favoring of certain viewpoints, demographics, or data types over others, which can affect the fairness of AI outputs.

Overfitting

A scenario where an AI model is too closely tuned to its training data, making it perform well on that data but poorly on new, unseen data. Overfitting reduces the model's ability to generalize its learning to broader contexts.

Turing Test

A test proposed by Alan Turing to assess whether a machine can exhibit intelligent behavior indistinguishable from that of a human. If an AI passes the Turing Test, it means its responses are human-like to the point where people can't tell it's a machine.

Chatbot

A software application designed to simulate conversation with human users, especially over the internet. ChatGPT is an advanced form of a chatbot that uses AI to generate sophisticated, natural-sounding responses.