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ARTIFICIAL INTELLIGENCE IS NOT A MATTER OF SCIENCE FICTION

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What is AI?

[1] It is the science of manufacturing intelligent machines. It is relatable to recognize human intelligence but it doesn't limit the methods which are related biologically. It is the analytical part of the potential to achieve goals. It is the ability of a machine to complete or perform the tasks that are usually done by humans. It's analogous task of utilizing computer to understand human intelligence. Artificial intelligence (AI) is intelligence demonstrated by machines, as opposed to natural intelligence displayed by animals including humans. [2] It is an idea to make machines capable such that they can perform tasks such as learning, self-correction etc which are related to human intelligence. By improving the programming method we can study the use of machines effectively. The use of mechanical tools has expanded the use of human intellect by utilising computers.AI means to develop systems that think like and behave like humans, they think and behave rationally. Artificial intelligence was founded as an academic discipline in 1956, and in the years since has experienced several waves of optimism, followed by disappointment and the loss of funding (known as an "AI winter"),followed by new approaches, success and renewed funding.

History of AI

[3] Alan Turing proposed a definition fro determining whether or not the software is intelligent in 1950. The history of artificial intelligences the history of dreams, potential, demonstration and promise. The beginning AI was considered to be science fiction then there were inventions in the fields like electronics which proved it wasn't just imagination. Some of the early phases of AI include language understanding and translation, solving theorems etc. [4]The first work which is now recognized as AI was done by Warren McCulloch and Walter pits in 1943. Donald Hebb demonstrated an updating rule for modifying the connection strength between neurons. His rule is now called Hebbian learning. When AI was first described there were several limitations for acceptance on medicine. Many of these limitations were overcome by deep learning. Now the AI are capable for solving complex problems as well as algorithms. Work efficiency in medical field is really improved by using it such as diagnostic accuracy etc. Gottfried Wilhelm Leibniz seemed to believe that mechanical reasoning devices could be used to resolve conflicts using logic rules. Both Leibniz and Pascal created calculating machines, which has previously been in the domain of the trained individual. In the year1966, the researchers emphasized developing algorithms which can solve mathematical problems. Joseph Weizenbaum created the first chat bot in 1966, whichh was named as ELIZA

Growth of AI

[5] Artificial intelligence can be used everywhere in the production of goods and services affecting the economic growth and income distribution. It is increased a lot in the last decade. AI has been advancing in terms of resources as well as in outputs. It can beat a human in various games that

require complex strategy. Virtual assistants such as Alexa and Siri, and Amazon's new cashier-less and cash-less grocery stores has developed recently which eases our work. The growth in this field has a variety of applications in health-care, security, manufacturing and production etc. A lot of solutions such as AI-specific commission, to data portability, to UBI and other strategies has been used due to increase in economy due increase in use of AI.[6]Journalistic organizations can easily keep up with current events and produce content that accurately summarizes evolving circumstances by applying these sophisticated algorithms to vast amounts of data from press releases, tweets, articles, and other unstructured content. AI may alter the way in which we develop ideas and technology assisting the solution of complicated issues and creative .We see AI as the new type of automation that has the potential to automate the processes that were previously thought impossible to automate. It has affected economic growth and income shares widely. It can help to solve problems in a more effective manner. In span of year it has also changed the process of creating new ideas and technologies. It is being used to collect information from different sources instantly. AI systems are increasingly being used by content and news organisations to discover data from various sources and instantly summarize it into content or supporting analysis for those articles.

AI in Healthcare Appliances

[7]At the initial stage, technology was merely used to automate the most routine and monotonous tasks and cut down on the use of paper through digitization of health records while also aiding in the easy flow of this information among insurance companies, hospitals, and patients. sensors are some appealing sciences for fostering centres and technology growth in the current society because of vast usage in personal electronic gadgets and industrial monitoring. There are some healthcare devices such as flexible pressure sensors made with the help of AI have some advantages such as they are of low cost and provide extra flexibility. There are many health care devices in which you can have very promising applications. [8] It is also used in data management for maintaining records of numerous patients at a time. It becomes very difficult to store that data in pages so it helps to collect, store, re-layout, and trace data to offer faster, more consistent access. Data management is one of the most important applications of AI and used widely. [9] There are some mobile apps that can monitor our health for example: m-health. There are also watches which can determine our heartbeats and emotional condition of the user. Such applications built on the mobile helps us in generating a self-health report. Due to lack of social care to the old people it is necessary to develop a cost effective assisting healthcare technological solutions for the care of the elderly and providing them with the most technical friendly experience possible.

AI in Manufacturing and Production

[10] In the has few decades, AI has become a major part of manufacturing smart machines and has a major part in modern industries. Industrial AI also known as IAI has critical technologies for the evolution of industrial manufacturing. Deep neural networks, adversarial training, and transfer learning are some of the methods used for the maintenance of the production process. [11] It improves the competition in the market as well as provides high efficiency, high quality, cost-effective, and environment-friendly service for users. It eases the evolution of new model system architecture and technology systems. Manufacturing requires acute attention to detail, a necessity that's only exacerbated in the electronics space. Historically speaking, quality assurance has been a manual job, requiring a highly skilled engineer to ensure that electronics and microprocessors were

being manufactured correctly and that all of its circuits were properly configured. [12] There are developments specifically in semiconductor manufacturing. The main aim of this is to provide perception of the latest improvement in the research community which includes maintenance and manufacturing. The majority of these systems cannot still learn or integrate new information, resulting in countless false-positives, which then have to be manually checked by an on-site employee.

