

ARTIFICIAL INTELLIGENCE A SUPER POWER

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What is artificial Intelligence

[1] Artificial intelligence is the making of computer programs and intelligent machines from science and technology which are faster than human. It is a program which if made to work and analyse on human intelligence.[2] Artificial intelligence is a software which mostly runs with minimum usage of human interruption because the program is completely designed by humans to work without any disturbance and no one can stop it in between. It has first started with invention of robots. It is also called machine intelligence. Artificial Intelligence requires human intelligence.[3] Artificial Intelligence is a branch of computer science in which analysis a huge bunch of complex medical data. Artificial intelligence has a potential through which we can exploit the connection within a data set which can be further used in diagnosis, treatment and can be used in predicting output in many clinical scenarios. Many Medline and internet searches were carried out using the keyword 'Artificial Intelligence' and 'Neural Networks (computer)'. [4] Artificial Intelligence is the process of making machines intelligent and intelligence is the quality that enables a process to function properly which is compatible with the environment. According to the lines mentioned above-lot of things like human, animals and some of the machines are intelligent. Machines such as smart camera's.[5] Artificial Intelligence is the study of ideas which allow computers to do work that make human seem to be intelligent. The ultimate goal of Artificial Intelligence is to make computer system more usable(useful) and to understand the main role and principle of intelligence which make it possible.

History of Artificial intelligence

[6] The history of artificial intelligence involves fiction, ideology, philosophy and imagination of the inventors. The inventions which were made early like electronics, technology and many discipline have given idea for artificial intelligence . The early achievements which includes working on problem solving which includes basic work understanding knowledge representation, demonstration of programs in understanding the language, proving theorems.

[7] Artificial intelligence first came up in 1950. There were a lot of limitations in models which were made early that prevented a widespread acceptance. Many of the limitations were accepted because of the intense learning in the early 2000's.[8] History of artificial intelligence is therefore is not only the history of mechanical attempts to replace the static notion of human intelligence but there is a changing account on which we think about the intelligence itself. Artificial Intelligence was not born at Dartmouth in 1955 because the standard account would have made us believe but this participates in much longer histories of what we take into account as intelligence and which counts as artificial. For example is Phil Husbands, Owen Holland and Michael Wheeler's "The Mechanical Mind in History (2008) situate symbolic processing of information at the end of a long history of mechanical theories of mind.[9] The research on Artificial intelligence start after WWII, when many number of people started working independently on intelligent machines. Among them the first was the English mathematician Alan Turing. He gave a lecture on Artificial intelligence in

1947. He was also the first to tell that Artificial Intelligence is the best researched program rather than investing time on building computers. By late 1950s there were so many researchers who thought Artificial intelligence is a good investment and most of them were basing their work on computer programming.[10] Artificial Intelligence is not the first use of computer systems in medicine. The Artificial Intelligence in the field of medicine emerged in the year 1970 in response to continuous needs, opportunities and interests. There was a sudden demand for high-quality medical services with explosive growth of medical knowledge has led to the demand that computer programs can be used to assist physicians and other health workers for their clinical roles in therapy and diagnosis.

Growth of Artificial Intelligence

[11] During the 19th century one evening William Paley made an assumption and argued that there is a need for intelligent designer for the production of complex systems. At 1859 Charles Darwin refused Paley's idea. Charles Darwin showed Paley how complex systems can produce random variations from a process of selection which can arise naturally. Darwin showed that complex systems can be created without using intelligent designer. All the interesting features of biology and intelligence have been improved through Darwin's process.[12] Artificial Intelligence is there for over six decades. In recent years Artificial Intelligence has been empowered by super computing power and big data rapid increase. Artificial Intelligence has become an important and attractive topic for research. The new generation of Artificial Intelligence is rapidly expanding.[13] The term Artificial intelligence was first pointed out by Mc Carthy in the year 1956 during a conference meet which was held on the subject Artificial Intelligence. Alan Turing was the one who first pointed out that machines can also follow the human behaviour, he created a Turing test to differentiate between computer machines and humans. From this point there came up something called computational power has grown up to instant calculations and the ability to evaluate new data according to previously accessed data in real time. Artificial Intelligence is involved in our daily lives in so many forms such as Siri, Alexa, Google assistant and many more. In most recent process Artificial Intelligence has also been included in the medical field to improve the quality of taking care of patient by speeding up the process and reaching a higher accuracy and enlightening the path in healthcare overall. Machine learning is evaluating medical record of patients, pathology slides and radiology images. By this way there would be no mismatch of data.

