

Introduction to Artificial Intelligence

Artificial + Intelligence

Where

Artificial - *"man-made,"*

Intelligence - *"thinking power"*

"a man-made thinking power."

Goals of Artificial Intelligence

- Replicate human intelligence
- Provide capability to do Knowledge-intensive tasks
- Perception-action driven approach
- Perform tasks that requires human intelligence such as:
 - Theorem proving
 - Chess Game Playing
 - Medical Computing
 - Car Driving in traffic
- Intelligent human like decision power

Thus Intelligence is the combination of **Reasoning, learning, problem-solving perception, language understanding, etc.**

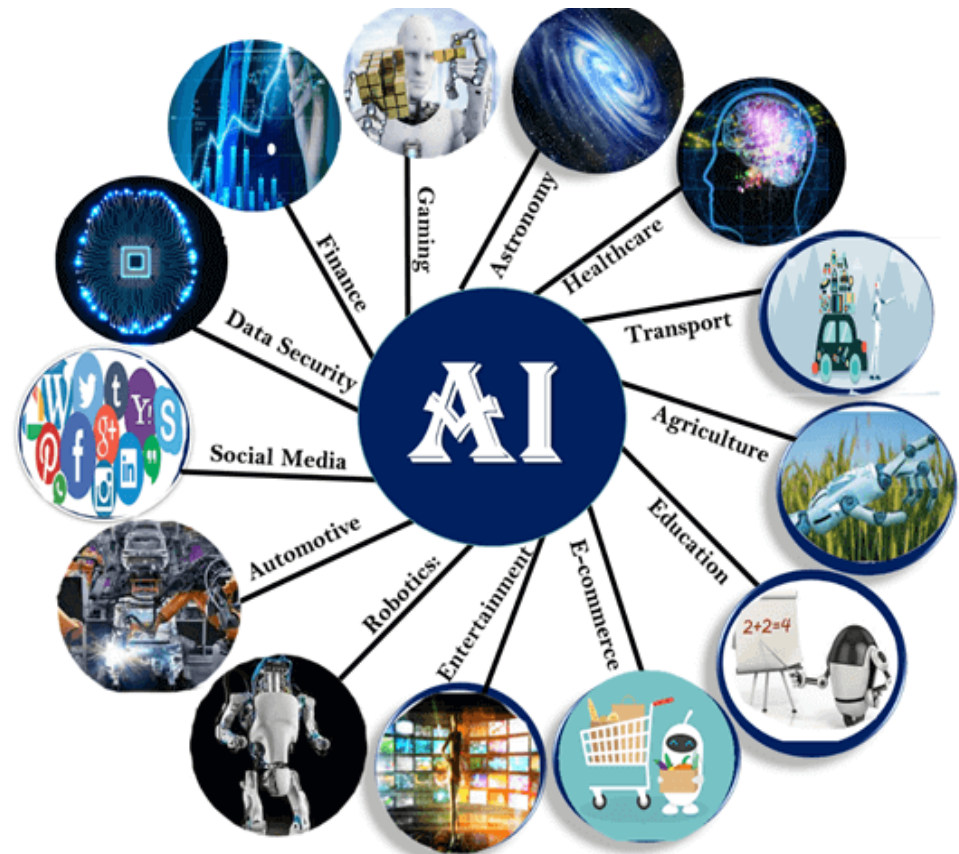
Advantages of Artificial Intelligence

Following are some main advantages of Artificial Intelligence:

- **High Accuracy with less errors**
- **High-Speed Decision Making**
- **High reliability:** AI machines are highly reliable and can perform the same action multiple times with high accuracy.
- **Useful for risky areas**
- **Digital Assistant**
- **Useful as a public utility:** such as a self-driving car, facial recognition, Natural language processing, etc.

Application of AI

- Astronomy
- Healthcare
- Gaming
- Finance
- Data Security
- Social Media
- Travel & Transport
- Automotive Industry
- Robotics
- Entertainment
- Agriculture
- E-commerce
- Education
- etc.



History of AI

- **Year 1943:** Artificial neurons model was proposed
- **Year 1949:** Hebbian learning
- **Year 1950:** "Computing Machinery and Intelligence"-published by Alan Turing
- **Year 1955:** Logic Theorist- first artificial intelligence program
- **Year 1956:** Dartmouth Conference
- **Year 1966:** Chatbot ELIZA
- **Year 1972:** The first intelligent humanoid robot WABOT-1.
- **Year 1974 to 1980:** First AI winter duration
- **Year 1980:** Expert System
- **Year 1987 to 1993:** The second AI Winter duration
- **Year 1997:** IBM Deep Blue beats world chess champion, Gary Kasparov
- **Year 2002:** Roomba, a vacuum cleaner.
- **Year 2006:** AI came in the Business world till the year 2006. Companies like Facebook, Twitter, and Netflix also started using AI.
- **Year 2011:** IBM's Watson won jeopardy, a quiz show
- **Year 2012:** Google launched "Google now"
- **Year 2014:** Chatbot "Eugene Goostman" won "Turing test."
- **Year 2018:** The "Project Debater" from IBM debated on complex topics with two master debaters and also performed extremely well.
- Google has demonstrated an AI program "Duplex"