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## Artificial intelligence in today's challenging world

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### ABSTRACT

*Artificial Intelligence refers to any machine that shows feature similar to human mind just like learning and problem solving. AI can take actions that have best chance of solving specific issues in an efficient way. Machine learning is a subset of Artificial Intelligence and refers to the idea of automatically learn and adapt new facts without getting any help from humans. Artificial Intelligence is developing day by day and performing Multitasking and making human work easy and helping human in a fast and efficient ways and gives better solution for complex problems. This paper will describe how AI is helping today's world and also see what problem is also creating by AI in today's world. This paper also describe the AI technologies uses in different areas in today world. We also discuss about how AI is useful in many fields but also damaging our environment and the damage is hard to fix and we also get the humans are the main problem. We have to change us to fix a problem.*

**Keywords:** *Artificial Intelligence, Machine Learning, Humans, Database, Expert System.*

### 1. AI HELPING HUMAN

AI assisted robotic surgery is the best example for AI in health sector. It gives positive results are indeed promising. AI-assisted robotic procedure resulted in five times fewer complication compared to surgeons<sup>[1]</sup>. Image analysis in health care is very important but time consuming for human but AI and machine learning does the analysis 1000 time faster than human. In Today's world of health care, AI supports human to provide faster services, faster analysis. AI help in education sector as smart class and it will improve the learning and give better feedback towards students and teachers. AI can create smart content which produce digital/virtual content of similar quality like online video conferencing, videos lectures<sup>[6]</sup>. AI helps to ease work of teachers, Students and other faculty. AI is growing day by day in field of transportation now days it comes with auto drive mode which simulate the path for user like Tesla motor which came up with fully automated and manual functionalities. Autonomous Buses have been started in many countries Finland, Singapore, China etc. AI Traffic management is also started in many countries and help in prediction of accident and detect violence in traffic rules<sup>[7]</sup>. AI really helps in Transportation.

### 2. HISTORY OF ARTIFICIAL INTELLIGENCE

The beginning of AI is first introduced by Warren McCulloch and Walter Pitts in year 1943, They came up with an idea of artificial neurons and then they design a model of artificial neurons. After this, AI is evolving day by day and then in year 1949, Some rule and connection strength between neurons were modifying after this modification and his rule were called Hebbian learning. In 1950, Alan Turing proposed a test that can check the machine is capable of thinking like a human. The test called Turing test. In 1955, The first artificial intelligence was created by Allen Newell and Herbert A. Simon was named "Logic Theorist". In 1956, "Artificial Intelligence" word was introduced by John McCarthy at the Dartmouth Conference. In 1956-1974, Many government agencies show their interest in this field of AI and this period of time is called the golden years of AI<sup>[2]</sup>. In 1974-1980, interest of AI was decreased between government researchers and this duration of time is called AI winter duration. In 1980, American Association of Artificial Intelligence organized a conference at Stanford University. Between 1980-1987, A system proposed that helps in decision making ability of humans called Expert System. In 1987-1993, Second AI winter duration came because of the high cost of Artificial Intelligence/Expert System but not efficient result. After 1993, AI entered in homes as Roomba vacuum cleaner. In 2006, AI was introduced in business like Facebook, Twitter, Netflix. After 2011, AI was adopted by many big companies like google introduced "Google Now" feature that show information to user as prediction on Android. Now days companies like Google, Microsoft,

Amazon have their own AI System like Google Assistance, Cortana, Alexa and work on different concept like big data, deep learning.

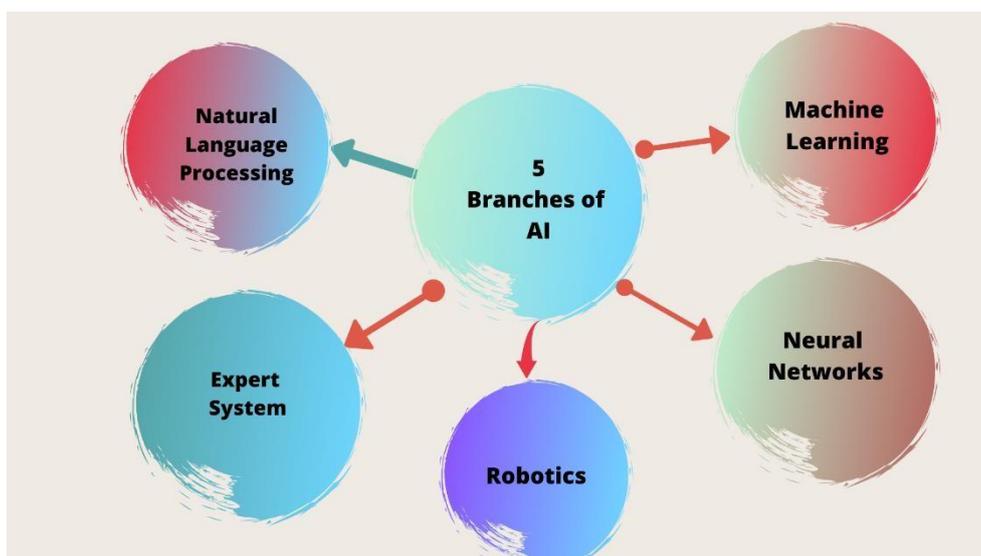
### 3. COMPONENTS OF AI

The major component of AI

- **User Interface:** User interface simplifies the interaction between user and the system. The backend language is difficult to understand by all human that's why user interface is used with a simple interface that can be understandable by all human. In AI, User interface mostly have a voice recognition system that recognized voice of user for searching information from Database/Data warehouse.
- **Database/Data warehouse:** The Data of AI is in huge amount and to store the data we have to used big database called data warehouse. Data warehouse is the collection of many databases and storage capacity of data warehouse is very huge. AI uses machine learning that's why it collects big amount of data of every user provide good service or prediction. To make AI smooth working it is necessary to collect data of user and give better performance.
- **Processing Engine:** It works as a brain of Artificial Intelligence. It contains rules and regulation to solve a specific problem. It is a set of algorithms and predefined methods to solve a specific problem and take important data from data warehouse to solve a problem and give efficient solution.

