Study on Artificial Intelligency and it's application

[1]Dr. Anju
[2]Assistant Professor, Department of Computer Science, Om Sterling Global University, Hisar, Haryana (India)
Corresponding author Email: anjupanwar2793@gmail.com

Abstract: It is the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence, but AI does not have to confine itself to methods that are biologically observable. While no consensual definition of Artificial Intelligence (AI) exists, AI is broadly characterized as the study of computations that allow for perception, reason and action. 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.

[Anju. **Study on Artificial Intelligency and it's application**. *The International Journal of Interpretation, Observation and Analysis*, 2024; Volume 2, Issue 1:8-10. (April-June). ISSN 2349-0713, Peer-reviewed (online/offline), Refereed, Indexed and International Journal (Since 2013), Global Impact Factor: 5.776

Keywords: REVIEW OF LITERATURE, MANAGEMENT OF EARNINGS, CORPORATE SECTOR

Introduction: Artificial intelligence (AI) refers to computer systems capable of performing complex tasks that historically only a human could do, such as reasoning, making decisions, or solving problems.

Today, the term "AI" describes a wide range of technologies that power many of the services and goods we use every day – from apps that recommend TV shows to chatbots that provide customer support in real time. But do all of these really constitute artificial intelligence as most of us envision it? And if not, then why do we use the term so often?

In this article, you'll learn more about artificial intelligence, what it actually does, and different types of it. In the end, you'll also learn about some of its benefits and dangers and explore flexible courses that can help you expand your knowledge of AI even further.

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.

WORKING OF ARTIFICAL INTELLIGENCE

AI is frequently misdirected on an island with machines and self-driving cars, according to general belief. This method, however, manages one of artificial intelligence's most important practical uses. Analyzing the huge volumes of data made every day. Insight meeting and job automation may be complete at apreviouslyinconceivable speed and scale by carefully applying AI to certain activities. AI systems executere finedsearches through the mountains of data created by people, deciphering both text and movies to detect patterns in difficult data and then performing on their findings. Computer systems that can hold the meaning of human language, learn from knowledge, and make predictions, thanks to cutting-edge tools.

Applications of artificial intelligence (AI)

Artificial Intelligence in the form of neural networks and expert systems has applications in almost all human activities. The combination of high precision and low computation time makes AI a cutting edge technology. Robot ES‟ s are already taking over workshop level jobs in large industries, thus side lining humans into a more supervisory role. Stock brokerage firms are now using Artificial Intelligence to analyze data, make analysis and buy or sell stocks without the interference of any human beings. Some

of the applications of Artificial Intelligence are as follows:

- **Natural language processing (NLP)**: NLP allows computers to understand and generate human language. This technology is used in a variety of applications, such as machine translation, spam filtering, and sentiment analysis.
- **Computer vision**: Computer vision allows computers to identify and interpret visual content. This technology is used in a variety of applications, such as self-driving cars, facial recognition, and object detection.
- **Machine learning (ML)**: ML allows computers to learn from data and improve their performance over time. This technology is used in a variety of applications, such as predictive analytics, fraud detection, and recommendation systems.
- **Robotics**: Robotics is the branch of AI that deals with the design, construction, and operation of robots. Robots are used in a variety of applications, such as manufacturing, healthcare, and space exploration.

AI in business intelligence

AI is playing an increasingly important role in business intelligence (BI). AI-powered BI tools can help businesses collect, analyze, and visualize data more efficiently and effectively. This can lead to improved decision-making, increased productivity, and reduced costs.

Some of the ways that AI is being used in BI include:

- **Data collection**: Collecting data from a variety of sources, including structured data (for example, databases) and unstructured data (for example, text documents, images, and videos)
- **Data analysis**: To analyze data and identify patterns, trends, and relationships
- **Data visualization**: AI can help create visualizations that make it easier to understand data
- **Decision-making**: Insights and recommendations generated by AI models can help drive data-driven decision-making for businesses

AI in healthcare

AI is also playing an increasingly important role in healthcare. AI-powered tools can help doctors diagnose diseases, develop new treatments, and provide personalized care to patients. For example:

- **Disease diagnosis**: AI can be used to analyze patient data and identify patterns that may indicate a disease. This can help doctors diagnose diseases earlier and more accurately.
- **Treatment development**: By analyzing large datasets of patient data, AI can identify new patterns and relationships that can be used to develop new drugs and therapies.
- **Personalized care**: By analyzing a patient's data, AI can help doctors develop treatment plans that are tailored to the patient's specific needs.

