A Research Paper on AI

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Abstract: *In the future, intelligent machines will replace or enhance human capabilities in many areas. Artificial intelligence is the intelligence exhibited by machines or software. It is the subfield of computer science. Artificial intelligence is becoming a popular field in computer science as it has enhanced the human life in many areas. Artificial intelligence in the last two decades has greatly improved performance of the manufacturing, service sector and so in the field of education. Study in the field of artificial intelligence has given rise to the rapidly growing technology known as expert system. Application areas of artificial intelligence is heaving a huge impact on various fields of life as expert system is widely used in these days to solve the complex problems in various areas as education, engineering, business, medicine, weather forecasting etc. The areas employing the technology of artificial intelligence have seen an increase in the quality and efficiency. This paper gives an overview of this technology and the scope of artificial intelligence in different areas with special reference to the use of this technology in the field of education along with its meaning, searching techniques, inventions and future.*

Keywords: Algorithm, Machine learning (ML), Deep Learning, Neural Network, Natural Language Processing (NLP,), Computer Vision Reinforcement Learning, Supervised Learning, Unsupervised Learning, Semi-Supervised Learning, Generative AI, Artificial Neural Networks (ANN) etc.

I. INTRODUCTION

Artificial intelligence is a debatable subject because it involves topics like brain architecture and human intelligence, which we humans are oblivious to yet. Artificial intelligence is commonly used in computer systems using programs with proper computer hardware. Therefore, it generally looks like a science illusion story to unknowns. Artificial intelligence is sometimes called machine intelligence. Security and optimal performances can be improved and physical assets or oilfield equipment readily available through mobile asset tagging (Murray et al., 2006). LISP (List and Symbol Processing) and PROLOG (Logic Programming) are examples of that. Artificial intelligence studies are divided into two main categories: (ANNs) and classical Artificial intelligence (Gharbi and Mansoori, 2005). Artificial intelligence is one type of system which makes the computer and machine respond the same as human intelligence (Dodiya and Shah, 2021). Artificial intelligence techniques follow human-like capabilities e.g.: reasoning and learning. The reasoning is very much practical as the repetition and complexity of data increases. Artificial intelligence is a complex subject. It involves human intelligence and things that humans do not comprehend. Artificial intelligence has many definitions, but each definition interprets only one thing. Artificial intelligence is tolerated from two conditions: small number and more number of definitions (Agwu et al., 2018). Artificial intelligence can be described as the ability to understand and retain it as knowledge within the environment for context. Artificial intelligence is imitating human intelligence by machines and computer systems (Desai and Shah, 2020; Panchiwala and Shah, 2020; Thakkar et al., 2020).Artificial Intelligence can be classified as weak and strong. A weak Artificial intelligence system is which is trained and designed for a particular task. Strong artificial intelligence is the system with generalized human awareness when presented with an unfamiliar solution without human intercession. The artificial intelligence process goes in a direction; one is pure science, which is related to understanding and developing the true mechanisms of natural intelligence. That Interpretation gives information about the machine that can emulate the people's performance, which humans consider as intelligence. Artificial intelligence methods are classified into four main categories: particle swarm optimization,

evolutionary intelligence algorithms, fuzzy logic, and artificial neural networks (Rahmanifard and Plaksina, 2019). Artificial Neural networks, fuzzy logic, Knowledge-based systems, expert systems and genetic algorithms, and others are new artificial intelligence techniques that are very useful in data analysis and applied in the prediction process, diagnostic and no lineal complex transforms with a high degree of uncertainty (Tapias et al., 2001). After getting information about artificial intelligence, the research has been started in the direction of how it is applied in human life.The recent basis of development and studies prove that artificial intelligence can improve the working capacity and helpful in all the petroleum sectors. In past years the Artificial Neural Network developed very quickly. Its approach is based on the human biological system. Artificial neural networks used to predict bubble point pressure of crude oils, determine water-oil relative permeability of reservoirs, and produce hydrocarbons from the shale reservoir. Fuzzy logic has been used in several petroleum engineering-related applications. These include reservoir characterization, enhanced oil recovery, infill drilling, well stimulation, etc.The application of Artificial intelligence tools such as fuzzy logic and neural networks is evolving as oilfield technology. In 1996 PRRC researchers used fuzzy logics to compute the significance of mini-permeameter permeability measurement. One of the goals of artificial intelligence in upstream operations is personnel strategy optimization to minimize risk. Artificial intelligence can affect drilling space positively. There are many advantages of artificial intelligence in the petroleum industry.

HIGHLIGHT

- Automation: AI automates repetitive and complex tasks, increasing efficiency and reducing human error.
- Machine Learning: AI's ability to learn from data, identify patterns, and make decisions with minimal human intervention.etc
- Working stages:-Data Collection: Gathering raw data from various sources for training the AI model.
- Data Preparation: Cleaning, processing, and organizing data to ensure it is suitable for analysis.
- Feature Engineering: Selecting, modifying, and creating relevant features from the data that will help the model make predictions.
- Model Selection: Choosing the appropriate AI model or algorithm based on the problem (e.g., classification, regression, clustering).

II. CONCLUSION

The field of artificial intelligence gives the ability to the machines to think analytically, using concepts. Tremendous contribution to the various areas has been made by the Artificial Intelligence techniques from the last 2 decades. Artificial Intelligence will continue to play an increasingly important role in the various fields. This paper is based on the concept of artificial intelligence, scope of artificial intelligence in different areas with special to "the field of education". As all know artificial intelligence is intelligence behavior of machines which is given by the professional. As you all know artificial intelligence have simplified our life in every aspect it can be article writing or game playing or taking any important decision. In any machine many experts mind can be combined which is more powerful than a single expert mind. Many labors work can be done by a single machine and good thing of it is that it never tired. Now such types of robots are going to make which have emotions it will finish the loneliness of the person.

But it has another aspect that is can be dangers for us. If we become completely dependent on that machines than it can ruin our life as we do not do any work ourselves and got lazy. And another is that it cannot give the feeling like human. So machines should be used only where there those are actually required.

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