

## ARTIFICIAL INTELLIGENCE

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### **Annotation:**

Artificial Intelligence is defined as the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. AI is also defined as,

An Intelligent Entity Created By humans

Capable of Performing Tasks intelligently without being explicitly instructed.

Capable of thinking and acting rationally and humanely.

**Keywords:** Computer, Artificial Intelligence, machine, technology, humans, future, intentions, creative, success.

A layman with a fleeting understanding of technology would link it to robots. They'd say Artificial Intelligence is a terminator like-figure that can act and think on its own. If you ask about artificial intelligence an AI researcher, (s)he would say that it's a set of algorithms that can produce results without having to be explicitly instructed to do so. The intelligence demonstrated by machines is known as Artificial Intelligence. Artificial Intelligence has grown to be very popular in today's world. It is the simulation of natural intelligence in machines that are programmed to learn and mimic the actions of humans. These machines are able to learn with experience and perform human-like tasks. As technologies such as AI continue to grow, they will have a great impact on our quality of life. It's but natural that everyone today wants to connect with AI technology somehow, may it be as an end-user or pursuing a career in Artificial Intelligence. Developers use artificial intelligence to more efficiently perform tasks that are otherwise done manually, connect with customers, identify patterns, and solve problems. To get started with AI, developers should have a background in mathematics and feel comfortable with algorithms. When getting started with using artificial intelligence to build an application, it helps to start small. By building a relatively simple project, such as tic-tac-toe, for example, you'll learn the basics of artificial intelligence. Learning by doing is a great way to level-up any



skill, and artificial intelligence is no different. Once you've successfully completed one or more small-scale projects, there are no limits for where artificial intelligence can take you. Artificial intelligence (AI) is a wide-ranging branch of computer science concerned with building smart machines capable of performing tasks that typically require human intelligence. AI is an interdisciplinary science with multiple approaches, but advancements in machine learning and deep learning are creating a paradigm shift in virtually every sector of the tech industry. Artificial Intelligence refers to the intelligence of machines. This is in contrast to the natural intelligence of humans and animals. With Artificial Intelligence, machines perform functions such as learning, planning, reasoning and problem solving. Most noteworthy, Artificial Intelligence is the simulation of human intelligence by machines. It is probably the fastest-growing development in the World of technology and innovation. Furthermore, many experts believe IA could solve major challenges and crisis situations. Building an AI system is a careful process of reverse-engineering human traits and capabilities in a machine, and using its computational prowess to surpass what we are capable of. To understand How Artificial Intelligence actually works, one needs to deep dive into the various sub-domains of Artificial Intelligence and understand how those domains could be applied to the various fields of the industry. You can also take up an [artificial intelligence course](#) that will help you gain a comprehensive understanding.

**Machine Learning:** ML teaches a machine how to make inferences and decisions based on past experience. It identifies patterns and analyses past data to infer the meaning of these data points to reach a possible conclusion without having to involve human experience. This automation to reach conclusions by evaluating data saves human time for businesses and helps them make a better decisions. To learn basic concepts you can enrol on a free [machine learning course for beginners](#).

**Deep Learning:** Deep Learning is an ML technique. It teaches a machine to process inputs through layers in order to classify, infer and predict the outcome.

**Neural Networks:** [Neural Networks](#) work on similar principles to Human Neural cells. They are a series of algorithms that captures the relationship between various underlying variables and processes the data as a human brain does.



Natural Language Processing: NLP is a science of reading, understanding, and interpreting a language by a machine. Once a machine understands what the user intends to communicate, it responds accordingly.

Computer Vision: Computer vision algorithms try to understand an image by breaking down an image and studying different parts of the object. This helps the machine classify and learn from a set of images, to make a better output decision based on previous observations.

Cognitive Computing: Cognitive computing algorithms try to mimic a human brain by analysing text/speech/images/objects in a manner that a human does and tries to give the desired output. Also, take up applications of artificial intelligence courses for free.

### **Types of Artificial Intelligence**

First of all, the categorization of Artificial Intelligence is into four types. Arend Hintze came up with this categorization. The categories are as follows:

#### Type 1: Reactive machines

These machines can react to situations. A famous example can be Deep Blue, the IBM chess program. Most noteworthy, the chess program won against Garry Kasparov, the popular chess legend. Furthermore, such machines lack memory. These machines certainly cannot use past experiences to inform future ones. It analyses all possible alternatives and chooses the best one.

#### Type 2: Limited memory

These AI systems are capable of using past experiences to inform future ones. A good example can be self-driving cars. Such cars have decision making systems. The car makes actions like changing lanes. Most noteworthy, these actions come from observations. There is no permanent storage of these observations.

#### Type 3: Theory of mind

This refers to understand others. Above all, this means to understand that others have their beliefs, intentions, desires and opinions. However, this type of AI does not exist yet.

#### Type 4: Self-awareness

This is the highest and most sophisticated level of Artificial Intelligence. Such systems have a sense of self. Furthermore, they have awareness, consciousness and



emotions. Obviously, such type of technology does not yet exist. This technology would certainly be revolution. There is no doubt that people are often judged in terms of their educational success. People need to pass exams to go to university and study for a degree and the majority of jobs and careers require these types of qualifications. However, this is surely not the only way to assess intelligence.

There are many people who leave school at the age of 16 yet go on to have successful careers in more practical jobs. This is often particularly true of those who trades, such as plumbers and carpenters. Although they may not have passed many exams, they have successfully learned a skill which definitely requires intelligence.

Intelligence may also be demonstrated in creative or, artistic ability. Musicians have the skills to perform complex pieces of music, while artists can create beautiful pieces of work through painting or sculpture. Such skills cannot necessarily be learned on a course or from a book, yet could be considered to be a more natural form of intelligence.

A final example of another aspect of intelligence is knowledge, which people often acquire through self-study or experience. They may not have done well at school or university, but have become "educated" by learning about a subject independently or by dealing with a variety of real life situations and problems. Indeed there are many highly qualified, successful people who often lack "common sense" and who would be less able to cope with such difficulties.

In conclusion, there is far more to the idea of intelligence than academic achievement. Skills and knowledge are important and give intelligence a broader meaning, proving that it can't always be measured by educational success alone.