AI in education

AI could be used in education to personalize learning, improve student engagement, and automate administrative tasks for schools and other organizations.

- **Personalized learning**: AI can be used to create personalized learning experiences for students. By tracking each student's progress, AI can identify areas where the student needs additional support and provide targeted instruction.
- **Improved student engagement**: AI can be used to improve student engagement by providing interactive and engaging learning experiences. For example, AI-powered applications can provide students with real-time feedback and support.
- **Automated administrative tasks**: Administrative tasks, such as grading papers and scheduling classes can be assisted by AI models, which will help free up teachers' time to focus on teaching.

AI in finance

AI can help financial services institutions in five general areas: personalize services and products, create opportunities, manage risk and fraud, enable transparency and compliance, and automate operations and reduce costs. For example:

- **Risk and fraud detection**: Detect suspicious, potential money laundering activity faster and more precisely with AI.
- **Personalized recommendations**: Deliver highly personalized recommendations for financial products and services, such as investment advice or banking offers, based on customer journeys, peer interactions, risk preferences, and financial goals.
- **Document processing**: Extract structured and unstructured data from documents and analyze, search and store this data for document-extensive processes, such as loan servicing, and investment opportunity discovery.

AI in manufacturing

Some ways that AI may be used in manufacturing include:

- **Improved efficiency**: Automating tasks, such as assembly and inspection
- **Increased productivity**: Optimizing production processes

- **Improved quality**: AI can be used to detect defects and improve quality control

Additional AI applications

In addition to the applications listed above, AI is also being used in a variety of other industries, including:

- **Retail**: AI is being used to personalize the shopping experience, recommend products, and manage inventory
- **Transportation:** AI is being used to develop self-driving cars and improve traffic management
- **Energy**: AI is being used to improve energy efficiency and predict energy demand
- **Government**: AI is being used to improve public safety, detect crime, and provide citizen services

Conclusion

The computing world has a lot to gain or benefits from various AI approaches. Their ability to learn by example makes them very flexible and powerful. Furthermore there is no need to devise an algorithm in order to perform a specific task i.e. there is no need to understand the internal mechanisms of that task. They are also very well suited for real time systems because of their fast response and computational times which are due to their parallel architecture. The goal of artificial intelligence is to create computers whose intelligence equals or surpasses humans. Achieving this goal is the famous "AI problem from last decade researchers are trying to close the gap between human intelligence and artificial intelligence. Till now we have discussed in brief about Artificial Intelligence. We have discussed some of its principles, its applications, its achievements etc.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. It is for sure that development in this field of computer science will change the complete scenario of the world Now it is the responsibility of creamy layer of engineers to develop this field.

References

[1] George F Ludger "Artificial Intelligence - Structures and strategies for complex problem solving" 5th Edition, Pearson, 2009.

[2] Girish Kumar jha, "Artificial Neural Networks and its applications" international journal of computer science and issues 2005.

[3] Nils J Nilsson American Association for Artificial Intelligence" AI magazine 2005.

[4] Xindong Wu, Senior Member, IEEE "Data Mining: An AI Perspective" vol.4 no 2 (2004)

[5] Satvika Khanna et al. "Expert Systems Advances in Education" NCCI 2010 -National Conference on Computational Instrumentation CSIO Chandigarh, INDIA, 19-20 March 2010

[6] Kaijun Xu." Dynamic neuro-fuzzy control design for civil aviation aircraft in intelligent landing system. Dept. of Air Navig. Civil Aviation Flight Univ. of China 2011.

[7] Eike.F Anderson.,"Playing smart artificial intelligence in computer games" The National Centre for Computer Animation (NCCA) Bournemouth University UK.

[8] K.R. Chaudhary "Goals, Roots and Sub-fields of Artificial Intelligence. MBM Engineering College, Jodhpur, India 2012