

AN IDEA OF ARTIFICIAL INTELLIGENCE

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Introduction

In this article, the main idea of AI and the reasons for the invention of the same have been discussed. This article includes most of the aspects of introduction of AI and its main pros and cons. It discusses how AI has helped us eventually for all aspects of life such as manufacture industries, healthcare, government security, etc. AI was made to have artificially made human intelligence to solve all complex problems easily, however the early introduction has helped us a lot, but the more advancement although helpful have made a lot of problems for human and the initial creativity of our minds.

The article starts with a brief introduction of what is AI, a small definition and what is comprises of, followed an insight into the history and historical developments of AI along with the growth of AI in different fields, and its advancements which may enable robots to keep emotions and the expressions as humans. Further we see an overview of AI in health care, medical machines, industry, economical use and in education. Further we go on to the advantages of AI in our daily life and the changes it has brought and then along to the disadvantages, which is sure to come with the many advantages of AI development.

What is Artificial Intelligence?

Artificial Intelligence is the process of coming up with highly smart and advanced machine system that can mainly do efficient computer programming, so that it can work in accordance or better than human intelligence but without the barrier of biological observable methods

Artificial Intelligence is not something absurd or something that can be avoided, it is a genius idea to get work done quicker and easier with same or maybe more of intelligence than a human brain but might also harmful

History of AI

The history of AI is quite the interesting one with a lot of demonstrations and imaginations. This mainly started with the coding and invention of computers for problem solving, AI was developed in 1956 which soon caught the eye of many researchers

Further it was used the purpose making the manual processes easier and sustainable with lesser mistakes. This idea developed into the perspective of robots and to robots that can exactly copy human nature and intelligence but with more stability and efficiency, furthermore in medicinal field AI gaining a wide range of uses, such as analysing difficult algorithms. Some of the early works in AI include basic works in engineering, knowledge, In language translations etc. Mobile robots were almost unknown for 14 years after the introduction of machines. The first development in AI started from the advancements in arms and military machines.

Growth of AI

AI has grown more than anything else in the recent years or we can say that there has been an incredible development in the field of technology in the recent years.

AI was mainly developed for the better production of goods and then which increased the economic growth, now AI has been used for solving many complex logical problems and AI is now pretty much self-improving. AI is nowadays also impacting the methods of doing things.

AI is being bought up to do many of the manual tasks nowadays in the era of ever-growing technologies and it is also safe to say that it may soon replace most of human labour works, further AI is also being developed to have emotions a though humans

AI in Healthcare Appliances

AI has been proved above human intelligence in several domains now, this is a great hope for healthcare. AI allows better diagnosis, treatment, and prevention of various diseases

The main areas where AI is majorly used are for treatment of cancer, cardiology, diabetes etc. it can be used find problems in a person even if no symptoms are not shown. AI is also used as a help medium for doctors to help treat the patient quicker and easier more efficiently

The introduction of AI in the health care field has helped the advancement of prevention and treatment of diseases.

AI in Manufacturing and Production

There has been great development in the manufacturing technologies in the years, it has also bought about great change in models, methods, and economic growth, and we are also aware of the industrial revolution with AI

The involvement of AI in various manufacturing industries is increasing the transformation in models, managing systems etc. The main development that has come about is the intelligent manufacturing which brings about new change in manufacturing. AI is now involved in every step of manufacturing. it provides very low error products and saves time. There are a lot of new forms and means of AI in production and manufacturing which is supported by better computer programming

AI in Security and Surveillance

AI now also impacts the overall governance but keeping in mind the privacy laws, by giving a major support to keep a review on citizens and its borders by giving major army equipment, bust also disrupt elections give false information. it has given various models for the security of any country such as facial recognition, metal detection, iris check etc.

