



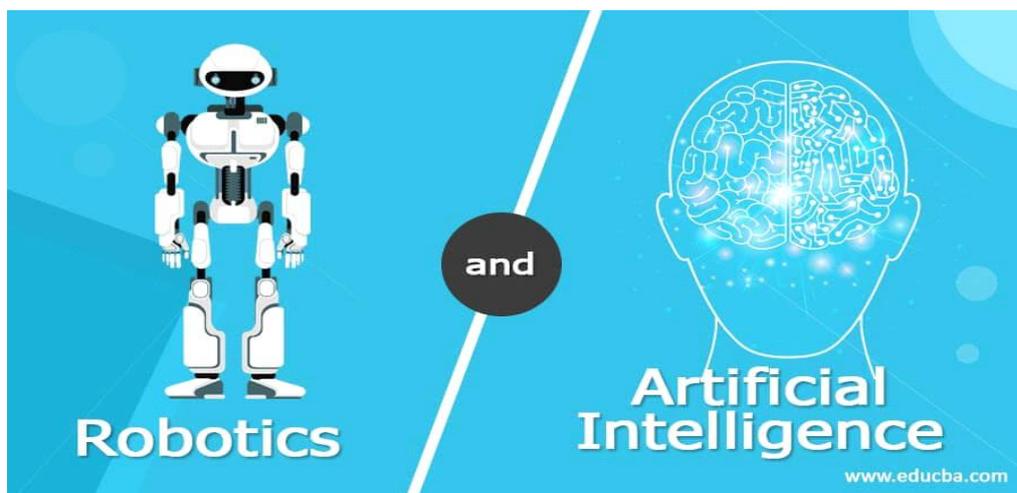
1. Artificial Intelligence and Robotics

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ABSTRACT

Artificial intelligence is a theory. It is the development of computer system that are able to perform tasks that would require human intelligence. Example of these are visual presentation, speech recognition, decision-making, and translation between languages. Robot are automatically operated machine that replace human effort, though it may not resemble human begins in appearance of perform function in human like manner. Robots are machine with programmed movements that allowed them to move in certain directions or sequences. Artificial Intelligence (AI) and robotics and their difference. Thus, a first major feature of these two disciplines is product diversity. In addition, it is possible to characterize them as disruptive, enabling and interdisciplinary.



KEYWORDS:

Robotics, Artificial Intelligence, Self Awareness, Google Assistant, Autonomous robot.

Introduction:

AI provides robots with adequate computer vision and motion to better understand the environment and act accordingly. Similarly, machine learning conditions the robots in such a way that with timely evolution, they learn from their own mistakes, thus preventing constant human intervention and parallel effort. In Artificial Intelligence, introduction is commonly used to account for the use of various levels of details in a given representation language or the ability to change from one level to another while preserving usefully properties. Introduction has been mainly studied in problem solving, theorem proving knowledge representation (in particular for and temporal reasoning) and machine learning.

Artificial Intelligence:

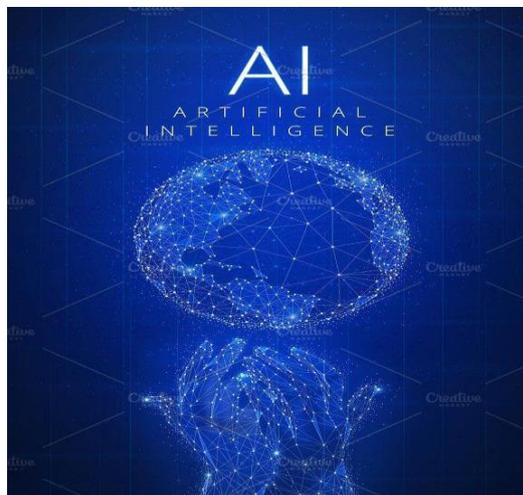
Artificial intelligence is the simulation of human intelligence processes by machines, especially computer system. Specific application of AI include expert system, nature languages processing, speech recognition and machine vision.

John McCarthy (September 4, 1927- October 24, 2011) was an American Computer Scientist and cognitive scientist. He is the Father of AI. He was one of the founders of the discipline of Artificial Intelligence.

AI has become a catchall term for applications that perform complex tasks that once require human input, such as communicating with customers online or bank transactions.

AI works by combining large amounts of data with fast, iterative processing and intelligence algorithms, allowing the software to learn automatically from patterns or features in the data. The term is often used interchangeably with its subfields, which include machine learning (ML) and deep learning.

EXAMPLES OF AI: Google Assistant, Google Maps, Apple's Siri, Amazon's Alexa, Microsoft's Cortana, Instagram, Self-driving car, etc.



Robotics:

Robotics is a branch of engineering that involves the conception, design, manufacture and operating of robots. The objective field is to create intelligent machines than can assist humans in a variety of ways.

Robotics is an interdisciplinary branch of computer science and engineering. The goal of robotics is to design machines that can help and assist humans.

AI-Jazari is the Father of Robotics. The first electronic autonomous robots with complex behaviour were created by William Grey Walter of the Burden Neurological Institute in Bristol, England, in 1948 and 1949. The first digitally operate and programmable robot was invented by George Devol in 1954 and was ultimately called the Unimate .

