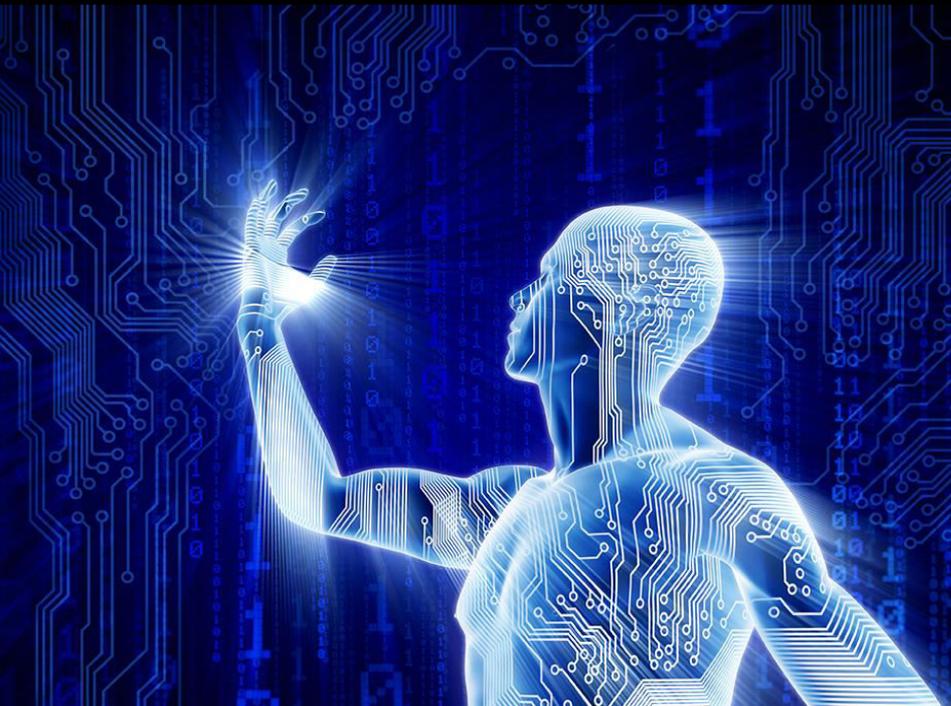


Artificial Intelligence: Potential Applications in HP



Artificial Intelligence (AI) has been studied for decades and is still one of the most elusive subjects in Computer Science. This partly due to how large and nebulous the subject is. AI ranges from machines truly capable of thinking to search algorithms used to play board games. It has applications in nearly every way we use computers in society. The term artificial intelligence was first coined by John McCarthy in 1956 when he held the first academic conference on the subject. AI did not make it into the spotlight on the world stage until the arrival of chess supercomputer Deep Blue by IBM, which was the first machine to defeat the then-defending world chess champion Garry Kasparov in a match in 1997.



John McCarthy

Artificial Intelligence (AI)

We refer to is a subfield of Computer Science. Artificial Intelligence is acted by machines, computers and mainly software. Machines mimic some kind of cognitive function based on environment, observations, rewards and learning process. Artificial intelligence is a science and technology based on disciplines such as Computer Science, Biology, Psychology, Linguistics, Mathematics, and Engineering.

Applications

The main advances over the past sixty years have been advances in search algorithms, machine learning algorithms, and integrating statistical analysis into understanding the world at large. There are many AI applications that we witness: Robotics, Machine translators, chat bots, voice recognizers to name a few. AI techniques are used to solve many real-life



problems. Some kind of robots are helping to find land-mines, searching humans trapped in rubbles due to natural calamities. AI is used in more subtle ways such as examining purchase histories and influence marketing decisions. AI is increasingly playing a greater role in our lives, and the latest trends are AI chips and the accompanying smart phone applications. AI algorithms have been used in data centres and on large computers for many years, but are only more recently present in the realm of consumer electronics. Word processing or checking the grammar and spelling of a text is a classic application of symbolic AI that has been used for a long time.