AI is now quite popularly used for identifying theft and bank robbery. It is not only used as surveillance cameras but also used to analyse the videos if needed. There is the use of image detection rather than sensors which help detect movement of thieves. AI surveillance UGV is a major development that has come across which reduces cost and increases the efficiency as it detects any suspicious activity in a glance using analogue transmissions, but also falling into the wrong hands can cause many problems even with security systems

AI in Education

When it comes to education we can mainly say about computer as being used as part of AI. It has been used for over 20 years now, Computer based training and intelligence tutoring system are among the first systems used to teach using AI. One main advantage is that it creates a level of explicitness about learning theories which is difficult to attain in classrooms. In the kind of system of CAI, the instructions are not individualised but scripted for a topic.

The introduction of such systems has really helped the students to learn faster and better and function smarter using the technology, especially the introduction of ITS. This kind of system especially increases the performance and motivation of the students. By the introduction of AI it has also motivated the research centres. AI introduction has also made it easier to solve complex problems easily without much time taken with easier methods and has increased the reasoning ability of students. ITS was initially designed to increase and compare students' performance and better it during a task given at school.

Advantages of AI

There are many advantages and improvements with the introduction and application of AI in different fields. AI is permanent, reliable, fast and cost effective. It is used in a diverse range to solve the most complex issues easily and effectively without much cost. One of the most promising features of AI is the search engines which make any information available at any point of time easily.

AI is used in a wide range of fields, in the food industry or packaging and testing of food materials for safety most efficiently and accurately. Automobile industry for manufacturing the parts and assembly of the product without much time and fewer errors than human functions. The use of AI in the biology and research-medicinal departments has increased the rate of making of medicines and the accuracy of the medicines. Economically also the use of AI has helped us to increase the overall GDP and reduced the cost of items and increased the amount produced. AI use in farming and poultry farming has also made a great difference in marketing and production. Use of AI has also decreased the chances of error and correction.

Challenges or Dis-advantages of AI

Along with advantages the AI possesses a lot of disadvantages too. If we see the education side the teachers face a lot of problem due to the introduction of AI teachings. Mainly there is no student-teacher bond or interaction necessary in schooling. Many small companies face issues and eventually must shut down as they are not able to compete with machines and hence lesser production and profit and not able to compete with the other huge companies. Human beings become lazy, lack much input, dependency increases etc.

AI although helpful and time saving has reduced the working motivation and imagination of human beings as everything is available at a click. Overall, the main disadvantages are the need for constant repair and maintenance as one small error and the entire process can be destroyed. If robots began to replace humans, then soon there might come a time when they might take over the world and human beings might be the slaves, and if the robots or any software fall into the wrong hands it may cause huge destruction and terror. Still one of the main disadvantages is that the AI is not completely able to think logically like human brains, it can still only perform tasks it's given instructions for and a mis command can cause huge problems.

Conclusion

AI has seen quite the development throughout the years, it has advanced to great levels of human intelligence except the part of emotion which are also being worked on into robots mainly. AI is much rapidly developing and being introduced into social domains mainly and it also leaves many people at risk. Although the introduction AI has very high use to us, but it also has its setbacks. Its being used for almost all purpose from education to health care and industries of all kind which also is reducing the available job opportunities for many, it in turn is also making the humans more dependent and lazy. But it has also increased many opportunities in the tech arena and development of many products which have helped us immensely especially the medical field for the research.

Taking in to consideration all factors I would still say that AI itself is a great boon to us humans but in the wrong hands or over usage may lead to our own destruction

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IS ARTIFICIAL INTELLIGENCE REQUIRED?

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What is Artificial Intelligence?

[1] Artificial intelligence is the scientific process of producing intelligent machines and programs. It's a similar process of using computers to understand our intelligence but doesn't confine itself to biological observations.

[2] Artificial intelligence is a part of history of *human intelligence*, in ways that complicate mathematical accounts, which shows intelligence emerging naturally and from attempts across years to minimize the human reasoning to an understandable format.

History of Artificial Intelligence

[3] The birth of artificial intelligence is marked out to philosophy, fiction, and imagination. Preliminary creations in electronics, engineering, and many other works have guided artificial intelligence. Some early achievements include works in problems solving which involved basic work in learning, understanding, and reasoning as well as showing programs in language conversion and execution.

