
Below are concise definitions of key terminology you may hear us use during Eduba Labs. These terms are great to know as they'll keep you in the loop with and help you influence breaking Ed-Tech and AI conversations.

AI now covers a broad range of computational techniques.

Teachers need to see how these tools can be **shaped, not just used**.

Understanding core ideas helps educators **lead** AI's role in the classroom.

Algorithm

Definition: *A step-by-step procedure for solving a problem or completing a task.*

Artificial Intelligence (AI)

Definition: *The broad field of building machines or software that display human-like problem-solving, reasoning, or learning.*

Binary Code

Definition: *The basic language of computers, using only 1s and 0s to represent data and instructions.*

Cloud Computing

Definition: *Using remote servers over the internet to store, manage, or process data, instead of local machines.*

Data

Definition: *Any information—numbers, text, images—that a computer uses to learn or make decisions.*

Deep Learning

Definition: *An “ML” (Machine Learning - explained later) approach that uses multiple layers of neural networks to recognize patterns in data (e.g., speech, images).*

Embedding Models

Definition: *Models that turn words, images, or other data into numeric vectors, helping AI find relationships between concepts.*

Large Language Model (LLM)

Definition: *An AI model trained on huge text datasets, designed to generate human-like text (e.g., GPT).*

Machine Learning (ML)

Definition: *A subset of AI where computers learn from data rather than following explicit instructions.*

Natural Language Processing (NLP)

Definition: *Techniques that allow computers to understand and generate human language (e.g., chatbots, translators).*

Neural Network

Definition: *A series of mathematical layers, inspired by the brain's neurons, that learn to detect patterns in data.*

Programming Language

Definition: *A set of rules and symbols (e.g., Python, Java) used to tell a computer what to do.*

Reinforcement Learning

Definition: *A machine learning method where a system learns by trial and error, receiving rewards for correct actions.*

Supervised Learning

Definition: *A machine learning method using labelled data (input + correct output) so the system learns expected answers.*

Transformers

Definition: *A type of neural network well-suited for language tasks, used in many large language models.*

Unsupervised Learning

Definition: *A machine learning method that explores unlabelled data, looking for hidden structures or patterns.*

Key Historical Touchpoints & Concepts -

René Descartes (1596-1650)

- Proposed that animals might be “automata” in Discourse on the Method.
- Sparked debate over whether machines could think.

Jacquard Loom (1804)

- Used punch cards to control patterns in weaving.
- Early example of programmable machinery.

Ada Lovelace (1815-1852)

- Often called the first computer programmer for her work on Charles Babbage's Analytical Engine.
- Saw that computers could do more than simple calculation.

Alan Turing (1912-1954)

- Created the concept of a Turing Machine as a universal model of computation.
- Asked, “Can machines think?” leading to the Turing Test for machine intelligence.