

## **ARTIFICIAL INTELLIGENCE**

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### **What is Artificial Intelligence**

[1] Artificial intelligence is the field of science and technology to produce machines , specifically programs of a computer. It is basically a methodology to use the computers to acknowledge human intelligence, Without itself resembling any biological characteristics of human beings. [2] Artificial intelligence is regarded as the ability of a system to take up external data and interpret precisely, form a basic component of leaning from that data and to utilize those learnings to gear up to particular goals and chores via flexible adaptation. It is a technology which makes the life of people easier by increasing the rate of work with or without few disadvantages. It includes computer programming to classic codes which enables smooth functioning of machines which we use in day to day life. AI can offer a work which cannot be generated manually at any cost and therefore AI plays an important role in analysing and representing data in a precise manner.

### **History and Growth of Artificial Intelligence**

[3] Artificial intelligence has a beginning which can be traced back to the initial era of philosophy and imagination. Inventions during initial days was based on engineering aspects like electronics and few others which has influenced AI to a large extent.AI can be traced back to many years which originated with simple techniques and technologies. Some instances include working in problems which involves basic learning, representation of knowledge and problem solving demonstration in languages and many more [4] The official language of AI was described by George Boole in 1847.Following it was the history created in 1936 during when Alan M discussed about the Turning-machine .The artificial neurons was created by Warren McCulloch in 1936.

### **Growth of Artificial Intelligence**

[5] AI may be used for the ordinary production of goods and specialized services which impacts the economic growth of the country drastically. It can also be used to modify the ideas for the creation of varied technologies which later helps to overcome complicated problems [6] Artificial intelligence was implemented everywhere from the emerging company to a well-built company .It reduces the time taken to complete the task by decreasing the workload on the labourers which in turn increases the productivity within the stipulated time.AI has shown a significant growth in economy where the productivity is sometimes directly based on its performance. With these kind of significant growth in AI as technology the number of users depending on it is increasing day by day.

### **Artificial Intelligence in Healthcare Appliances**

[7]AI reduces the workload on doctors and it helps them to diagnose without themselves being at the state of confusion. In spite of this advantage it also helps them to overcome mental stress and to do the medical procedure more efficiently which leads to accurate decisions taken by the staffs and nurses. A significant growth of AI is seen in the last few years.[8]Mobiles are used to detect certain medical terminologies In the modern world where the device can be used to specify certain

abnormal conditions. AI has also helped to increase the rate of production of medicines. In case of any emergency in medical aspects AI plays a huge role in compensating the time which is lost. By this the doctors get sufficient time to concentrate on the tasks. For example if the blood pressure of a person needs to be in a specific level and needs to be monitored then there can be a machine which uses the technology of artificial intelligence instead of person monitoring. With such technologies like this it enhances the performances of surgical activity as it gives more time and precision for doctors to perform that specific tasks. [9] AI has seen a significant growth in detecting certain diseases which would take longer to detect manually and thereby saving lots of life in today's era. AI is seen as an emerging subject of science in medicinal field. Some of the complex characteristics of human skin can be detected by using the e-skin which is based on tactile sensor. Pressure used for certain surgical purpose can be detected using robots via computer programming. High accuracy tasks can be performed using robots where humans fail to do so. In case of the production of medicinal drugs AI has helped a lot as it can increase the rate of production. Biotechnology, a field of biology which is in high demand due to the high demand of medicinal drugs, is seeing an enormous growth. The advancement of microscope to look at the specimen more precisely helps to overcome some vulnerable situations. One can say that the medicinal field in today's era is as it is because of the technology involved in it as these technologies are indirectly related in saving a huge number of lives of people. Therefore Artificial intelligence as a field of science is mainly emphasised in bringing gain to all sectors of science especially in medical field by giving it what it can offer at its best.

### **Artificial Intelligence in Manufacturing and Production**

[10] Artificial has deliberately contributed to the increase in the quality of the products which in turn reduced the cost of manufacturing goods through man power. It also adds up to the fact that it is user friendly. Competition among the manufacturers has increased over the past few years. [11] AI is used in controlling the cost of a particular work as it reduces the labour hours and therefore it is environment friendly. [12] AI is seen contributing positively to the revolution of certain industries which includes manufacturing and production as their main preference. Due to the increase in the accessibility of AI certain products like smart watches, sensors have increased their efficiency and need to people in the recent time. AI has made humans to evaluate the products more efficiently in a faster rate. With the demand for the goods is increasing day by day than the supply of the product due to the high population these days, AI is playing a major role in upstanding with this task. Moreover it has also increased the rate at which goods are manufactured. A bottle made manually can be good enough but it consumes a lot of time to make thousand such bottles. At the same time a machine can manufacture 1000 such bottles less than a time taken to make one bottle manually. By analysing this situation we can see how Artificial intelligence has made our life easier by making it possible for the supply to meet the demands of human beings.

