

Artificial Intelligence

Introduction

- Artificial intelligence is a machine-based smart behaviour rather than human and other animals' natural intelligence (NI).
- AI is described in computer science as a 'smart agent' research: "any device which understands its environment and takes action that maximizes its opportunity of succeeding. In general, terms, when a machine imitates "cognitive" functions that people associate with other human minds, such as "learning" and "problem-solving," is when the term "artificial intelligence" applies.
- Artificial intelligence was established as an academic discipline in 1956 and has undergone a series of waves of optimism thereafter.
- To make it easy—machines displayed intelligence is artificial intelligence.
- It is a computer science branch that deals with making computers or machines as smart as humans. John McCarthy invented the word in 1956 at the Massachusetts Technology Institute meeting in Dartmouth.
- It is a simulation of procedures of human intelligence like teaching (the collaboration of data and data rules), reasoning, or the self-correction by machinery (in particular, computer systems), using the guidelines for drawing approximate or clear conclusions.
- However, work is being performed in this field except for some cases of computers playing games quicker than the finest human players. For example, an IBM supercomputer called Deep Blue defeated Gary Kasparov in a chess match in May 1997.
- Another latest instance of 2016 is that AlphaGo, a Google-driven DeepMind AI program, has won one of Go's most dominant players, Korean Lee Sedol.

Applications of Artificial Intelligence

Healthcare Sector

- Machine learning is used to diagnose more quickly, cheaply and accurately, thus improving patient results and decreasing expenses.
- For example, some of these instruments are IBM Watson and chatbots.

Business Sector

- Robotic process automation is implemented to take care of extremely repetitive tasks that can be performed quicker and more easily than humans.
- Furthermore, to provide better client service, machine learning algorithms are incorporated into analytics and CRM platforms.
- Workplace automation has also become a point of conversation between scholars and IT consultants like Gartner and Forrester.

Education

- AI can automate some of the instructional procedures, such as grading, rewarding marks, etc.



- It can also evaluate and adapt learners to their requirements, assisting them to function at their own speed.
- It may alter where and how some educators learn, maybe even replacing some professors.
- It could increase the reach of training and education institutes even in the remotest areas.

Financial

- It can be introduced to apps for personal finance and can collect private information and provide financial advice.
- For instance, 'Wall Street' software is more trading than humans.

Gaming

- In strategic games like chess, poker, tic-tac-toe, etc. AI plays a key role, where the machine can consider a big amount of feasible positions based on trial-and-error understanding.

Legal

- By decreasing the time spent during analysis, automation can lead to quicker resolution of already pending instances, thereby improving the use of time and effective procedures.

Intelligence

- Automation is the method of automatically operating a system or process.
- Robots can be programmed to conduct large, repeatable duties usually performed by people and, due to their agility and adaptability to altering conditions, different from IT automatics.
- Robots can carry out the tasks of a human being because of sensors that can detect physical data such as light, heat, temperature, motion, sound, bump and pressure from the real world.
- In addition, they display intelligence with effective processors, numerous sensors and an enormous memory.
- They can learn from their errors and hence, can adapt to the new environment.

Manufacturing

- Robots are used to manufacture for a long time, but advanced exponential technology such as 3D Printing has emerged which with the help of AI can revolutionize the whole ecosystem of the supply chain.

Security

- At the 20th e-governance conference in India, it was discussed that cybersecurity can be increased by AI and it has to be explored.

Speech recognition

- There are smart systems that can hear and understand the language in terms of terms and meanings while people talk to it.
- It is capable of handling various accents, slang words, background sound, human noise shift owing to cold, etc.

Limitations of Artificial Intelligence

Against Human Labour

- With the advent of machinery and intelligent robots in the manufacturing and services industries, this is decreasing employment opportunities for Humans which is a serious issue for countries like India where employment generation is a major challenge.
- For instance, certain customs officials now are robots in China, and Japanese robots are becoming more and more evolving.

Existential risk

- "The growth of complete artificial intelligence might mark the end of humankind," Stephen Hawkins once said.
- When human beings create artificial intelligence, they will disengage themselves and redesign themselves at an ever-growing pace.
- People who are constrained by slow biological development cannot compete and would be replaced.
- AI techniques that fall into terrorist hands could unleash the contemporary terrorist network including machines which could be detrimental to the very existence of mankind.
- It may decrease human relationships with human beings, thereby, degrading society morally.

Artificial Intelligence in India

- An inner advising committee on the Government's Artificial Intelligence (AI) policy has been set up by the Union Ministry of Electronics and IT.
- The Expert Committee will advise the IT Department on India's most suitable techniques.
- The primary focus of the Government is to minimize cyberattacks with AI.
- AI is also commonly considered to be a significant challenge for job creation because many businesses are likely to be more dependent on it to reduce their human resources.
- It is predicted that the artificial intelligence industry will reach \$153 billion in 2020. The annual increase is anticipated to be a combined rate of 45.4 per cent between 2016 and 2022.

Recently, the Government developed a **seven-point approach** to provide the structure of India's AI strategic plan.

The approach:

1. development of techniques for the interactions between human machines;
2. ensuring the security and safety of AI systems,



3. producing a skilled workforce that responds to AI and research and development demands,
4. understanding and addressing the ethical, juridical and social consequences of AI systems,
5. measuring and assessing AI technology through norms and norms.

Conclusion

It would be naive to claim, despite the risks and struggles, that artificial intelligence is not the future and computers are only about to replace many employments. It is not the end of the way of mankind and we have a history of technological revolutions that are bringing about social and political change. There will be some fears and challenges in the early years as in case of the French Revolution, steam engines, industrial revolutions and the computers most recently. Nevertheless, in the areas not yet known, there will be more possibilities and more jobs will be available to meet human requirements.

Artificial intelligence is now a reality, it is now everywhere and it is supposed to stay for long.

byjusexamprep.com