KNOWLEDGE ON ARTIFICIAL INTELLIGENCE

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Introduction

You may heard that how fast and rapidly the technology on Artificial Intelligence is growing and in what ways the Artificial Intelligence is influencing the peoples lives and how crucial role it is playing now-a-days in our lives. Artificial Intelligence is spread over many industries like Software companies, hospitals, hotels and many leading industries. It is very useful to the development of any country. In this we will discuss about what is Artificial Intelligence and how far it is going and what types of industries are involving and how the AI is spread and at what stage it was formed and established and how long it went. In a nutshell, AI has had a transformative year. In any other year, Cambridge Analytica's attempt to sway national elections in the United States and the United Kingdom by exploiting social media data and algorithmic ad targeting would have been the most prominent news.

What is Artificial Intelligence?

[1] Artificial intelligence is the part of engineering which is used to build Intelligent machines mainly computer programs. It is nothing but using human brains and building a professional program which is so complicated using computer simply. [2] It is arrived due to military, finance, manufacturing sectors are growing as they can't run with only human brains, but also requires the mixture of human brain along with computers. Now it is one of the leading technology in the world. The multidisciplinary character of AI is another reason for the difficulty in defining it. Anthropologists, biologists, computer scientists, philosophers, psychologists, and neuroscientists all contribute to AI, each with their own viewpoint and vocabulary.

History of AI?

[3] Firstly, AI isan imagination, fiction. After development in engineering and electronics AI has been eventually evolved. By combing both the electronics and AI they found that many developments can be established in the future and they tried to get knowledge on it. [4] In 1847 George Boole described the formal language for logic reasoning. John McCarthy first time gave a definition for Artificial intelligence in 1956. From then the world has changed and eventually stared Artificial Intelligence in lives. According to computer scientist Nils Nils son, the purpose of artificial intelligence is to "make computers intelligent" by automating or replicating behaviour that "enables an entity to act effectively and with foresight in its environment."

Growth of AI?

[5] Now a days AI is eventually growing too heights and heights. Without AI there would be many things stopped and the there may be economy fall. AI is the technology of future. It is started on lya years ago. So there is a major development which helps the people and country. [6] Due to revolution of AI the employment offers increased and there is a growth in employment. It can replace labour by capital in production of goods and services which is very useful for the leading industries and industrialists.

AI in Healthcare Appliances?

[7] Due to AI the medical industries also increased a lot. Many sophisticated operations and treatments are evolving due to AI with ease. It is helpful in recovery of treatment like cancer, neurology and cardiology. [8] AI is used to determine the disease more accurately by x-rays, MRI, CT scans, and ultrasounds and helps the patient to reduce the recovery time from weeks to hours. This made life easier and safer than earlier and people started to believe in it and tried to implement more practices. [9] Coming to dentists AI is used to build the 3D image of problem of the patient and helps to find the outcome. Cone beam computed tomography (CBCT) and intraoral/facial scans are some of the methods to find AI based 3D images.

AI in Manufacturing and Production?

[10]In recent times. AI in manufacturing industry is growing rapidly. It helps in charge ofmodels, means and ecosystems with information communications, manufacturing, and related product technology. [11] After arrival of AI the production in manufacturing industries increased compared to before. The goods are also not satisfied customers before the arrival of AI. Because with the help ofpeople there may be many mistakes and there may be faults in the goods. But the computers never make mistakes. It eventually increased the quality and productivity. [12] Bills of Materials(BOMs) and routings which is developed by artificial intelligence inventory items that show all sub-assemblies and raw materials. The present advancement in intelligent manufacturing is also covered from the perspectives of intelligent manufacturing application technology, industry, and application demonstration. Finally, recommendations for using AI in China's intelligent manufacturing aremade.

AI in Security and Surveillance?

[13] AI as an integrated system that incorporates information acquisition objectives, logical reasoning principles, and self-correction capacities. The software is completely secured by firewalls by which the data can't be stolen by scammers. [14] Security plays a key-role in many organisations in keeping their data safe from many threats. AI is playing a key-role in keeping the data safe by providing many security issues. In terms of ambient data and connection, code-driven systems now reach more than half of the world's population, presenting previously unimagined potential as well as unexpected risks. Artificial Intelligence (AI) is evolving at a rapid pace, particularly in industrial construction. The unusual use of AI in cyber-attacks appears to be rather frightening. [15] The detecting of many issues in computers and using off cameras and videos are all based on AI. They detect the information if anything goes wrong other than the operator stores in it and alerts the public. This AI helps the people to be safe and make the polices easy to track the thieves or any misleading issues.

AI in Education?

