IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Review Study Of Artificial Intelligence

Shrutika Sanjiv Padalkar
Department of IT
GMVCS Tala
University of Mumbai

Ashwini Dattatray Salunke
Department of IT
GMVCS Tala
University of Mumbai

Kaustubh Pradip Mekde
Department of IT
GMVCS Tala
University of Mumbai

Prof Neeharika Nutan Adulkar
Assistant professor GMVCS & GMVIT
University of Mumbai

Abstract :- AI has received increased attention from the information systems (IS) research community in recent years. There is, however, a growing concern that research on AI could experience a lack of cumulative building of knowledge, which has overshadowed IS research previously. This study addresses this concern, by conducting a systematic literature review of AI research in IS between 2005 and 2020. Today, the amount of data that is generated, by both humans and machines, far outpaces humans' ability to absorb, interpret, and make complex decisions based on that data. Artificial intelligence forms the basis for all computer learning and is the future of all complex decision making. This paper examines features of artificial Intelligence, introduction, definitions of AI, history, applications, growth and achievements.

Keywords :- Machine learning, artificial neurons (neural computer networks), Natural Language Processing, Machine vision and Knowledge Base System

INTRODUCTION

Artificial intelligence (AI) is a computer science specialty that enables machines to perform tasks that typically require human intelligence. . It is the study of ideas which enable computers to do the things that make people seem intelligent. The central principles of AI include such as reasoning, knowledge, planning, learning,communication, perception and the ability to move and manipulate objects. It is the science and engineering of making intelligent machines, especially intelligent computer programs.

I. Machine Learning

Machine learning (ML) is a subset of artificial intelligence (AI) that allows machines to learn and improve from experience without being explicitly programmed. There are various machine learning algorithms, such as Unsupervised Learning, Supervised Learning, and Reinforcement Learning. In Unsupervised Learning, the algorithm does not use classified information to act on it without any guidance. In Supervised Learning, it deduces a function from the training data, which consists of a set of an input object and the desired output. Reinforcement learning is used by machines to take suitable actions to increase the reward to find the best possibility which should be taken in to account.

II. Neural Networks:

NNs are biologically inspired systems consisting of a massively connected network of computational "neurons," organized in layers. By adjusting the weights of the network, NNs can be "trained" to approximate virtually any nonlinear function to a required degree of accuracy. NNs typically are provided with a set of input and output exemplars. A learning algorithm (such as back propagation) would then be used to adjust the weights in the network so that the network would give the desired output, in a type of learning commonly called supervised learning.

III. Natural Language Processing

In NLP, the audio of a human talk is captured by the machine. Then the audio to text conversation occurs, and then the text is processed where the data is converted into audio. Then the machine uses the audio to respond to humans. Applications of Natural Language Processing can be found in IVR (Interactive Voice Response) applications used in call centres, language translation applications like Google Translate and word processors such as Microsoft Word to check the accuracy of grammar in text. However, the nature of human languages makes the Natural Language Processing difficult because of the rules which are involved in the passing of information using natural language, and they are not easy for the computers to understand. So NLP uses algorithms to recognize and abstract the rules of the natural languages where the unstructured data from the human languages can be converted to a format that is understood by the computer.

IV. Machine Vision

Machines can capture visual information and then analyze it. Here cameras are used to capture the visual information, the analogue to digital conversion is used to convert the image to digital data, and digital signal processing is employed to process the data. Then the resulting data is fed to a computer. In machine vision, two vital aspects are sensitivity, which is the ability of the machine toperceive impulses that are weak and resolution, the range to which the machine can distinguish the objects. The usage of machine vision can be found in signature identification, pattern recognition, and medical image analysis, etc.

V. Knowledge base system

A KBS can be defined as a computer system capable of giving advice in a particular domain, utilizing knowledge provided by a human expert. A distinguishing feature of KBS lies in the separation behind the knowledge, which can be represented in a number of ways such as rules, frames, or cases, and the inference engine or algorithm which uses the knowledge base to arrive at a conclusion.

❖ Language understanding

The ability to "understand" and respond to the natural language. To translate from spoken language to a written form and to translate from one natural language to another natural language.

