

Distinguish, differentiate, compare and explain what is the difference between Robotics and Artificial Intelligence. Comparison and Differences.

## **AI - Artificial Intelligence**

AI is an abbreviation for Artificial intelligence - is a general term that implies the use of machines to model and/or reproduce intelligent behavior. Progress in AI focuses on the development and analysis of algorithms that are used to create intelligent behavior (ideally) without human intervention.

## **Robotics**

Robotics is a branch of AI. It covers fields such as Electrical Engineer, Mechanical Engineering and Computer Science which stand for designing, construction, and application of robots.

The scene for Artificial Intelligence to take part in robotics is that computers can solve problems only with a certain input. So, what researchers do, is that they provide the robots with training data set and different inputs and leave it to their Artificial Intelligence compare the given input with the training data set and decide what path to take. In this way computers can take their own decisions. A perfect example is the Alpha Go.

Another interesting feature Artificial Intelligence is trying to gain is the ability to learn. If a robot remembers positive cases of their actions, they can replicate the same moves, the same actions when they are faced later with the same situation. However, this mode is not yet improved. Research needs to be made.

What Artificial Intelligence conducted in robotics is trying to reach, is the ability to understand natural intelligence. The complexities of human brain make it extremely hard to construct a better approach to it. However, the aim is real.

## **Difference between Robotics and Artificial Intelligence**

1. Robots operate in the real physical world. Artificial Intelligence usually operates in computer simulated world.
2. The input to robots is analog signals in the form of speech waves or images. The input to an Artificial intelligence program is in symbols and rules.
3. Robots need special hardware with sensor and effectors. Artificial Intelligence needs general purpose computers to operate on.