Robots are used in manufacturing, logistics, agriculture, construction and other industries. Robotics is used for welding, painting, assembly and testing in the automotive industry. Robots can perform these tasks more accurately and consistently than humans.

EXAMPLES OF ROBOTICS: Robot, Cobot , Industrial robot, Domestic robot, Mobile robot , Autonomous robot.



Comparison Between Robotics and Artificial Intelligence:

- Robots are machines designed to execute one or more simple to complex tasks automatically with utmost speed and precision whereas AI is like a computer program that typically demonstrates some of the behaviour associated with human intelligence.
- Robotic is a field of Artificial Intelligence that makes use of AI to improve their functions but AI is the bridge between human intelligence and machine learning.
- Robotics operate in real physical world and AI usually operated in computer-stimulated worlds.

- Inputs to robots is analog signal in the form of speech waveform or images but the input to an AI program is in symbols and rules.
- Robots are both autonomous and semi-autonomous in machines that utilize computer system from processing information and controlling whereas AI complements the human mind to enhance its capabilities in performing tasks and self-improving itself.
- Robotics is utilized in manufacturing, assembling, laboratory research and so on. Some great examples of application using AI include google deepmind ,siri, spotify , etc.

Advantages of Artificial Intelligence:

1. Reduction in Human error.
2. Zero risks and 24*7 availability.
3. Digital Assistant and faster decision making.

Disadvantages of Artificial Intelligence:

1. High cost and no creativity.
2. Unemployment and make humans lazy.
3. Emotionless

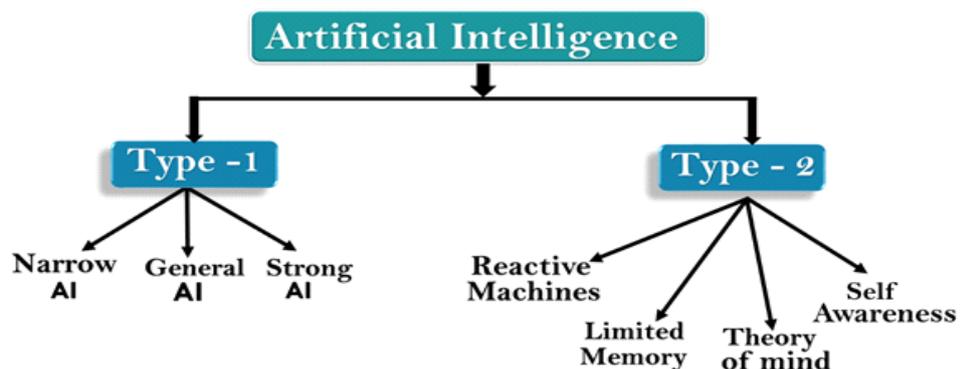
Advantages of Robotics:

1. Cost effectiveness.
2. Improved quality assurance and increased productivity.
3. Work in Hazardous environment.

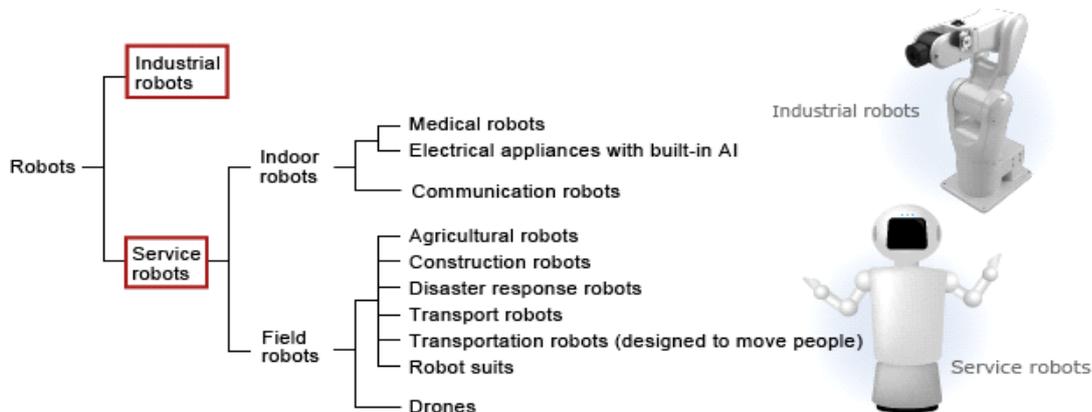
Disadvantages of Robotics:

1. Potential job losses and increased unemployment.
2. Environmental and security risks.
3. Cannot handle unexpected situations.

Types of Artificial Intelligence:



Types of Robotics:



Conclusion:

Artificial Intelligence leads to transformative application within a series of industrial, intellectual and social application. Furthermore, AI has proven to be superior to human decision making in certain area AI is better than humans at finding and enacting the best policies in certain areas concerning issues. Artificial legal intelligence has unsettled the legal service marketing, the legal provisions and prevalent business models by replacing human legal expertise. AI technological reopen returning politically questions about power, freedom, democracy and justice.

Robotics are useful in many ways for instance, its boosts economic because business need to be efficient to keep up within the industry competition. Therefore, having robots helps business owners to be competitive because robots can do jobs better and faster than humans can. Example: Robots can build, assemble a car.

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