[13] AI can be used to spot cyber threats and possibly malicious activities. Traditional software systems simply cannot keep pace with the sheer number of new malware created every week, so this is an area AI can really help with. Now-a-days these are used for facial recognition, biometrics for more safety purposes. Governments are also using these tools to achieve or advance their political careers. It is used for reasonable purposes as well as illegal digital monitoring. [14] It provides the security against the cyber-crime. The AI can perform cyber-attacks using advanced viruses for evading the security perimeters. The Artificial Neutral Network (ANN) is used in cases to provide extreme security. [15] The UAV is equipped with camera equipped with cameras can capture images or videos to track targets such as people, vehicles or specific areas. In terms of ambient data and code driven connection now reach half of the world's population projecting previously unimaginable potential as well as unexpected risks. AI presents many advantages and applications in a variety of areas, cyber security being one of them. With fast-evolving cyber attacks and rapid multiplication of devices happening today, AI and machine learning can help to keep abreast with cybercriminals, automate threat detection, and respond more effectively than conventional software-driven or manual techniques

AI in Education

[16] AI has already been applied to education primarily in some tools that help develop skills and testing systems. AL based tools support learning sciences and these tools makes the understanding about the questions that are under investigation better. ITS provides a lot of flexibility in terms of material presentation and a lot of flexibility in terms of student's unique requirement.[17] By using AI platforms, teachers are able to perform different administrative functions, such as evaluating marks more effectively and efficiently which saves time and develops a higher standard in their teaching. [18] Adjusting learning based on an individual student's particular needs has been a priority for educators for years, but AI will allow a level of differentiation that's impossible for teachers who have to manage 30 students in each class. There are several companies. Students from different countries can learn and experience different cultures. AI can help in in-person online learning which helps the instructor to bridge the gap between the educator and the learners. AI has become one of the most fundamental, widespread and inescapable feature of daily lives, despite of its frequently concealing nature, from Siri to auto- journalism, from stock market forecast to crime prediction by facial recognition to medical diagnosis and beyond.

Advantages of AI

[19] AI has one of the most important advantage that its decisions are not based on emotions. On the other hand, even if humans make their utmost effort the decisions are still affected in a negative wat by emotions. [20] AI provides endurance, dependability and economical way and speed in solving the problems or giving a decision. It also deals with qualitative as well as quantitative data. It can also judge and anticipate traffic conditions. [21] AI has full capability in detecting faults or errors in

a building energy system and learn different patterns from the data. Daily applications such as Apple's Siri, Window's Cortana, Google's OK Google are frequently used in our daily routine whether it is for searching a location, taking a selfie, making a phone call, replying to a mail and many more. [22] To achieve clinically useful systems, both clinicians and technicians must cooperate to mitigate AI drawbacks. Although most of the current technological effort has been focused on creating more precise polyp detection and classification tools, it remains a long path to be covered before adopting AI-based technology into the physician's daily work as an assistive tool for diagnosis decisions.[23] It has been applied in various fields such as engineering, economics, linguistics, law, manufacturing and medicine. Two sectors that are greatly served by the development of AI are library and Information Science. There is also a well organised expert system for Information processing and management. It has also been installed in business, industrial, military, scientific sectors, academic and research organizations. An Average human will work for 4–6 hours a day excluding the breaks. Humans are built in such a way to get some time out for refreshing themselves and get ready for a new day of work and they even have weekly offed to stay intact with their work-life and personal life. But using AI we can make machines work 24x7 without any breaks and they don't even get bored, unlike humans.

Challenges or Dis-advantages of AI

[24] These are difficult to develop because the equipment required really expensive. It takes a large amount of time and cash to create, rebuild, and repair.[25] Deep AI solutions highly rely on Graphical Processing Units for fast processing. Processing Units is incredibly slow and hence unfeasible. AI is updating every day the hardware and software need to get updated with time to meet the latest requirements. Machines need repairing and maintenance which need plenty of costs. It' s creation requires huge costs as they are very complex machines. [26] It can be used for mass scale destruction, increases unemployment, requires a lot of money and time, sometimes lacks in creativity. Due to lack of activities younger generation becomes lazy. [27] Most of the AI related ideas are implemented at the professional level, the idea of AI attaching more importance to integrating AI into business English education than in government and schools. [28] It disconnects students from teachers because it lacks emotions. Teachers fear their positions will be taken by the robots but robots cannot closely monitor the students personally in their classes. It lacks in the quality of team management. They cannot replace humans because they cannot make a bind with them this is the most important quality for team management. Machines can perform only those tasks which they are designed or programmed to do, anything out of that they tend to crash or give irrelevant outputs which could be a major backdrop

Challenges or Dis-advantages of AI

It the side of our life which always surprises us with new ideas, innovations, topics, etc. We have researched about a lot of topics in AI such as growth, healthcare, education, security, manufacture and production. Some of the experts predict that AI can do better than humans as it has a lot of advantages but there are also some disadvantages. This is not the end of the topic there is a lot more, who knows what standards will AI reach up to and surprise us. Artificial Intelligence (AI) is a broad branch of computer science that is focused on a machine's capability to produce rational behavior from external inputs. The goal of AI is to create systems that can perform tasks that would otherwise require human intelligence. It identifies patterns, analyses past data to infer the meaning of these

data points to reach a possible conclusion without having to involve human experience. This automation to reach conclusions by evaluating data, saves a human time for businesses and helps them make a better decision. If AI were to develop to the point that it can do everything better than humans, it would mean that it would also do better in science and technology. It may decide that it is no longer worthwhile to develop a certain field of research – or it may decide space travel is a waste of time as long as humans on earth are living in poverty and more than a billion people have no access to clean drinking water. Most scenarios about future AI are hypothetical, but AI presents us with existential questions. It shows that where science stops, philosophy and spirituality begin.

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