[16] Education through computers are being used since 20 years. Computer-based training(CBT) and Computer Aided Instruction(CAI) are some of the practices used to learn through computers. This is the interesting thing where the major change occurs through AI. There is more change in education in terms of effective teaching skills using AI to plot a graph or a 3D diagram which helps to understand the concepts easily for the students. [17] There are also some consequences of AI in education like the bond between teacher and student is breaking with this which is very bad. Teacher plays an important role in guiding students, So there is a misguide with AI ineducation. [18] In

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education AI plays a major role in mathematics and problem solving. They help toanalyse the problem and solve it easily in no time. Artificial intelligence (AI) is becoming more and more prevalent in our daily lives. For example, AI researchers are presently leveraging new methodologies in machine learning, computer modelling, and probability statistics to improve financial decision-making, as well as leveraging decision theory and neuroscience to drive the creation of more effective medical diagnostics.

Advantages of AI?

[19] It is used to solve the problems easily which reduces most of the time. It increases the effectiveness of the work we are doing. AI provides the advantages of reliability, permanency. Artificial intelligence is well-exemplified by smart phones. With apps like Siri, which acts as a personal assistant, maps and GPS, which show the user the shortest routes to their destination, and apps that forecast the user's activities and provider ecommendations [20] A new product is developing in the form of projects now a days. Projects need a team work and have to make many complex tasks to build it. AI helps to make it easy and make those complex things to simple and also reduces the people inwork. [21] AI helps the machine to think and understand a situation and work and helps it to analyse like a human being. The utmost precision and nearly no probability of error are achieved when AI isused. [22] Now a days neural networks are used by mathematicians and scientists to solve a complex equation or a problem in seconds which is controlled by AI. Artificial Intelligence-enabledrobots could be employed to investigate the depths of the earth and the world's oceans in order to obtain the fuel and resources that humans require. [23] AI is also used along with electrical automation control now a days more and more. With this type of combining technologies there is more chance to develop easily. When performing repetitive and time-consuming jobs, artificial intelligence can be useful.

Challenges or disadvantages of AI?

[24] Mainly in education there are disadvantages of using AI. It can't fulfil the role of a teacher in classrooms and causes many dangers to the children in a class. The cost of maintenance and repair is one of artificial intelligence's major drawbacks. To satisfy changing requirements, the software must be updated on a regular basis. The expense of repair in the case of a failure can be very costly.

[25] We draw many graphs and to measure and compare many things in form of graph. These graphs tells the data in a simple and easiest way and easy to analyse it which are drawn by AI. But these graphs can be changed by a other person or some unknown mainly in the process of voting there is a major chance to mislead the votes represented in graphs which are done by AI. So these things may cause major scams. So AI has the disadvantages of misleading the data easily. [26] Bugs are a major drawback. When giving artificial intelligence a large number of complex tasks, keep in mind that any computer can fail. A little arithmetic error can lead to a slew of subsequent issues. This can potentially result in the loss of critical data that is processed by a machine. [27] Social media mainly the news which is published in that are all controlled by AI. Thesenews are transferring very negatively in social media and many fake news is transferring through social media which may lead to the people threatening to the news. It will be catastrophic if military robots fall into the wrong hands. The machine does not pause to consider its actions before going in to action. [28] Now a days all the banking is through online which is run by AI. There is more scope to take the money and mislead the transactions and there is more chance to turn a person into culprit by doing scams in these online transactions which made them easy bu Artificial Intelligence

Conclusion

So, according to the above explanation we can understand that the life without AI wouldn't be this. AI has played major role in many important and use industries. Hospitals became easy to recover many dangerous diseases which can't be treated those days. Many diagnosed ways have been established in hospital sectors. We are using computers and huge machines to make our work more simple and easier and the productivity is also high. This is all because of the development of Artificial Intelligence only. AI systems were rapidly deployed into more social spheres this year, putting an increasing number of individuals at danger. While AI techniques still have a lot of potential, rushing to implement systems without proper assessment, accountability, and monitoring can be dangerous. We need to regulate AI systems on a sector-by-sector basis, with a focus on facial and affect recognition, and to base those policies on thorough research.