Artificial Intelligence in Healthcare Appliances

[14] Artificial Intelligence is slowly changing medical practice. It is expanding into fields which were early thought to be human province. It has recently progressed in data acquisition, computing in infrastructure and machine learning. The technologies in artificial intelligence and their biomedical applications are identifying the challenges for the progress in future. It's also summarising the economic and social implications.[15] Artificial Intelligence is aiming to imitate human functions and capabilities. It's bringing a shift for healthcare by increasing its availability of data related to healthcare and there is a huge progress seen in analytics. This can be applied to various types of healthcare data both structured and unstructured. The Artificial Intelligence which are popular including machine learning method for all types of structured data that is for neural networks and unstructured data for natural language processing. The major diseases which are covered by artificial intelligence are neurology, cardiology and cancer.[16] Artificial Intelligence has a huge amount of potential to improve the safety measures for healthcare. Artificial Intelligence is increasing its diagnostic accuracy, showing their outcomes of care and increasing their diagnostic accuracy.

The Artificial Intelligence technologies are being upgrading to new risks and correcting the existing ones. [17] Artificial Intelligence techniques have a huge potential that it can be applied in every field of medicine. The most common analytical tool which emerged from Artificial Intelligence was Artificial neural network. The other tools like fuzzy expert systems, evolutionary computation and hybrid intelligent systems are used in different clinical settings.

Artificial Intelligence in Manufacturing and Production

[18] Artificial Intelligence have given smart manufacturing benefits that monitors analyses and makes an proper and better decision compare to human being. Smart manufacturing techniques has industrial connectivity devices and services, big data processing abilities and robotic software. This changes the way that the product are manufactured and packed. It has also given us sensor technology and improvement in computer methods. [19] Artificial Intelligence has given us a huge amount of core technologies in the new period of internet plus Artificial Intelligence which is creating great changes in ecosystems, models and in the development of Artificial Intelligence. [20] The smart systems and Artificial Intelligence are playing an ever increasing and major role in daily lives of human and countries growth. The production of Artificial Intelligence applications are continuously increasing day by day in manufacturing and production field.[21]The manufacturing systems which are present today are increasing their complexity day-by-day and they are all are interconnected among themselves. The operations which are carried out in the factories are facing challenges of highly non linear due to many number of uncertainties and inter-dependencies that are present. The recent development in the field of Artificial Intelligence especially in the specialisation of Machine learning have shown transformation in the manufacturing sector through many of the advanced analytical tools for processing the huge amount of data generated also called as big data.

Artificial Intelligence in Security and Surveillance

[22] Artificial Intelligence has its most importance and use in fighting against crime and strengthen our national security. Artificial Intelligence is mainly used for making decision rapidly and piling up the huge amount of data , only Artificial Intelligence can lead to success in these types of needs. Artificial Intelligence also helps in forensics , varied decision drafting and creating plans. It analysis problems in short period of time in which an human can do and increases the chances of getting output. [23] Artificial Intelligence has direct contribution in national security in so many countries. There are so many countries using their own strong programs in Artificial Intelligence with full protection. Kevin Kelly has notes that start-ups in normal business and Artificial Intelligence are completely different. There is no comparison between application of Artificial Intelligence in Information Technology sectors, economic tools ,financial tools to that of security of an country.[24] The application of Artificial Intelligence in camera surveillance has been adopted by various industries for smart manufacturing. Artificial Intelligence is so much helpful to process and store large amount of video recordings. There are also various vision algorithms to detect abnormal behaviour thus reducing the human power. All these require a lot of computational resource.[25] Artificial Intelligence serves as a very big advantage and it is used widely in the field of cyber security as told by many leaders. It increased automation and reduced labour than the traditional human surveillance method. The more use of machine learning can accelerate this and adding sophisticated cyber capabilities. It is also used to invent new things in the cyber security and it can attack vectors.The role of Artificial Intelligence in the field of Information security can reduce the leakage of confidential information. Artificial Intelligence can provide them new type of security.