[4] The regular model for improving artificial intelligence systems concluded a fixed, known purpose that the system is needed to reduce through its actions. Systems evolved within the regular model that has been more successful. Regular loopholes lead the machines harder to predict, but they will have a huge impact on the economy and the human lives. I suppose a new version for the development of artificial intelligence in which the machine's randomness about the true objective leads to demandingly better modes of behaviour that are more controllable and diverse.

[5] The problems of making computers evaluate difficult problems were classified into five main areas: Search, Pattern-Recognition, Learning, Planning, and Induction. Artificial intelligence can do, what its told to do. But when not knowing how to solve a certain problem, we may program a machine to Search through some large space of solution attempts. Unfortunately, this is a inefficient process. By analysing the plan, we improve by searching a much smaller, and is more appropriate.

[6] Artificial intelligence was introduced in 1950 but there was several limitations in early creations which was the reason of prevention of artificial intelligence and was accepted world wide. The early 2000s, had a revolution as many of these limitations were solved. Now that Artificial intelligence systems are analyzing the complex algorithms. We are brought to a time where medicine can be made using artificial intelligence and can be applied to clinical practice through risk assessment models which further improves diagnostic accuracy and efficiency in the medical department. The major applications of Artificial intelligence is used in gastroenterology and endoscopy.

Growth of Artificial Intelligence

[7] Artificial Intelligence like deep learning algorithm and neural networks, are being deeply explored for healthcare applications in aspects such as imaging and diagnoses, risk analysis, lifestyle

management and analysing health information management. Known positives in these areas include advanced speed in imaging, and more insight into predictive screening, and reduced healthcare expenses and inefficiency. Computer based clinical tools also make a lot of problems wherein commonly-held values and moral principles may be questioned. We come forward with three different problematic effects of artificial intelligence use in healthcare: (1) dynamic knowledge and opinion. (2) Liquidity and possession, and (3) privacy and unfairness. We consider their impact on patient/client, clinician, and health institution values and suggest opinions for their impact. We suggest that artificial intelligence -related ethical questions might show an advantage for advancement in organizations.

[8] Artificial Intelligence is regarded to be the fourth industrial revolution. Artificial Intelligence with the use of big data has modified all industries around the globe. Computational systems which have programmed intelligence can execute various real-world issues far more precisely and efficiently far more than computational systems that are determined and hardcoded. Since many problems in business growth and business analytics cannot be solved by determined systems. Artificial Intelligence plays an important role in solving problems in the outside world. Artificial Intelligence and big data have changed the business economy and artificial intelligence is currently being used to accelerate business growth.

Artificial Intelligence in Healthcare Appliances

[9] The artificial intelligence for economic growth can be defined as the replica which is able to have human behaviour and help at the convenience of people for their benefits or a machine which is able to achieve goals which are not possible or may be tough for humans who may need a suitable environment to achieve. Artificial intelligence is able to perform increasing number of tasks which are not possible or were not previously performed by humans. Artificial intelligence may be deployed in the ordinary production for the use of their goods and services, which can potentially impact economic growth and income shares. But artificial intelligence can also change the process by which we create new ideas and technologies for helping to solve complex problems which cannot be solved in the society and which may be needing creative effort.

[10] Artificial intelligence as competitiveness growth is a factor which is beginning to be vastly used by leading multinational companies today. Artificial intelligence is having huge potential into the national economy system is enormous and will not be limited to individual companies. It is a part of the possibility of strategic planning on the scale of the entire economy which can be helpful in many ways such as the search for accurate, optimal models of sectoral balance sheets, building target indicators for large businesses, forecasting of aggregate demand and supply, optimization of the monetary-crediting system, etc. Thus, Introduction of artificial intelligence into the economy would build a model of extended reproduction, without distortions between different sectors of the economy, and thus implement a model of its sustainable growth.

