[](https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.simplilearn.com%2Ftutorials%2Fartificial-intelligence-tutorial%2Ftypes-of-artificial-intelligence&psig=AOvVaw1RQ3yvjAaUN336jqI40KEb&ust=1714457617362000&source=images&cd=vfe&opi=89978449&ved=0CBAQjRxqFwoTCPjerL3i5oUDFQAAAAAdAAAAABAD)Artificial Intelligence (AI)

* **What is AI?**

Artificial intelligence, or AI, is technology that enables computers and machines to simulate human intelligence and problem-solving capabilities.

* **Types of artificial intelligence: weak AI vs. strong AI**

Weak AI—also known as *narrow AI* or *artificial narrow intelligence*(ANI)—is AI trained and focused to perform specific tasks. Weak AI drives most of the AI that surrounds us today. "Narrow" might be a more apt descriptor for this type of AI as it is anything but weak: it enables some very robust applications, such as Apple's Siri, Amazon's Alexa, IBM watsonx™, and self-driving vehicles.

Strong AI is made up of *artificial general intelligence*(AGI) and *artificial super intelligence* (ASI). AGI, or general AI, is a theoretical form of AI where a machine would have an intelligence equal to humans; it would be self-aware with a consciousness that would have the ability to solve problems, learn, and plan for the future. ASI—also known as superintelligence—would surpass the intelligence and ability of the human brain. While strong AI is still entirely theoretical with no practical examples in use today, that doesn't mean AI researchers aren't also exploring its development. In the meantime, the best examples of ASI might be from science fiction, such as HAL, the superhuman and rogue computer assistant in *2001: A Space Odyssey*

## AI in the workforce

Artificial intelligence is prevalent across many industries. Automating tasks that don't require human intervention saves money and time, and can reduce the risk of human error. Here are a couple of ways AI could be employed in different industries:

* **Finance industry.**Fraud detection is a notable use case for AI in the finance industry. AI's capability to analyze large amounts of data enables it to detect anomalies or patterns that signal fraudulent behavior.
* **Health care industry.**AI-powered robotics could support surgeries close to highly delicate organs or tissue to mitigate blood loss or risk of infection.

## The 4 Types of AI

As researchers attempt to build more advanced forms of artificial intelligence, they must also begin to formulate more nuanced understandings of what intelligence or even consciousness precisely mean. In their attempt to clarify these concepts, researchers have outlined [four types of artificial intelligence](https://www.coursera.org/articles/types-of-ai).

Here’s a summary of each AI type, according to Professor Arend Hintze of the University of Michigan [[4](https://www.govtech.com/computing/understanding-the-four-types-of-artificial-intelligence.html#:~:text=There%20are%20four%20types%20of,of%20mind%20and%20self%2Dawareness.)]:

### 1. Reactive machines

Reactive machines are the most basic type of artificial intelligence. Machines built in this way don’t possess any knowledge of previous events but instead only “react” to what is before them in a given moment. As a result, they can only perform certain advanced tasks within a very narrow scope, such as playing chess, and are incapable of performing tasks outside of their limited context.

### 2. Limited memory machines

Machines with limited memory possess a limited understanding of past events. They can interact more with the world around them than reactive machines can. For example, self-driving cars use a form of limited memory to make turns, observe approaching vehicles, and adjust their speed. However, machines with only limited memory cannot form a complete understanding of the world because their recall of past events is limited and only used in a narrow band of time.

### 3. Theory of mind machines

Machines that possess a “theory of mind” represent an early form of artificial general intelligence. In addition to being able to create representations of the world, machines of this type would also have an understanding of other entities that exist within the world. As of this moment, this reality has still not materialized.

### 4. Self-aware machines

Machines with self-awareness are the theoretically most advanced type of AI and would possess an understanding of the world, others, and itself. This is what most people mean when they talk about achieving AGI. Currently, this is a far-off reality.

## AI benefits and dangers

AI has a range of applications with the potential to transform how we work and our daily lives. While many of these transformations are exciting, like self-driving cars, virtual assistants, or wearable devices in the healthcare industry, they also pose many challenges.

It’s a complicated picture that often summons competing images: a utopia for some, a dystopia for others. The reality is likely to be much more complex. Here are a few of the possible benefits and dangers AI may pose:

## History of artificial intelligence:

The idea of “artificial intelligence” goes back thousands of years, to ancient philosophers considering questions of life and death. In ancient times, inventors made things called “automatons” which were mechanical and moved independently of human intervention. The word “[automaton](https://www.britannica.com/technology/automaton)” comes from ancient Greek, and means “acting of one’s own will.” One of the earliest records of an automaton comes from 400 BCE and refers to a mechanical pigeon created by a friend of the philosopher Plato. Many years later, one of the most famous automatons was created by [Leonardo da Vinci around the year 1495](https://www.history.com/news/7-early-robots-and-automatons).

So while the idea of a machine being able to function on its own is ancient, for the purposes of this article, we’re going to focus on the 20th century, when engineers and scientists began to make strides toward our modern-day AI.