

AI LEXICON

Artificial Intelligence

A field of computer science that focuses on building systems to imitate human behavior and demonstrate machine intelligence.

Bias

A phenomenon that occurs when an AI system produces results that are systematically unfair or inaccurate due to erroneous assumptions or influences in the machine learning process. Bias in AI can have negative impacts on individuals and society, such as discrimination, misinformation, or loss of trust. There are different types and sources of bias in AI, such as data bias, algorithm bias, human bias, and societal bias.

Deep Learning

A subset of machine learning that uses large multilayered (artificial) deep neural networks that compute with continuous (real-number) representations, a little like the hierarchically organized neurons in the human brain. It is especially effective at learning from unstructured data such as images, text, and audio.

Fine-tuning

The process of adapting a pretrained foundation model to perform a specific task better. This entails a relatively short period of training on a labeled dataset that is much smaller than the dataset on which the model was initially trained. This additional training allows the model to learn and adapt to nuances, terminology, and specific patterns.

Generative AI

A form of machine learning whereby AI platforms can generate new output in response to prompts based on the data on which it has been trained.

Hallucination

A phenomenon in which an AI system produces outputs that are not based on reality or the given context. For example, an AI chatbot might make up facts or stories, or an AI image recognition system might see objects or patterns that are not there.

Large Language Models

A neural net trained on large amounts of text to imitate human language. This class of foundation models can process massive amounts of unstructured text and learn the relationships between words or portions of words, known as tokens. This enables them to generate natural-language text to perform tasks such as summarization or knowledge extraction. GPT-4 (which underlies ChatGPT) and LaMDA (the model behind Bard) are examples of LLMs.

Machine Learning

The study of how AI acquires knowledge from training data. It is a subset of AI in which a model gains capabilities and improves its perception, knowledge, thinking, or actions after it is trained on or shown many data points. Machine learning algorithms detect patterns and learn how to make predictions and recommendations by processing data and experiences. In this way, the system learns to provide accurate content over time.

Neural Network

A computational model inspired by the structure and function of biological neurons.

Prompt Engineering

A technique used in artificial intelligence to optimize and fine-tune language models for particular tasks and desired outputs. Also known as prompt design, it refers to the process of carefully constructing prompts or inputs for AI models to enhance their performance on specific tasks.

Prompts

Instructions given to an AI system using natural language rather than computer language. For example, generative AI can be prompted to create content that appears novel or interesting.

Supervised Learning

A type of machine learning that uses labeled datasets to train algorithms to classify data or predict outcomes. Labeled datasets are collections of data that have been assigned a label or a category by humans.

Unsupervised Learning

A type of machine learning in which algorithms learn patterns from unlabeled data, without any human guidance or feedback.