[11] Artificial intelligence is slowly changing medical practice. With recent development in digitized data possession, machine learning and computing growth, artificial intelligence programs are leading into sectors which were previously thought to be only the part of human experts. The breakthroughs in artificial intelligence technologies and their biomedical programs, identify the problems for further improvements in medical systems, and outline the economic, legal and social impacts of artificial intelligence in healthcare.

[12] Artificial intelligence has been improving rapidly in recent decades in respect to the software algorithms, hardware usage, and programs in a large number of areas. The latest improvements of programs of artificial intelligence in biomedicine, including disease diagnostics, biomedical analysis, and biomedical research. The target is to keep note of new scientific achievements, to develop an understanding in the possibility of technologies, to value the tremendous potential of artificial intelligence in biomedicine, and to give the related fields with inspiration.

[13] Artificial intelligence is known as a part of science and engineering known about the computational ways of intelligent behaviour, and with the formation of structures that show such behaviour. Artificial intelligence changing into a well known field in computer science as it has changed the human life in various areas. Artificial intelligence has recently come over human development in various areas. Artificial intelligence is present for better prevention, detection, understanding, and treatment of illness. Major areas that use artificial intelligence tools include cancer, neurology, cardiology and diabetes. Artificial intelligence can also be useful to automate spot problems and threats for patient safety with high accuracy and speed.

Artificial Intelligence in Manufacturing and Production

[14] Modern manufacturing and logistics processes are helped by more universal and strong computing networks. Oceans of data are always being created by sensors, systems, electronic gadgets, and people. Altogether with increasing computational abilities, this Big Data is being processed faster, more widely, and more thorough than ever since. These positives have redefined the quality of artificial Intelligence systems and entered a new age known as Industry 4.0. As a portion of Industry 4.0, the enormous collection of data for smart decision processing is needed for normal manufacturing processes.

[15] Based on analysis into the process of artificial intelligence technology in the production industry in a couple years, we research the fast development of core advancements in the new era which is triggering a great possibility in the models, means, and ecosystems of the processing industry, as well as in the improvement of artificial intelligence. We then propose new models, means, and forms of smart manufacturing and smart processing technology system, based on the connection of artificial intelligence technology with information communications, manufacturing, and related product technology.

[16] This research uses a Distributed Artificial Intelligence (DAI) outline to usefully experience the infrastructure available for process planning in a batch making PWB assembly facility. The DAI approach consists the entire production control task into several sub-tasks. Then, the sub-tasks are brought by the basic elements of the DAI system called 'intelligent agents'. By working together, the intelligent systems of the DAI system can come at a solution for the problem. The DAI system firstly proposes all possible solutions made by the intelligent systems. Then, a fuzzy coordination process is utilized to qualitate the solutions and to find the most suitable one for usage. Using measures such as the short-term plan, design data, observation data, and CAD processing.

AI in Security and Surveillance

[17] On the improvement of science and technology, the collection of the unmanned aerial vehicle and camera surveillance systems is being a promising answer for practical problems related to security and surveillance operations. The biggest problem is analysis, process, and conversion data. A certain amount of data is not being processed or transmitted. The program creates a starting background frame and changes which is sent to server. It splits the interest and then processes only the changes. This supports as there is a significant reduce in the data storage and transmission. The Advancement of the systems could be drastically reduced.

[18] Chinese technology has become an attractive for many countries who are not able to develop the technology possible and spend for them. Some countries have relied almost entirely on China for their technologies and are those who have less human rights and are still considered less democracies. Xinjiang is not the only laboratory for these new technologies. The security patiently watches and makes control and can be a model for governments somewhere in the globe. China's initial artificial intelligence project in Africa was an intelligent managing of its surveillance program, making sure that the government can maintain an eye on people. The facial recognition program has the power for giving the government with the knowledge about specific information of the country. Zimbabwe has looked China as a model for analysing aspects of society, including telecommunication. Legal loopholes have made it easier for China to take the data compromising safety and privacy.

