



TUE, FEB 11, 2025 | UPDATED 10:21 AM IST



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TECH

# Importance of Artificial Intelligence and its impact on humanity

June 28, 2021, 1:35 PM IST / Sarthak Upadhyay in Voices, Tech, TOI

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Alexa! What is Artificial Intelligence? “Artificial Intelligence is the study of devices that perceive the environment and take action that maximize their chance of success at some goal, more commonly is used to describe when machines are seen as mimicking human cognitive functions such as learning and problem solving”. Well, isn’t that convenient.

Artificial intelligence (AI), a radical concept developed by computer scientists in the 1950s, has tremendous applications in our daily lives today. It has come to play a crucial role in manufacturing, healthcare, finance, marketing and more. Companies and people worldwide are relying on machine learning, robotics and artificial intelligence to improve their products, processes and customer experience. Whether it’s the cars we drive, computers that predict the weather, toys that learn to interact with children, or writing computer codes, AI is changing the way we live, work and play.

Artificial intelligence is based on the principles of human intelligence and is defined as the way in which machines imitate human intelligence to perform simple and complex tasks. Artificial intelligence aims to learn human cognitive abilities and eventually surpass it. Currently, most AI models rely on deep neural networks, inspired by

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the human brain, which takes in a lot of raw data and expected results and learns the relationship between the two. Once trained it can apply this knowledge to new data and predict the result. More advanced methods use Deep reinforcement learning, where the model learns to make decisions by trial and error. In 2017, AlphaGo based on Deep reinforcement learning beat Ke Jie, the number one ranked player in the world at the time in board game Go. The self-taught AlphaGo Zero achieved a 100–0 victory against the early competitive version of AlphaGo, and is the best Go player in the world.

Artificial intelligence has given computers the skills and capabilities never seen before. These advancements have helped us to understand more about diseases and how we can treat them better, for instance last year when the Google attention-based neural network AlphaFold 2 demonstrated a result that would have taken decades for humans to reach. AlphaFold 2 was able to determine the 3D structure of a protein with an accuracy rivaling crystallography, the gold standard for convincingly modelling proteins. But unlike crystallography, which takes months to return results, AlphaFold 2 can model proteins in hours. In healthcare, advanced AI systems are helping doctors diagnose and treat diseases in patients faster and more accurately and perform robotic surgeries

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which are more accurate and efficient. In Fact, the biggest problem that humanity is facing today, the Covid crisis, was first alerted to us by the Candian AI Platform “BlueDot ” on the new year’s eve. AI has led to the rise of Self-driving vehicles and drones and we’ve seen how they have fueled the chatbots to give customers a wholesome experience.

Artificial intelligence is a central premise of disruptive change in the Fourth Industrial Revolution (Industry 4.0), a revolution that challenges our notions of what it means to be human and is more transformative than any other industrial revolution we experienced. Simply put, artificial intelligence is learning to make decisions faster than humans. This is enabling us for the first time to bring automation in the service sector as computers get more comfortable in speaking, writing, reading and recognising more patterns. AI has created a number of tools that allow people to rethink how we integrate information, analyze data and use the results to improve decision-making.

Most of the AI we talked about is called Artificial Narrow Intelligence (ANI), machines which are extremely good at doing one task but cannot extend their capabilities to

other tasks. ANI has already surpassed humans in terms of accuracy and speed in many tasks, and it is getting better fast. The next stage in the evolution of AI is Artificial General Intelligence (AGI). With AGI we could develop machines capable of understanding the world as well as any human, and with the same capacity to learn how to carry out a huge range of tasks.

In 2020, OpenAI developed GPT-3, a language model capable of performing numerous diverse tasks without specific training. While GPT-3 is not an example of AGI, it is considered by some to be too advanced to classify as a narrow AI system.

The two driving forces for exponential AI development have been data, more accessible than ever due to the internet, and cheap computation power. By 2030, we would have enough computation power that the idea of a machine capable of human intelligence would not seem impossible anymore.

AI is poised to have a profound impact on society, subsequently we also need to start thinking about all the implications. Today, technology is improving at a faster rate than our education and legal system can keep up. Regulations have to be put in place in what data is

accessible to machines and what AI machines are allowed to do. Research has to be focused in directions where AI is helpful for humanity. Most of the dangerous, repeatable and strenuous jobs will be done by AI powered robots. What will this mean for us, for humanity? This will bring back jobs that require creativity, human presence and social and emotional intelligence and subjective decision making. Jobs of the future will require more collaboration as the computational work will be taken up by a program. Who knows, AI might be the trigger that brings back human touch in its true form.

As a final thought, a segment of this article was generated by AI. Can you tell the difference?

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