

# 1.1 AI and interaction with AI

## History of AI

In 1956 the term Artificial Intelligence was initially used by an American Mathematician and logician John Mc Carthy in a workshop at Dartmouth Conference thus he is also known as father of AI as he was the first to introduce and give an idea about AI.

## Three different definitions of AI

Carthy defined AI as "the science and engineering of making intelligent machines." Every aspects of learning or any other feature of intelligence can be principle be so precisely described that a machine can be made to simulate it. An attempt will be made to find how to make machines use language, form abstractions and concepts, solve kinds of problems now reserved for humans, and improve themselves.<sup>1</sup>

Minsky defined AI as "the science of making machines do things that would require intelligence if done by men."<sup>2</sup> "A machine with the general intelligence of an average human being. At that point the machine will begin to educate itself with fantastic speed." (Jonathan Grudin, 2009 / Time Magazine, November 20, 1970)

"Artificial intelligence (AI) is the simulation of human intelligence processes by machines, especially computer systems. Specific applications of AI include expert system, natural language processing, speech recognition and machine vision."<sup>3</sup>

## Definition of AI according to me

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<sup>1</sup> <https://www.dartmouth.edu/~vox/0607/0724/ai50.html>

<sup>2</sup> <https://www.britannica.com/biography/Marvin-Lee-Minsky>

<sup>3</sup> <https://searchenterpriseai.techtarget.com/definition/AI-Artificial-Intelligence>

The term AI is combination of two words artificial and intelligence, where artificial means man made and intelligence meaning the ability to acquire and apply knowledge and skills. So simple we could say AI is a manmade machine which is capable of learning and obtaining skills and knowledge. AI is a board topic, but according to my point of view on the basis of the given definitions above, AI is a machine that learns, generate and be able to perform those task that requires human intelligence automatically. Learning can be learning human behaviors or universal phenomena that would for example help in weather forecast. Automatically in the sense that it implies what it had learn and behave, auto driving is an good example of AI performing task.

AI is an super version of human brain, what our brain is capable of doing, is implemented in AI. As a normal person, we might not have explored or have lacked to fully use all functionality of brain for example memory storage, recalling, recognition, logical reasoning, decision making and many more. Thus AI illuminates such incapability of humans for ease of human.

### **Company working with AI**

Tesla is a company that has been producing electric vehicles especially cars, focusing on auto driving. The company aims to lunch fully autonomous cars in future. They have been using “thinking” algorithms, sensors, navigations, that allows auto pilot. AI is therefore used for safety and convenience with focus on minimizing or nullifying road accidents.

## **1.2 Robots and AI systems**

### **History of Robot**

It seems to be very difficult to find out who exactly coined the term Robot and it has been used in different plays and comic, The name of Russian-born American science-fiction writer Isaac Asimov appears the most, as he coined the term *Robotics* in his book which was

collection of his short stories ***The complete Robot*** written in between 1939 till 1977 where he presented three laws of robot: It must not injure human beings, follow human orders unless it would conflict first one and protect its own existence keeping in mind first and second law. Though the word robot was just found written in papers, the first ever commercial, digital and programmable robot was built by George Devol in 1954. The robot was given name 'Unimate' was supposed to move hot pieces of metal.

### **Definitions of Robot**

Robot is “a machine that can perform a complicated series of tasks automatically”.(Oxford Dictionaries)<sup>4</sup> Thus robot are automatic machine that are supposed to one or more task without human involvement.

According to Merriam Webster ‘Robot is a machine that resembles a living creature in being capable of moving independently (as by walking or rolling on wheels) and performing complex actions (such as grasping and moving objects)”.<sup>5</sup>

By the definition robot focuses on the task of robot that is it supposed to do human activities without human intervention but with greater efficiency and effectiveness.

### **My definition of Robot**

Robot are the machine that does repetitive and complex job with greater effectiveness and efficiency automatically. Thus robots are task oriented, auto mechanism that are either programmed to one task or more simultaneously or one at a time for industrial purposes that contribute to large production.

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<sup>4</sup> <https://www.oxfordlearnersdictionaries.com/definition/english/robot>

<sup>5</sup> <https://www.merriam-webster.com/dictionary/robot>

## **Relation Between AI and Robot**

Robot is not different from AI rather it is a sub-topic that can be considered under the umbrella term AI. Robot is an artifact that does specific function that it is programmed for. Robot can have AI as a part of its programming, but we cannot say robot a AI, it's an example or platform for application if AI.

### **Physical robot**

Waiter Robot, these kind of robot are found in different restaurants of the world, where it serves food from kitchen counter to your table. It mostly famous in Japan and China. It has navigations if all the tables so it moves around following that navigation. It has few button intact in it that commands it to move. It stops in case if there is some hindrance on its way.

## **1.3 Universal Design and AI systems**

### **Definition of Universal Design**

Universal Design is the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability.<sup>6</sup> The universal design is simply a design that is applicable in whole universe that cope with the physical, geographical and intellectual difference, in other word suitable for all.

The 7 main principles of Universal design are :

Equitable use: People of all capability could use the design.

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<sup>6</sup> <http://universaldesign.ie/What-is-Universal-Design/>

Flexibility: The design should accommodate with wide range of individual preferences.

Simple and intuitive use: Must be easily understandable by all

Perceptible information: The information provided must be properly understood with the help of text, images, videos, voice notes, sound, movement or combinations of these.

Tolerance for error: Must be able of minimizing or avoiding error, in case of unintentional error must have measures to recover.

Low physical effort: The design must be efficient, comfortable for use and with less feeling of fatigue.

Size and space for approach of use: The design must have suitable size and space for reach, manipulation and use

## **Potential of AI**

We could possibly develop something which gives it reasoning and explanation. As human perceives new things and correlate it. AI could make some similar simulations where it identifies new things. It could be face reading , image fetching, recognition and recalling. Or even give its own point of view on the given text or summarize on its own.

## References

1. [Proposal at Dartmouth Conference, 1956](#)
2. [Marvin Minsky, by Michael Aron Dennis in Encyclopædia Britannica, Aug 5, 2020](#)
3. [The amazing ways Tesla is using Artificial Intelligence and Big Data, Bernard Marr](#)
4. **[Andrej Karpathy - AI for Full-Self Driving at Tesla](#)**
5. [Who coined the term 'Robotics'?, Sandford Report](#)
6. [Definition of Robot, Merriam Webster](#)
7. [Robot waiters, euronews.](#)
8. [What is universal design?](#)