### **Artificial Intelligence in Security and Surveillance**

[13] Artificial intelligence has been used by majority of the countries nowadays in military and defence. They are using robots especially as a guard whose functions would be similar to be autonomous. [14] AI has been used enormously in military when it comes to viewing an enemy on the target level strategically which can be referred to as the tactical battlefield. [15] AI plays a significant role in maintaining security. Many advanced features are emerging these days in the IT

field such as cyber security where varied unusual practices can be identified. It can be used to seek alerts whenever there is a cyber attack or a hack. These days there are many cyber attacks which leads to the loss of huge amount of money. Nowadays many privacy alerts are seen which is a great threat to the security of the country or an individual. In order to combat such situations being intense AI can be useful in most of the cases. It has also shared its contribution in helping to set alarm alerts in case of any instability in the performance of the stipulated objects therefore disabling the risk threats. Many transactions which needs more security is being processed AI stimulated machines which ensures that there is no disagreement between the depositor and a receiver. When a belonging of a person gets lost, such as mobile phones and such devices , it can easily be tracked to get it back. Nowadays OTP is played a major role in decreasing the number of chances the details can be hacked by providing one time password which only the owner of that details can access. By this we can easily analyse the importance of Artificial intelligence in the field of security as many such investigations cannot be done manually. AI gives us what a manual work fails to give us in terms of security.

### **Artificial Intelligence in Education (AIED)**

[16] The application of AI in education is equipped with the development of AI in technologies for the purpose of study in case of human teaching and for the learning which facilitates systems of engineering. Some of the method which involves conceptual studies utilizes AI for learning outcomes such as control, planning, acquisition and knowledge representation.[17] Since 20 years, computers are being used in education. The first teaching attempt using system was through Computer-based training (CBT) and computer aided instruction(CAI). The needs of the learner was not individualized by these kind of systems. AI can also be used to generate certain conditions where a physically challenged students can find it easy to learn something new. There are many tools which enables those kind of students to cope up with learning.[18] During the conduction of exam and evaluation of the answer scripts of the students AI plays a major role in detecting the accurate and false answers and therefore reducing the work load of teachers in most of the cases .This can also be applied to check the accuracy of the performances in interview , mocktests , working precision ETC. Many instances taken from journals which includes instructional and dialogue systems, exploratory learning supported through AI ,student writing analysis, environments which are based on games chatbots supported by students which enables to control their learning firmly on their own. AI can be used to deliver a lecture more practically to the students which enables them to understand the concepts with more clarity and efficiency. Some of the complex concepts which involves high virtual thinking cannot be thought manually and therefore in such cases AI plays a significant role. AI can also be used to generate applications in case an user wants to apply abroad for any education specific reason. This would definitely increase the rate at which the work is done by the student instead of them wasting time by waiting long hours for small tasks. In this way it gives more time to students to concentrate on academics instead of worrying about tasks which are indirectly related to education. With all these facilities of AI, a student tends to learn a subject with more understanding and clarity of the concepts. Many organizations have been formed which uses these techniques in the field of teaching . And in many cases students learning from these techniques have topped the list. In this way AI has helped to achieve a significant growth in the quality of deliverance in the field of education sector.

### **Advantages of Artificial Intelligence**

[19]. Artificial intelligence (AI) applications are utilized to simulate human intelligence for either solving a problem or making a decision. AI provides the advantages of permanency, reliability, and cost-effectiveness while also addressing uncertainty and speed in either solving a problem or reaching a decision. AI has been applied in such diverse realms as engineering, economics, linguistics, law, manufacturing and medicine, and for a variety of modelling, prediction, and decision support and control applications. Artificial Intelligence is used to increase the productivity of goods and manufacturing items which enables the industry to gain the profit. [20]. One of the major advantages of artificial intelligence is that its decisions are based on facts rather than emotions. Even after our utmost efforts, it is a well known fact that human decisions are always affected in a negative way by our emotions. Unlike humans, machines with artificial intelligence do not need any sleep, thus overcoming the inherent disadvantage of tiredness in humans. Easier spreading of knowledge. Once an artificial mind is trained for something, it can be very easily copied to the others reducing the time wasted in otherwise passing on knowledge to other humans through training. Moreover it enables the system to work more efficiently rather than getting tired unlike human beings. This decreases the time needed to perform certain tasks with more efficiency and less stress [21]. In the present era systems provide perfect utilization by the fellow beings by implementing experimentation and initiating application of artificial intelligence. It has tasks which are perceptual. In many cases these technologies stimulate human brain which can be used for specific reasons. It has also emerged significantly in the field of gaming and giving theorems to involve users in activities more than perceptual tasks. In this way we can view AI technology emerging as a field to do tasks quicker and easier. It can also be noted that modern technologies which involves AI makes the banking life easy. [22]. AI involves in developing many field of technologies including chatbots, self learning algorithms, transition of machines which enables users to understand their environment in a better manner and to act accordingly.. Many organizations are seen adopting AI technologies to compete with the fast growing technologies. AI has seen expressing the way to the automation improvement, effects of transformation and information effects but also to involve interaction with humans with certain detections and predictions. [23] In case of detection and diagnosing certain particular faults in energy systems of building. AI has emerged enormously with powerful capacity. This reveals some of the intelligence-based methods which can be implemented in future. Considering the subject of doing task more easily, artificial intelligence. AI can be used to monitor certain aspects to prevent malpractices during certain examinations where the user is restricted from using external devices to search the answers and indulge themselves in such activities. In this way AI ensures a fair activity for everyone. AI can also be used to increase the speed of transactions as in today's world most of the transactions are done through net-banking