References

- Aghion, P., Antonin, C., &Bunel, S. (2019). Artificial intelligence, growth and employment: The role of policy. Economie et Statistique, 510(1),149-164.
- Allen, R. J. (2001). Artificial intelligence and the evidentiary process: The challenges of formalism and computation. Artificial Intelligence and Law, 9(2),99-114.
- Alzaidi, A.A. (2018). Impactofartificialintelligenceonperformanceofbankingindustryin Middle East. International Journal of Computer Science and Network Security, 18(10), 140-148.
- Beck, J., Stern, M., & Haugsjaa, E. (1996). Applications of AI in Education. *XRDS: Crossroads, The ACM Magazine for Students*, 3(1),11-15.
- Benko, A., &Lányi, C. S. (2009). History of artificial intelligence. In *Encyclopedia of Information Science and Technology, Second Edition* (pp. 1759-1762). IGI Global.
- Buchanan, B. G. (2005). A(very) brief history of artificial intelligence. Ai Magazine, 26(4), 53-53.
- Chowdhury, M., & Sadek, A.W. (2012). Advantages and limitations of artificial intelligence applications to critical transportation issues, 6(3), 360-375.
- Cihon, P., Maas, M. M., & Kemp, L. (2020, February). Should artificial intelligence governance be centralised? Design lessons fromhistory.
- Feldstein, S. (2019). *The global expansion of AI surveillance* (Vol. 17). Washington, DC: Carnegie Endowment for InternationalPeace.
- Feng, H. (2018, September). The application of artificial intelligence in electrical automation control. In Journal of Physics: Conference Series (Vol. 1087, No. 6, p. 062008). IOPPublishing.
- Furman, J., & Seamans, R. (2019). AI and the Economy. *Innovation policy and the economy*, 19(1), 161-191.
- Garrido, A. (2012). AI and mathematical education. Education Sciences, 2(1),22-32.
- Guilherme, A. (2019). Alandeducation: the importance of teacher and student relations. AI & society, 34(1), 47-54.
- Hsu, Y., & Chaing, Y.H. (2021, July). The Strategic Advantages of ArtificialIntelligence System for Product Design Teams with Diverse Cross-Domain Knowledge. In International Conference on Human-Computer Interaction (pp. 408-419). Springer, Cham.
- Hung, K., Yeung, A. W. K., Tanaka, R., & Bornstein, M. M. (2020). Current applications, opportunities, and limitations of AI for 3D imaging in dental research and practice. *International Journal of Environmental Research and Public Health*, 17(12),4424.

- In Proceedings of the AAAI/ACM Conference on AI, Ethics, and Society (pp. 228-234).
- Khan, M.M., Rizwan-ul-Hasan, S., Ahmed, A., Khan, M.A., & Fahad, M. (2020, February). AI Surveillance UGV. In 2020 Inte[rnational Conference on Information Science and Communication Technology (ICISCT) (pp. 1-6).IEEE.
- Li, B. H., Hou, B. C., Yu, W. T., Lu, X. B., & Yang, C. W. (2017). Applications of artificial intelligence in intelligent manufacturing: a review. *Frontiers of Information Technology & Electronic Engineering*, 18(1),86-96.
- McCarthy, J. (1998). What is artificial intelligence?.
- Murali1, N., & Sivakumaran, N. (2018). Artificial intelligence in healthcare—areview.
- Ozbay, F. A., & Alatas, B. (2020). Fake news detection within online social media using supervisedartificialintelligencealgorithms. Physica A: Statistical Mechanics and its Applications, 540, 123174.
- Pande, G. N., & Shin, H. S. (2004, February). Artificial intelligence v. equations. In Proceedings of the Institution of Civil Engineers-Civil Engineering (Vol. 157, No. 1, pp. 39-42). Thomas TelfordLtd.
- Rahim, S. M., Mohamad, Z. Z., Bakar, J. A., Mohsin, F. H., & Isa, N. M. (2018). Artificial intelligence, smart contract and islamic finance. Asian Social
- Satpathy, S., Nandan Mohanty, S., Chatterjee, J. M., & Swain, A. (2021). Comprehensive Claims of AI for Healthcare Applications-Coherence Towards COVID-19. In *Applications of Artificial Intelligence in COVID-19* (pp. 3-18). Springer, Singapore. Science, 14(2), 145.
- Smirnov,Y.(1999). Applying AI to Manufacturing Linear Order Promising and Production Planning. In The Workshop on E-Commerce, American Association for Artificial Intelligence Spring Symposium, Stanford.
- Tao, B., Díaz, V., & Guerra, Y. (2019). Artificial Intelligence and Education, Challenges and Disadvantages for the Teacher. Arctic Journal, 72(12),30-50.
- Wan, J., Li, X., Dai, H. N., Kusiak, A., Martínez-García, M., & Li, D. (2020). Artificial- intelligence-driven customised manufacturing factory: key technologies, applications, and challenges. *Proceedings of the IEEE*, 109(4),377-398.
- Warwick, K. (2013). Artificial intelligence: the basics. Routledge.
- Xu, S., & Hung, K. (2020, April). Development of an ai-based system for automatic detection and recognition of weapons in surveillance videos. In 2020 IEEE 10th Symposium on Computer Applications & Industrial Electronics (ISCAIE) (pp. 48-52).IEEE.