Artificial Intelligence (AI) Glossary for Beginners

Algorithm
A set of step-by-step instructions a machine follows to perform a task or solve a problem.

Agent
A system that can perceive its environment and take actions independently to achieve a goal.

Artificial General Intelligence (AGI)
A theoretical AI capable of performing any intellectual task a human can do, with wide-ranging cognitive abilities.

Artificial Intelligence (AI)
Technology that enables machines to simulate human intelligence, such as learning, reasoning, and decision-making.

Autonomous
Describes a machine or system able to operate independently without human intervention.

Bias
Unfair or misleading outcomes caused by prejudices or errors in AI data or algorithms.

Chatbot
A computer program designed to simulate conversation with human users via text or voice.

Data Augmentation
Techniques used to increase the amount of training data by adding slightly modified copies.

Dataset
A collection of data used to train or test an AI model.

Deep Learning
A type of machine learning using layered neural networks inspired by the human brain.

Frontier Model
The most advanced, cutting-edge AI model that pushes the limits of current technology capabilities.

Generative AI
AI that can create new content such as text, images, or music.

Hallucination
When an AI generates incorrect or nonsensical information.

Inference
The process where an AI model makes predictions or decisions based on learned patterns from training data.

Integrated Development Environment (IDE)
A software application providing tools for coding, testing, and debugging AI programs.

Large Language Model (LLM)
An AI trained on vast text data capable of understanding and generating human-like language.

Machine Learning (ML)
A branch of AI where machines learn patterns from data to improve performance without being explicitly programmed.

Natural Language Processing (NLP)
AI techniques enabling machines to understand, interpret, and generate human language.

Neural Network
A computing system inspired by the brain's interconnected neurons, used in deep learning.

Overfitting
When an AI model learns training data too well but performs poorly on new, unseen data.

Parameter
A variable in an AI model that is learned from training data to help make predictions.

Prompt
The input (such as a text command or question) given to an AI model to generate a response.

Reinforcement Learning
An AI training method where models learn by receiving rewards or penalties to improve behavior.

Small Language Model (SLM)
A smaller-scale language model with fewer parameters than large language models, typically faster but less capable.

Supervised Learning
Training AI with labeled examples to teach it how to map inputs to correct outputs.

Token
The smallest unit of text (like a word or part of a word) that AI processes in language models.

Transformer
A neural network architecture that efficiently processes language data; fundamental to large language models.

Training
The process of teaching an AI model by feeding it data and adjusting its internal parameters.

Unsupervised Learning
AI training without labeled data, where the model identifies hidden patterns independently.

Validation
Testing an AI model on new data to check its accuracy before real-world use.

Weight
A learned value in a neural network that influences how much an input affects the output.