

Types of Artificial Intelligence

There are different ways to classify types of artificial intelligence: based on their capabilities, their functionalities or how they act.

Russell and Norvig's Classification

Computer science experts Stuart Russell and Peter Norvig differentiate between several types of artificial intelligence in their work "Artificial Intelligence: A Modern Approach":



1 Systems that think like humans

They automate activities such as decision-making, problem-solving and learning. One example is artificial neural networks.

2 Systems that act like humans

These are computers that perform tasks in a similar way to humans. Robots are an example of this.

3 Systems that think rationally

They attempt to emulate the rational logical thinking of humans, i.e., research is conducted into how to enable machines to perceive, reason and act accordingly. Expert systems fall into this group.

4 Systems that act rationally

Ideally these are systems that attempt to rationally imitate human behaviour, such as intelligent agents.

Types of Artificial Intelligence based on capabilities



1 Narrow or weak AI

This is the only type that currently exists; the rest are theoretical forms of AI. It is a technology that can be trained to perform a single or limited task faster than a human mind. This category includes virtual voice assistants such as Siri or Alexa and generative AI such as ChatGPT, Sora, DALL-E and [chatbots](#).

2 General AI

Unlike narrow AI, general artificial intelligence would be capable of solving problems without specific prior programming for that task and could learn in new contexts in real time, something that only humans and some animals can do.

3 Super AI

This is a theoretical concept according to which artificial intelligence would be capable of thinking, reasoning, making judgements and could feel emotions, have desires, beliefs and needs of its own.

Types of Artificial Intelligence according to their functionality



1 Reactive AI

This is a technology that does not store memory and only reacts to current stimuli. In other words, it cannot be trained and does not use stored knowledge to make decisions.

2 Self-aware AI

This type of AI is similar to Super AI and is also purely theoretical. This type of artificial intelligence would be self-aware, that is, it would understand its condition and limitations and could develop emotions, thoughts and beliefs similar to those of humans.

3 Limited memory AI

This technology allows information to be stored for a short period of time. Based on this information, it can recall events and results it has previously obtained to resolve the proposed action. Although it may seem like a simple and limited technology, it is currently the most common, as generative AI, virtual assistants and autonomous cars, for example, fall into this classification.

4 Mental and emotional AI

This type of artificial intelligence falls within the Theory of Mind, so it is a purely theoretical option at present. However, researchers explain it as a technology capable of understanding human thoughts and emotions through the analysis of images, voices and other data, and thereby responding by taking them into account and even simulating them at certain times.