

ARTIFICIAL INTELLIGENCE

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What is an Artificial Intelligence?

[1] Artificial Intelligence is a part of computer science and engineering which has the capability to think like humans, process and execute program to develop a smart software. [2]. Also AI is defined as something which can mimic the characteristics that distinguish humans. Some of the popular AI programming languages are python, C++, Java and prolog. In general, AI can be something which reduces the work load of humans and also decreases the time span to do a particular work, thus, making human life easier and reliable. For example, virtual assisting software like Siri, Alexa, which are developed by multinational companies and are smart enough to give appropriate result to whatever we ask through voice command. Also software like chrome search engine which automatically gives option relevant to what we search. As learning programming related to AI can process data analysis with precision and speed beyond human capacity, artificial intelligence (AI) applications and machines have become increasingly common in finance, education, health care, the legal system and beyond. However, relying more on AI than human also has risks, especially where decisions are made without human permission. Machine learning relies more on pattern-recognition within data-sets. Problems arise when the available data reflects societal bias.

History of Artificial Intelligence?

[3] The beginning of Artificial Intelligence was started with the invention in electronics like supercomputers which was IBM 702 and slowly it went on solving problems and developing programs which can help in language translation, proving theorem and knowledge-based system. [4] Artificial Intelligence was first observed by John McCarthy in the year 1950, however, many limitations were observed in the field of medicine at that time. But in the early 2020s, many of the limitations were overcome by deep learning and grabbing knowledge in this field. Now Artificial Intelligence is capable of self learning and understanding difficult algorithmic problem and analyze it. During 90s, Many Scientist predicted that the growth of AI machines can be made in no more than a generation, also they predicted that this machines will be more intelligent, fast and accurate in problem solving. So as of now, we can see that whatever prediction were made by them came true and now we are living in a world where artificial intelligence and many other technologies has made human life very easy and convenient. During 1980s, Japanese government invested \$400 million dollars with the aim of developing a advanced computer which will help in solving logical programs. But unfortunately this project failed and most of the ambitious goal weren't met. However, this failure has inspired the talented young generation who are in the field of computer science, so ultimately this failure was valued and AI fell out under limelight. Now we live in the age of 'Big data', an age where huge sum of information are collected and in order to view a particular data, AI technology is used.

Growth of Artificial Intelligence

[5] Artificial Intelligence has the capability of adapting intelligent human behavior or has the ability of achieving goals in industrial, medical, educational and even in banking system, which will

ultimately lead to economical growth. Artificial intelligence does all those work which was previously performed by humans labor in the industries to become self-automated. Artificial Intelligence has also played vital role for the production of goods and services in industries, and thereby impacting in the economical growth and income share.[6] Artificial Intelligence has also shown great technological growth in the field of medical science such as risk analysis, lifestyle management and monitoring, health information management and virtual health assistance. However, this teleological growth has lead to the increase in unemployment issue and job problems for many people. AI has also shown its value in the online shopping sites like amazon, flipkart, snapdeal, Alibaba express and many more. Apart from industrial growth, AI can also help in creating a sustainable food system that will ensure the quality of food by analyzing the amount of fertilizer, and pesticides used in farm and will also help in increasing the productivity and reduce the environmental impact. Robots could remove weed, lowering the use of herbicides. For example, many farms in Europe already use AI to monitor the activities performed by the farmers, temperature and feed consumption of the animals, which will ultimately lead to good production and great income shares.

Artificial Intelligence in Health appliances

[7] Artificial Intelligence in the field of health care industries as well as clinical and public sector has brought appliances which help in treating different types of disease like cancer, neurology and cardiology. It has also brought machines, deep learning and active assisting instrument to handle prearranged data.[8] Artificial Intelligence can detect patient disease and also provides information to the physician so that he can make excellent decision for treating the patient. Present generation doctor's does not have to learn by heart everything as the digital technology has given liberty to focus more on mental energy or high level cognitive tasks and patient concern.[9] Doctors and other medical expert use artificial intelligence to make things more accurate and fast. AI also help bio tech scientist to prepare antidote of a particular virus in less time span. During covid-19 period, AI has been used as thermal imaging in airports and elsewhere too. In hospital, it has been used to recognize the infections from computerized tomography lung scan. Also it provides data to track the spread of a particular disease. Presently, Researchers are working on how to develop an AI program which will help to analyze large quantities of health data and accordingly can visualize which could lead to discoveries of new medicine and way to improve individual diagnostics. One of the new AI program developed by researchers was answering to emergency call that help to recognize a cardiac arrest during the call faster and more frequently than medical dispatchers. In another example, EU co-funded KConnect which is a multi-lingual text that search to give services that help people find the most relevant medical information available.

Artificial Intelligence in Manufacturing and Production

[10] Artificial Intelligence in the field of manufacturing and production has brought remarkable change as it has showed increment in economical growth in the past five years. [11] Artificial Intelligence in manufacturing is a general concept under development. It is categorized into three paradigms: digital manufacturing, digital network manufacturing, and new generation intelligent manufacturing. New generation of artificial intelligence plays important role in the revolution of new industry and will continue to be the main source for the transformation and upgrading of the manufacturing and production industries in the years to come. [12] Large scale industries are

continuously enhancing and developing new smart machines to increase the number of production in less time interval. Also due to this, labor cost decreases leading to huge profits. This AI machines are programmed in a way that it can sense, learn, analyze, predict and execute to do a particular work. AI can help the Indian industrial manufacturers to become more efficient and bring more industries in India if they use robots for manufacturing purpose to optimize the sale path or by on time predicting of maintenance and breakdown in smart factories.