[19] Beyond artificial intelligence for automatic robots which can be used for military, China has also been researching robots for decision making and using intelligent robots for future warfare. Operations Command Center mentioned that the artificial intelligence has potential for combat command. China is majorly using artificial intelligence in domestic surveillance programs and are using big data to fight terrorists. Xinjiang is home to millions of Uighur who have been persecuted by artificial intelligence used by China. In the future artificial intelligence will make it impossible to commit a crime without being caught as the world will be full of it.

AI in Education

[20] Artificial intelligence is already being used in multiple schools and colleges. They are already used to track the attendance and for submission of projects in various criteria.

[21] It has been an argument that the involvement of artificial education has impacted the relationship between the students and the teachers as well as between students themselves. The Artificial intelligence has not recognised and captured education industry but may with further efforts.

[22] The Artificial intelligence may need a different way of processing as there are many ways of teaching based on the student and interest they show and can face a struggle if the same way of education is proceeded with artificial education.

Advantages of AI

[23] With the help of Artificial intelligence human works can replace people with machines and the cost of labour will be cheap with high profits where they do not need breaks and refreshments like humans. Artificial intelligence can be deployed at industries and companies and human error will not be a problem if programmed properly. Using Artificial intelligence will productively automate the tasks and free humans to be increasingly creative.

[24] The machines can be programmed for work for longer time without getting tired. Humans will have further improvement in the discovery of unexplored areas.

[25] One of the major advantages of Artificial intelligence will be that the decisions will be based on facts. Human decisions may be affected in a negative way by our emotions. Machines with Artificial intelligence do not need rest and the information can be passed through multiple systems as training will not be required. Artificial intelligence will not require creativity as when programmed by a human, it can process accordingly.

[26] Artificial intelligence is better as it's more permanent and less expensive. It can be duplicated and can perform tasks much faster than the human. The Turing test was proposed and the test involved a human interrogator who interacted with a human and with a machine and had to identify them. Artificial intelligence passed and the interrogator couldn't differentiate between human and the intelligence.

[27] The existing artificial intelligence helps in traffic signal timing based on calculations. Artificial neural networks have been introduced for traffic signal control. Reinforcement learning is a new concept in the traffic signal timing arena. A major improvement is that artificial intelligence can learn the optimal control strategy from the interactions between the control and the traffic without knowing relation between them. artificial intelligence is an exciting, dynamic research area. The improvements to artificial intelligence methods are beings additional research opportunities to all.

Challenges or Dis-advantages of AI

[28] Artificial intelligence lacks the human touch and has the ability to replace human jobs. It can malfunction and oppose of what it was programmed to do. Artificial intelligence can be misused as it can be leading to mass scale destruction and also corrupt younger generation.

[29] Artificial intelligence are not able to take decisions for certain items. Artificial intelligence can be producing wrong solutions and can lead to problems. Artificial intelligence lacks the of common sense of reasoning. Artificial intelligence in wrong hands can be dangerous. Artificial intelligence will soon start substituting humans in every field which will causing a high unemployment. This can lead to crime and poverty.

[30] Artificial intelligence is not easy to develop as the machines are expensive to create, rebuild, and repair. Artificial intelligence is making humans lazy as its automating the work which are done by humans. Machines cant have a relation with humans if they are involved in a team. They have a chance to crash or give irrelevant outputs which might be a problem.

[31] Artificial intelligence is more of a loss than gain in the society. Programs if mismatched can cause huge destruction as the processes will be changed. Younger generation get lazy. Artificial intelligence Require a lot of time and money and technological dependency would be increased.

[32] The software of artificial intelligence should be updated regularly to meet changing requirements. Artificial intelligence may have many bugs to fix. A small error can cause of a huge number of consecutive problems which can cause loss of important data. The machine will not think before acting and can enslave humans and rule the world.

Conclusion

Artificial intelligence can be really useful for humans and help in the development but also can destroy the system if in wrong hands.

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