1. Speech Understanding
2. Semantic Information Processing (Computational Linguistics)
3. Question Answering
4. Information Retrieval
5. Language Translation

❖ Problem solving

Ability to formulate a problem in a suitable representation, to plan for its solution and to know when new information is needed and how to obtain it.
1. Inference (Resolution-Based Theorem Proving, Plausible Inference and Inductive Inference)
2. Interactive Problem Solving
3. Automatic Program Writing
4. Heuristic Search

❖ For Entertainment

We can apply artificial intelligence to the world of music, can make artificial director which see the real world and can generate the stories. We can make the robots which compose music and pitch and robots can create your favorite songs. New technology is also able to restore to life of that stars which are dead like Tupac Shakur and Michael Jackson etc.

❖ Games

The ability to accept a formal set of rules for games such as Chess, Go, Kalah, Checkers, etc., and to translate these rules into a representation or structure which allows problemsolving and learning abilities to be used in reaching an adequate level of performance.

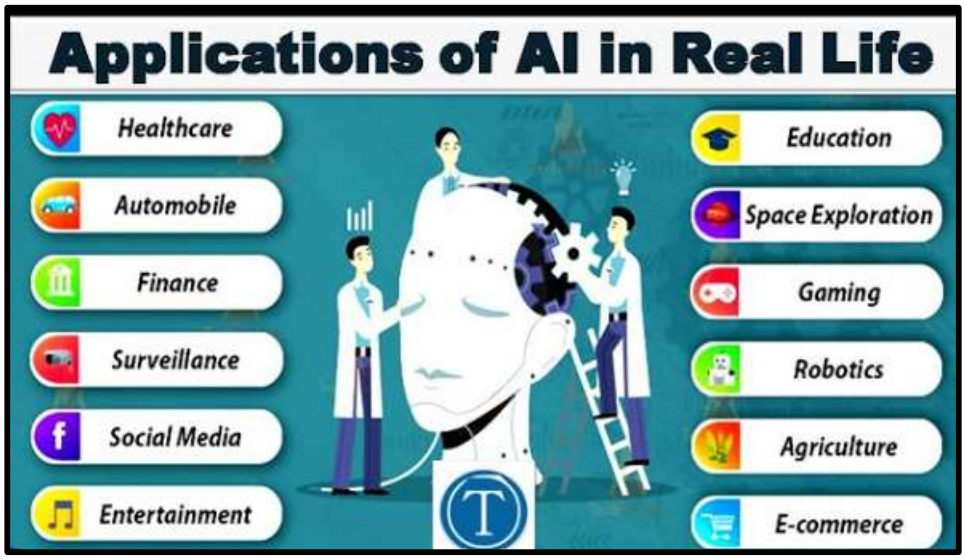
❖ For providing services to customers

Now a day's, for providing services to the customer artificial intelligence is using in place of human being. When any person does calculation like preparing bill, handling account information he can do calculation error but machine do calculation properly and no mistake is done by the machine. Artificial intelligence also has a component that is natural language processing with the help of which human being can directly communicate with machine in their natural language and can get services directly.

Applications of AI

Artificial intelligence (AI) applications are software programs that use AI techniques to perform specific tasks. These tasks can range from simple, repetitive tasks to complex, cognitive tasks that require human-like intelligence.

Following are some sectors which have the application of Artificial Intelligence:



- **The future of AI**

  It is true that many experts are doing research in the field of Artificial intelligence and in future machines will become more and more powerful. But anything which has advantages there exist disadvantages also so there can be ethical issues related to machines. For example, if any machine is made for very sensitive work and did any mistake than who will be responsible. If an AI program is made for diagnosis purpose and it gives the wrong answer, then we cannot claim the doctor for it. So for it policy will have to make. And in future such kind of machines will be developed which will communicate with us same like the human and will be able to guess what should be done in which situation.

CONCLUSION

Explain why AI is a significant topic. You could discuss its impact on society, economy, or technology, or its potential for future advancements. The ultimate goal of institutions and scientists working on AI is to solve majority of the problems or to achieve the tasks which we humans directly can't accomplish.

REFERENCES:-

1. Deepa SN, Aruna Devi B. A survey on artificial intelligence approaches for medical image classification, Indian Journal of Science and Technology, 2011; 4(11).
2. Ramesh N, Kambhampati C, Monson JRT, Drew PJ. Artificial intelligence, 2004.