Artificial Intelligence in Security and Surveillance

[13] Human eyes are highly efficient to capture large quantity of low level visual sensory data and deliver only those information which are useful to one's brain for high level interpretation and situation awareness.[14] Recent development in Artificial Intelligence has suggested that this emerging technology will influence the military power and the world politics more broadly. [15] Some schools are acquiring advanced artificial intelligence surveillance technology including face recognition and geolocation tracking device in order to strengthen security so that no intruders can get inside the school for bad intentions. Also it helps the faculties in paper checking and analyzing each students performance so that they can know each students strength and weakness and change themselves according to students aspects.

Artificial Intelligence in Education

[16]In the field of education, Artificial Intelligence has wide impact.

First, we have to understand the difference between Education Technology (Ed Tech) at large and artificial intelligence in education (AIED) specifically. Education Technology (Ed Tech) refers to implementation of technologies by students in schools or colleges. The aim of Ed tech is to improve the students to learn more efficiently, enhance their individual skills and also it helps reduce the teaching burden on faculties.[17] In the field of artificial intelligence in education (AIED) has undergone significant developments over the last twenty-five years. The main aim of AIED is to increase the speed and efficiency of work we do in the education field, also it helps the faculties of school or colleges to analysis students performance individually.[18] Using AI, Students can get education through innovative virtual learning, and data analysis. Grading and evaluation of paper can also be done using Artificial Intelligence.

Advantages of Artificial Intelligence

[19]Artificial Intelligence reduces the time taken to do a specific work which can either be problem solving or decision making. Artificial Intelligence can be applied in the field of education, medical, industrial and also it is used rigorously in the search engines likes chrome, safari.[20]Artificial Intelligence can do all the stressful and complex works faster than a human, has less errors and defects, functions is infinite, can also discover things which is not explored and many more.[21]One of the most important advantages Artificial Intelligence is that it makes decisions on facts rather than emotions, whereas humans decisions are always affected either by emotions or by anger. Also unlike humans, machines does not need any sleep or gets tired or stressed while playing or working.[22]Machine with artificial intelligence has a very advanced brain which can solve problems faster than humans and will never forget. Artificial intelligence are also used by doctors for the early detection of colorectal cancer which was the second ranked worldwide spread cancer during 2020.[23] Artificial Intelligence is also used in social media like Facebook, Twitter,

Instagram, and Snapchat where billions of people have an account any of it and all the accounts and details are managed and stored by AI in a very efficient way and it analyze many data on the spot and show pictures or videos to the newest trend. Presently, even car have special features like self driving, navigation through voice command and many more possible because of AI technology. Language translation software like Google translation is also a part of AI which can translate any language into which language language we are comfortable in either by writing or through voice command. Under transportation, AI could provide safety, speed and efficiency to rail traffic by decreasing the wheel friction, increasing the speed and can also enable autonomous driving. Using wide range of data and pattern recognition, AI could provide early warning of natural calamities and can help in sufficient preparation before meeting the consequences.

Challenges or Dis-advantages of AI

[24] AI machines cannot be easily develop as the equipment required are very expensive, also it requires times, energy and human intelligence to make such machine. [25]With the increase in AI machines, unemployment can also increase as the works will be done by this machine. Also with the increase in AI technology, humans are getting lazy specially due to smart phones, internet, etc.[26] Increase of Humans dependency on technology can makes humans less creative and also will lead to decrease in thinking capacity to solve a particular problem.[27] The importance of integrating artificial intelligence into business English education has not realized by some colleges. The main reason is that when college plans for talent training programs, they don't take artificial intelligence under main concern rather they include it into vocational education, which has affected the personal development of the students as well as the innovation and entrepreneurship education will be difficult to proceed smoothly.[28] Machines are not capable to thing out of box and do a particular work, they can do only those work which they are programmed for.

Conclusion

Since we are living in a modern age where artificial intelligence and many other technologies are at some peak, so it is very important for us to make right use of technologies like Smart phones, Laptop, etc and not get addicted to social medias or any other games present in it. Artificial Intelligence has both positive and negative impacts on human life. The positive impacts are it has made our life easy as it reduced the time taken to do a specific work. Specially in education, AI applications has great potential as it has showed significant improvement in the quality of education and enhancing the teaching and learning method. Smart classes, E learning, correction of exam papers and analyzing student performance are all done by AI. Smart phones and laptops with internet connection are great weapons for students as they can learn anything whatever they want to. Also it has great impact in industrial, and medical science. In industries, large scale work are performed by the AI machines and reduces the work load of the workers. And in medical science, AI algorithms are used to monitor and take care of patient, diagnosis particular disease, and analyze large amount of data through electronic health record to prevent disease and diagnosis. As of know, artificial intelligence can do only those work which they are programmed for. Now, the negative impact are, it has made human lazy, increased unemployment as some jobs opportunities will be taken over by artificial intelligence. For the military purpose, automatic weapons developed with the help of artificial intelligence which are programmed to kill and if this technology goes in wrong hand could cause mass casualties. Moreover, with increase in this type of weapons can lead to AI

war which will also result in mass casualties. AI has been increasingly involved in the making of decision. In many situations, the impact of the decision on people specially women are found to be biased mostly in the areas of medical treatment, employment, judicial sentence, etc.. Automated decision-making can therefore perpetuate social divides. Countries like Japan, USA, China are already strong in digital industry and business to business application. Presently, AI has always been a part of the military army and has helped them in them process of catching terrorist either by hacking or phishing method. Also in the online platform, AI is programmed to react to unlawful and appropriate online behavior.

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