### 4. BRANCHES OF ARTIFICIAL INTELLIGENCE

- **Machine Learning:** Machine learning is set of algorithms use to analyze the data and make computer learn automatically. It is a part of Artificial Intelligence that is used to make computer learn automatically. In machine learning, we focus on making computer programs to access data and learn automatically from the data without human involvement. In the process of machine learning first the data is observed by program and then finding patterns in data for future better performance/result<sup>[3]</sup>. Machine learning is an AI that learn from the previous data or task. And find small patterns in the data to solve complex problems.
- **Expert System:** Expert system is computer system that is design to make decision ability like human. It uses previous information from knowledge base to make human like decision. It is a part of AI and the first it was developed in the year 1970. More data stored in the knowledge base better expert system was developed. The performance of expert system is increased with the amount of data stored in knowledge base<sup>[4]</sup>. Expert system is used to solve complex problems like human by extracting data from knowledge base. Expert system analyzes the data from knowledge base related to problem or issues and show the result to human expert then the human expert makes the decision from data shown by expert system. Expert system is used to simplify a complex problem to human expert. expert system gives result in short period of time of complex problems.
- **Neural Network:** Neural network are set of algorithms that copy the operation of human to understand relation between huge amount of data. Neural network is a mathematical function called "Neuron" that save information and then analysis information according to problem<sup>[5]</sup>. Neural Network is a unit of relatable nodes called neurons. It is used to find pattern between data/information. It makes patterns between real world data like images, videos, files etc. It is a tool used in machine learning/Artificial Intelligences. In Machine learning, we use neural network to make patterns in complex data that can understand by machine. There are many machines learning's application that use neural network in today world like image recognition, speech, spam email filtering, finance, and medical diagnosis and many more.
- **Robotics:** Robotics is the best combination of computer science and engineering. It uses robots, Manufacturing and designing. Robotics is the field that makes robots to help and ease human's work. Today they are used in many fields like manufacturing vehicles, Robots are sent to space and it will give the report what it observed. Robotics is used to help human and environment but in today's world people are using to harm our environment by using radioactive materials in many machines. Those machine's harm our environment in many ways like air, water, etc.
- **Natural Language Processing:** Natural Language Processing is used to understand the human language. It is an interaction between human and computer. The machine used binary code language so it takes input from user and give output in the sense of the human language which is valuable like google voice assistant which take input from user and then search result in that language and now days google translator help to solve the language barrier problem between two different language it can translate many languages user.



## **5. RESULT**

From this Research, we understand that how AI is working in this real world. In many areas AI helps human to make a better world like AI used in hospital's machine to help in treatment of any disease and give accurate result that help doctor to cure a patient. AI help in reducing road accident by automated car system, Auto driving mode in today's car's system. AI also help in education sector gives the automated system, Smart content, personalized learning which is user friendly platform. These AI systems are very useful in this pandemic time where all schools, offices, and other places are closed. This system can help with virtual learning environment to study from home and stay safe with this pandemic like video conferencing with a virtual white board which have many facilities. But some people used AI to harm others and also harm our environment. Today's machines and devices like computers and mobiles phones affecting our life and changes the lifestyle and the way of interaction with others. Companies making there AI assistant more suitable to do any work anywhere. But with the pros of AI there are some cons of AI. The manufacturing of huge number of machines and devices are affecting our environment badly because these machines and devices made of nickel, cobalt and graphite for batteries. The heavy use of these elements damaged our environment and use and manufacturing of these devices increasing day by day and risk of damaging environment also increasing these devices are using strong signals like 4g and 5g signals that damage our environment but nobody is looking at the damage of our environment people are busy using in these devices but they won't see the future damage of our environment currently this pandemic shows us how much damage we have done to our environment. People have to buy oxygen cylinders pollution in the AI increases that makes people buy oxygen which is freely provided by environment but the damage of environment is increases but environment can't fix itself the speed of damaging environment is too high. The damage of environment increases disease in human body creating dangerous virus the new baby born with many types of diseases the health diseases and there is no age limit for any kind of diseases in humans and the pollution is created by humans is everywhere land, air, oceans, no place is left clean and hygienic.

## **6. CONCLUSION**

From this research we came to know about what is the problem and how can we reduce the problem. The problem is human is too much dependent on these machine and devices in their daily life. The heavy use of these machines and devices increases the manufacturing of these devices and we see that the manufacturing is affecting our environment very badly. In above content, we discuss about the advantage and disadvantage of AI. AI is not the problem. We humans are the main problem we don't know about the correct amount of use of AI. There has to be rules and regulations on the use of AI. AI is beautiful invention of human but they didn't know how to use it. AI is a machine it can be good it can be bad it depends on the human how they use it. So, it is proved the problem isn't the AI. It is human they have the full control to how they can use AI in bad ways or good ways. To Protect our environment, we have to use the hard ways now and take action.

## **7. REFERENCES**

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