Artificial Intelligence in Education

[26] Artificial intelligence in education includes many things like personalized instructional and dialogue system from basics through Artificial Intelligence supported learning, helps in analysing the student writing, intelligent minds in the game based environment, there is chatbots for student support, Artificial Intelligence facilitated instructors compatible with students that put them firmly in control of their own learning. These include student interacting one to one with computer systems and school approaches. The field of Artificial Intelligence is innovative and derivative in education system. It also brings new theories and methods from fields such as cognitive science. These puts a light on learning, exploring new opportunities and gives a new way of teaching.[27] There has been a rapid increment of application of Artificial Intelligence in the education system. Artificial Intelligence is going over and the conventional understanding of it as a super computer has to include embedded computer system. The creation of robots and which are embedded with Artificial Intelligence has improved the quality of learning for the students from the most basics of education. These robots are used to teach students like pronunciation, spelling an which include some of the basic tasks. There is a shift from just downloading materials from online and studying that to students have been adapted to web-based learning that is learn instructor and learner behaviour to adjust accordingly, to enrich the quality of learning. The application of Artificial Intelligence systems and algorithms is being increasing in education field. It can also identify place of the course which needs improvement.[28] From the past 25 years, the Artificial Intelligence in education system has been focusing largely only on solving two sigma problem by creating systems that are useful for one-on-one tutoring. All these years Artificial Intelligence has improved themselves and gradually taking steps towards their goal. The computer software's have improved a lot in helping students gaining knowledge and exploring things on internet. The introduction of 21st century skills and the new science standards have been on spotlight and showed us the importance of general learning skills, collaborating and critical thinking. Artificial Intelligence can automate basic activities in education. The field of Artificial Intelligence has to make certain changes like to maintain the relevance and increase its impact in incorporating practises using huge problems in collaborative settings. These transitions in education are also an opportunity. Artificial Intelligence helps both students and teachers interact more comfortably with each other and with other AI present in the world. Both students and teachers are in need of better learning environment and personalized support. Artificial intelligence can help teachers in the grading process and from here time can be saved which can be utilised in some other work.

Advantage of Artificial Intelligence

[29] Artificial Intelligence supplies a good amount of advantage to the human beings like to stimulate human intelligence for solving problem and making decision. It also provides the advantage of permanency, reliability and cost effectiveness. It takes less time to solve a problem or reach to a decision. Artificial Intelligence is applied in so many places like in the field of engineering, modelling, manufacturing, linguistics, controlling applications and economics. The most promising use of Artificial Intelligence is that it is used as search engine in Internet. Artificial intelligence can make faster decision by automating the process of decision making process. Artificial Intelligence can produce solutions to complex problemsthrough gathering data, screening ,processing. Artificial Intelligence are well capable of both qualitative and quantitative data, these methods are missing in analytical method.[30] Using Artificial Intelligence can reduce human works that is replacing human being by machines and human beings can be engaged in other works. It is

used in programming, self-writing and self-modifying etc all these works can be a burden to human beings. Artificial Intelligence is like a cheap labour and by using this our works will get over soon and we can earn more profits in a short period of time. This can be deployed in industries and companies easily. Machines does not require short time breaks and lunch breaks like human beings and the money spent for these works can be saved. Machines work for a long period of time and they do not get bored. Artificial Intelligence can be used in mining and other fuel activities because there is an danger for human life. "Human beings can make new robots but robots cannot make new human beings".[31] Artificial Intelligence can take up stressful and complex work that humans may struggle to do and cannot do. It can complete tasks faster than humans. It helps us to discover unexplored things like outer space. It does work with less errors and defects. Artificial Intelligence function is infinite. Computers provide us the perfect communication medium for experimentation in the present era. Artificial Intelligence is more successful at intellectual tasks like computer based gaming and proving theorem which are difficult for human beings. [32] One of the major advantage of Artificial Intelligence is that decisions are totally based on facts instead of emotions. Even after a lot of efforts human decision are always taken out of emotion or their mindset while doing their job which is negatively affected in our work this is an well known fact. It helps in easier spreading of facts and knowledge. Once a computer(artificial knowledge) is trained for something it can be so easily copied to other computers which reduces time instead of wasting time by spreading knowledge or teaching any other human through training. [33] Artificial intelligence has a very high success ratio because the program is already made and fed into the computer after lot of corrections while human beings can make mistakes. It occupies less space and less size. A lot of functions or programs can be done at a time. It produces less errors in a task and defects. A more complex work is done in a short period of time.[34] Artificial Intelligence works so well when large amount of high quantity data and when it comes to application it is resilient to potential errors because the consequences of failure is minimal. If the work is done by humans we need to double check the work but when done by machines we don't need to double check it.

