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Artificial Intelligence and Machine Learning: A New Era in Technology

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INTRODUCTION

Artificial intelligence or AI is the simulation of human intelligence by software coded heuristics. Artificial intelligence has the power to aggregate and harness the potential of thousands of human minds put together.

In addition, it is devoid of emotions and conflicting feelings that operate between human interaction, so it's much faster and devoid of human errors like that caused by tiredness or fatigue. It is fast at work and is not subject to procrastination.

Neural networks and machine learning are machines trained to function like human beings with algorithms, statistical software's, natural language processing and robotics are machines that assist human activities with repetitive tasks be in surgeries or house chores.

Artificial intelligence is of three types based on capability design- artificial narrow intelligence where a machine is designed for one type of program and functions to solve one problem. Artificial general intelligence is programmed to function as a human intellect can normally function. Artificial super intelligence is far smarter than human brain in every field.

Based on functionalities artificial intelligence is broadly categorised into four categories, reactive machines, mind AI, limited memory AI, self-aware AI.

Artificial intelligence is important in commerce, planning inventory management, guiding buyers and sellers through the updated products of their choice. Artificial intelligence can be used both for positive and negative impact on human beings. No computer can be superior to man no matter how fast or how efficient it is because man is the designee and creator of all machines. How human beings regulate the use of machines will finally dictate to what extent it is of use to mankind. Some of the examples of artificial intelligence in day-to-day life involves face recognition, voice recognition, language translation, photography, driving smart cars, entertainment and social applications, digital assistant, phones, gadgets, Google predictive search algorithms, commerce and banking. In health care sector, artificial intelligence is used to develop new drugs, medicines, vaccines, diagnose diseases, molecular diagnostics, and provide personalized care.

In the most basic concept, a chatbot is a computer algorithm that uses human cues of speech, written messages or other forms of communication to interact with human beings. Robots can perform tasks done by intelligent human beings.

METHOD

All the available data on the internet and latest journals were searched thoroughly and information collected about generative AI.

They were then analysed and new data and results were synthesized. These are depicted in the results section and in the form of graphs, charts, diagrams, and tables. AI is a program that can sense, reason, act and adapt.

Machine learning are algorithms whose performance improve as they are exposed to more data overtime.

Deep learning is a subset of machine learning in which multi-layered neural networks learn from vast amounts of data.

RESULTS

AI technology landscape involves neuromorphic computing, cognitive cybersecurity, robotic personal assistants, autonomous surgical robot, next gen cloud robotics, thought controlled gaming, real time universal translation, virtual companions, real time emotional analytics, chatbots, natural language processing, pattern recognition, neural networks, deep learning, machine learning, autonomous systems. It includes facial recognition, speech processing and recognition, data ingestion, quantum computing, deep learning, automate tasks, cloud computing, chatbots.

Latest AI technologies are natural language generation, speech recognition, virtual agents, decision management, biometrics, robotic process automation, machine learning, peer to peer networking, computer vision where computers are trained to analyse the visual world and react appropriately.

Some other technologies are Generative AI, UX driven AI, AI healthcare, computer vision, AI powered cybersecurity, manufacturing hyperautomation, AI complaince and ethics. To a limited extent AI and machine learning can be designed to process human emotions and empathy but being machines they are not prone to inherent reactive emotions as in man. AI can analyse vast amounts of data, deep learning in very little time. These can be useful in educational institutions for generating results. It can be useful for school administrators and decision makers. AI powered sensors enable users to operate their smart home devices from afar.

ChatGPT (Generative Pretrained Transformer) processes requests and generates answers. It is trained by human feedback and reward models to generate a plausible answer.

The disadvantages of artificial intelligence are loss of creativity, loss of emotions and empathy, lack of overall, well rounded, responsible, accountable outputs. The skill loss of human beings associated with increased use of computers and machine learning, loss of jobs, and eventually loss of ingenuity of man if AI is not used thoughtfully.

FUTURE OF AI

The predictive model for future health care envisages AI and robotic systems in three distinct dimensions, the task dimension, the use dimension and the technology dimension.

Task dimension is classified according to the degree of autonomy into technology assistance, task autonomy, conditional autonomy, high autonomy.

Use dimension is classified according to application area and care settings. Application areas include surgery, rehabilitation, telemedicine, prediction and precision medicine, health care administration. Care settings include longer term approach and short-term approaches.

Technology dimension is classified into two types, the type of system and degree of intrusion into patient. Type of system includes physical system, virtual system, hybrid system. Degree of intrusion into patient include inside the body, on the body or outside the body.

AI with devise the educational strategies to conform to the learning styles for individual student. Health care diagnostic sector will be dominated by AI. AI is going to take over the fields of teaching, transport, cybersecurity, industrialization, health care, 3D printing. Intelligent adaptive learning system, human machine interaction system is the future of AI

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