Goals of AI

- To Create Expert Systems: The systems which exhibit intelligent behaviour, learn, demonstrate, explain, and advice its users.
- To Implement Human Intelligence in Machines: Creating systems that understand, think, learn, and behave like humans.

Task Force on Artificial Intelligence:

Although in comparison to its global counterparts, India is a bit late to the AI party, the energy and enthusiasm of the Indian government is at its peak. The Ministry of Commerce and Industry, Government of India has constituted a Task Force on Artificial Intelligence for



India's Economic Transformation in 2017. This Task force comprises of experts from varied administrative and professional backgrounds.

Highlights of The Ai Task Force Report:

- 10 areas where artificial intelligence utilisation can add significant value to the existing processes and boost productivity include Manufacturing, Fintech, Healthcare, agriculture/ food processing, retail/ customer engagement, Aid for Differently Abled/Accessibility Technology, public utility services, education and national security.
- The most important challenge in India is to collect, validate, standardize, correlate, archive and distribute AI-relevant data and make it accessible to organizations, people and systems without compromising privacy and ethics.
- The four grand challenges for artificial intelligence incorporation in India are improving manufacturing, especially in the SME (small and medium-sized enterprises) sector; improving healthcare quality; improving agriculture yields; and improving delivery of public services.
- Strong IP mechanisms are required to encourage and protect innovations in AI
- Government policies to be framed around corporate stakeholders, educational and legal institutions.

Announcement on Ai In Budget 2018

On Feb. 01, delivering his budget speech, finance minister Arun Jaitley told parliament that the government think-tank, Niti Aayog, will spearhead a national programme on AI, including research and development. Running high on the momentum of 'Digital India', the government also doubled allocation to this programme to \$480 million in 2018-19, deciding to invest heavily in research, training and skill development in technologies such as AI, digital manufacturing, robotics, Quantum communication and Big Data intelligence, 3D printing, Block chain, Machine Learning and Internet of Things.

Startups

Currently, India is home to nearly 5,200 tech startups as per the last Nasscom Startup Report. These startups are changing the face of Indian industry, be it agriculture, e-commerce, financial services, education, automobiles, logistics, health or manufacturing. India is the world's fastest-growing startup ecosystem and riding high on the wave of technology. The announcement in the Budget will go a long way in providing the necessary AI support required by startups to up their game.



Job Creation

All economies across the world, including India, need more AI professionals. Currently, more than 800 companies are working on, or are deploying AI, there are

29,000 AI professionals. Given that 70 percent of Indian companies will leverage AI by 2020, it is likely to create more demand for AI professionals. The national programme on AI can address this demand-supply gap effectively.



Make in India

The government's flagship programme 'Make in India' has been receiving a fiscal push ever since it was launched. The production capabilities can strengthen with AI-assisted technology. AI augmented manufacturing operations can employ more reliable demand forecasting, a flexible and responsive supply chain, quicker changes in operations, and more accurate scheduling and inventory optimisation. Other benefits involve the creation of smarter, quicker and environmentally sound processes.



Quality of Life

From healthcare to agriculture, AI is expected to improve the quality of life of people. Many companies have already launched a few such products. For instance, Tata Rallis uses AI-powered drones to administer pesticides by harnessing data on crop health and soil conditions to increase output.



A startup named NetraDyne is using AI to improve road and driver safety. Another startup called Zenatix provides IoT-based energy monitoring and control products for energy efficiency and savings. IBM Watson has partnered with the Indian government to develop AI models that could create smart cities. India's Smart City Programme aims to create more than 100 smart cities by 2020 which calls for fast implementation and AI could support it aptly regarding technology. AI herald's growth for the Indian economy. It helps us to focus on creativity and innovations, and propels our country towards a technology-driven path. The announcement on AI in Budget 2018 is just a step ahead in that direction.



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