Disadvantages or Challenges in Artificial Intelligence

[35] Due to high cost of equipment it is difficult to develop the machines. It takes a lot time to rebuild, repair and create. The repair can cost extra cash, resource and humans to fix it. The machines replacing humans increases unemployment rate and humans have to go in search of jobs and fix it. Artificial Intelligence cannot suddenly change government to communism. Machines can very easily cause destruction if it goes to unsafe hands. Artificial Intelligence is making humans lazy with automating bulk of works to machines. Humans are totally hooked up because of these inventions which can cause a drag to future generation. Artificial Intelligence is majorly replacing the repetitive tasks and works to robots, human interference is becoming very less that causes a significant problems within the utilising standards.[36] The main disadvantage of Artificial Intelligence in our day to day activities are: Sometimes this can lead to mass scale destruction due to misusing software. Programs mismatch takes place sometime due to opposite command given in the program. Human jobs gets into danger. The overall creativity of the programmer depends on the human mind. Unemployment rate goes high. This lacks the human touch. Technology dependence increases due to which human beings become lazy. Artificial Intelligence requires a lot of investment of time and money at the beginning.[37] Artificial Intelligence is unable to explain the logics and reasons behind a certain decision. The situation of current development is at a stage where the Artificial Intelligence cannot know when there is non-availability of solution to a particular problem. Machines cannot replace the connection made by humans that is machines cannot develop bonds like human beings which is an important aspect when it comes to team management. Machines are designed only to the specific programs for which they are designed they

cannot do anything out of the box if a sudden change is required.[38] The disadvantage of Artificial Intelligence is that it creates a lot of unemployment and this can lead to a lot of struggle to people, people cannot educate their children this leads to sudden stop in economic growth. There would be lack of human touch as well as emotional touch when all the works are done by machines.[39] Artificial Intelligence is not able to co-operate with the ethics. Morality is not present in a machine and it is very difficult to design. Even after we do all this it is very big task through convey with technology. Artificial Intelligence can help us cut down time but it is totally meaning less expecting machines to follow ethics and values as it is like drawing sketches on water. All this is an human trait.

Conclusion

Artificial Intelligence is something which will be used a lot and it can do wonders in our upcoming years. Artificial Intelligence is transforming almost everything which is connected to humans like employment, security, communication, healthcare and privacy. It is one side of life where it gives us a lot of surprises, increases our excitement level to learn new things and we start exploring many websites or we just surf in internet. Artificial Intelligence will be more in demand because the amount of data and information generated these days are high in number which cannot be absorbed by humans or stored somewhere. Artificial Intelligence helps us solve complex problem like permutation and combination. Artificial Intelligence will be major contribution to economic growth in future. Artificial Intelligence is also helping us in the field of medicine which can save lot of people. Artificial Intelligence is going to create more competitive world. Due to Artificial Intelligence there will be a lot of unemployment in future so people must start securing their job or increase their knowledge in the field in which they are working. People can also start gaining knowledge in which their subject or their study is related. Artificial Intelligence is going to create hike in each and every field. People who have invested in stock market must be more careful because they are the one who are in more danger and in the same way they are the who can also gain more. Artificial intelligence has more number of advantages compare to disadvantages, So all the disadvantages can be ignored.

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