### **Disadvantages of Artificial Intelligence**

[24] Lack of creativity in responses, Inability to explain the logic and reasoning behind a certain decision, Current development is at a stage where the AI cannot know when there is no solution to a particular problem, Any malfunctioning can lead to the AI producing wrong solutions and since it cannot explain the reasoning behind its answer, blind reliance on AI can lead to problems, Lack of common sense in reasoning can also cause major problems •It can be used to cause mass scale destruction if given in the wrong hands.[25] Disadvantages of Artificial Intelligence (AI) Some of the main disadvantages of Artificial Intelligence (AI) in our daily lives are as follows. It should be

noted that all the data stored in the technology of AI is through manual and therefore if there is a slight error then it can cause a huge loss to the company as AI software need to be updated about the concept of data regularly. Some time it can be misused leading to mass scale destruction ,Program mismatch sometime done opposite to the command,human jobs are affected, Unemployment problem increased,Creativity is depend upon programmer, Lacks the human touch,Younger generation becomes lazy, Require a lot of time and money, and, Technological dependency increased [11] It is also observed that due to the high dependency on AI , many youngsters are prone to investing huge amount on certain apps expecting a huge return of investment . And on one fine day if the return didn't meet their expectations then they are often prone to depression. TheAI which is developed recently has seen a negative impact where over depended on ICT models has been seen in the field of big data, self-idea function which is lacking and such impacts are complicated. [12] Bio scientists still face difficulties in understanding the functionality of human brain but all they can say is that the human brain is capable of functioning more precisely in terms of chemical and physical aspects than a chip of a CPU .But as the new technologies are included without solving the mystery of the brain professor Steen considers that AI is stupid. [26] As the machines arehighly expensive it is difficult to develop and equip them.Can lead to the investment of lots of cash and time to manufacture , repair and rebuild.AI can sometime mislead youngsters in the context of usage of machines.Itcan make users less intelligent as users depend on computer systems to do all the work.Moreover it is power consuming which is not a great sign. Some times using Robots can lead to a disaster. For examplewhen the robot is created to help humans do their tasks more precisely, sometimes it can be over used to gain more technology and it will perform the task which is not under the control of humans, In this way resources are lost and it basically damages the existing environment unnecessarily. This can often lead to huge financial loss of the company. Even though AI makes the data precisely ,sometimes people need one to one to solve certain problems instead of believing an algorithm . Therefore it is necessary to understand the limitations if usage of AI and we need to restrict ourselves from using it in the exceeding amount of time . One must try to develop the balance between using technology and growing up their own knowledge instead of blindly trusting AI in all aspects because and modification in the world will not update the technology automatically . Most of the cyber alerts are due to the dependency on AI instead of manual security forces . These circumstances enables us to understand the limitations of AI and its usage.At the end it can be more harmful to children of today's generation as the are more prone to be dependent on AI for even a small work as they are heavily exposed towards it. Youngsters involving themselves negatively in the field of AI has been observed in recent reports and it's a serious matter of concern whose issue needs to be raised in order to keep a huge population of youngsters on track. In this way one must understand the limitations of usage of Artificial intelligence.

## **Conclusion**

Artificial intelligence shares the positive impact in today's world by pointing out few disadvantages too. In fact most of the industries, hospitals, engineering offices ,ATC controller office , Airports ETC are utilizing AI based systems to increase their rate of functionality .Without Artificial intelligence our life would be a sort of complicated time-consuming journey .Moreover the cons it shares does not overlap the pros. All structures which we view on Television is because of AI which has emerged significantly in these years. From education to utilization AI has been the most prioritized form in today's generation. Moreover to decide whether it is pro or con ,it all depends on

the utilization by the user. Many applications which includes easing of life of human beings are developed to conserve the time for additional purpose. Some of us might find AI to be either helpful or loss but it all depends on the way one uses it. AI has played a key role in the fields such as health care appliances , security and surveillance and mainly in the field of education. Sometimes the task we wish to be performed effortlessly can backstab us by using AI, one such common example is when we create a robot to do our day to day works but that robot gains power to dominate us in the aspect of doing work and one fine day that can backstab us as a result of predominance. At last it all depends on how the user makes benefit of it, rather then concentrating on negative or positive aspects of AI . Precise use of AI can improve the rate of performing tasks and can even increase the precision. But at the same time, Over usage of AI can decrease the person's ability to think on his own and becoming less intelligent.

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