IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 2, March 2022
Impact Factor: 6.252

Proposes of Artificial Intelligence and its Benefits in Various Fields

Dr. Savyasachi
Assistant Professor, Department of Information Technology
L N Mishra College of Business Management, Muzaffarpur, Bihar, India

Abstract: *You must be aware of how artificial intelligence (AI) is changing the way we live and work. It is capable of learning, reasoning, and self-correction. Since it has become a master with its applications, we, in this paper will learn that how it is advancing rapidly. It has improved data efficiency by starting with the identifying pattern. Agricultural techniques and irrigation are being automated at a rapid rate. Humans were able to land on anything artificial after following the reasoning procedure. The simulation of human intellectual processes by machines, particularly computer systems, is referred to as this intelligence. Learning, reasoning, and self-correction are examples of these processes. Expert systems, speech recognition, and machine vision are among its applications. Artificial Intelligence is rapidly progressing. Our world is already changing as a result of it.*

Keywords: Artificial intelligence, strong AI, weak AI, Healthcare, Education, Autonomous Vehicles, Tourism, Social media.

I. INTRODUCTION

Artificial intelligence (AI) the ability of a digital computer or a computer-controlled robot to do tasks that would normally be performed by intelligent beings. The phrase is widely used to refer to a project aimed at creating systems with human-like cognitive abilities, such as the ability to reason, discern meaning, generalise, and learn from past experiences. Since the invention of the digital computer in the 1940s, it has been proved that computers can be programmed to perform extremely complicated jobs with ease, such as finding proofs for mathematical theorems or playing chess. Despite ongoing increases in computer processing speed and memory capacity, no programmes have yet to equal human flexibility across broader areas or in activities requiring a great deal of common knowledge. Some programmes, on the other hand, Artificial intelligence is used in applications as diverse as medical diagnosis, computer search engines, and voice or handwriting recognition.

II. TYPES OF ARTIFICIAL INTELLIGENCE

We will now cover the many types of artificial intelligence in the AI applications topic. This vast is divided into numerous categories to aid in your understanding.

2.1 Weak AI

Narrow AI is another name for weak AI. It's an artificial intelligence system that's been created and trained to perform a specific task. Siri and Alexa, for example, are AI that aren't very good. Unsupervised programming is used to categorise the information.

Because they have pre-programmed reflexes, they label objects accordingly. So, when you tell Alexa to play the music, pay attention. The algorithm will play a song in response, but it will only do so because of its programming.

2.2 Strong AI

Strong AI, often known as artificial general intelligence, is more like the human brain. It possesses cognitive abilities that aid in the execution of new tasks and commands. It can solve a problem without relying on a pre-programmed

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 2, March 2022
Impact Factor: 6.252

algorithm. Strong AI can be seen in visual acuity, speech recognition, decision-making, and language translation Furthermore, Artificial Intelligence is divided into four classes based on its functions, as follows:

Reactive Machines: Reactive machines make decisions based on their previous actions. They don't draw on previous experiences, and they can't get better with practise. Reactive robots merely sense and react to their surroundings. They have no memory and are unable to draw on previous experiences to help them make better decisions in the future.

Limited Memory: Imitating mental models, such as the human brain, is central to theory of mind. It constructs world representations based on ideas, emotions, and memories. This type of artificial intelligence is in the future and currently does not exist. Theory of Mind: Imitating mental models, such as the human brain, is central to theory of mind. It constructs world representations based on ideas, emotions, and memories. This Type of artificial intelligence is in the future and currently does not exist.

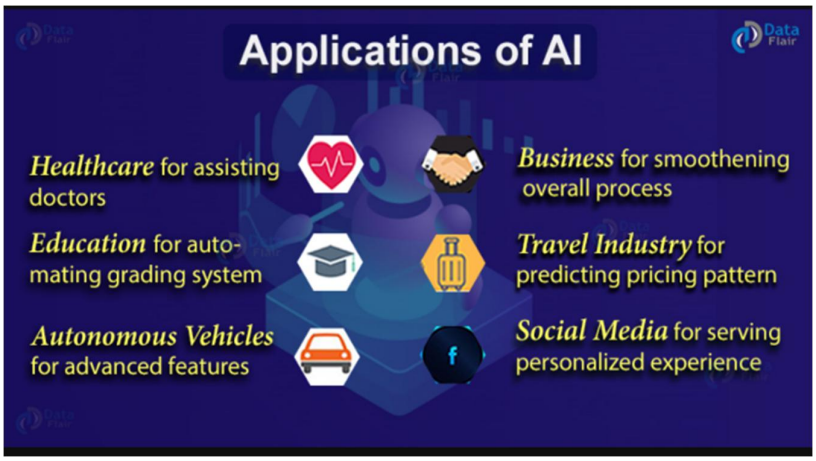

Figure 1: Showing the applications of Artificial Intelligence

III. Artificial Intelligence In Healthcare

In today's generation, this is the most crucial item that humans require. Health is wealth, and the pace at which people are sacrificing it is frightening. Human language is a boon for AI. It makes it easier to react to the questions that have been posed. It enables workflow advisors, which assist doctors in freeing up their schedules while also optimising processes to save time and money. They also provide new opportunities for the sector. As a result, AI-powered technology assists pathologists in assessing tissue samples and improving diagnosis accuracy.

1. It facilitates decision-making and research.
2. Assist in the integration of medical, software, and cognitive science activities.
3. Contribute to the development of a content-rich field for future scientific medical communities.

3.1 Clinical Decision Support

AI in healthcare could be valuable in clinical decision support, allowing doctors to make better judgments faster by recognising patterns of health difficulties considerably more accurately than the human brain can In a sector where the time taken and decisions made can have life-altering consequences for patients, the time saved and conditions diagnosed are critical.

3.2 Information Management

AI in healthcare is a fantastic addition to both physician and patient information management. Patients save time and money by going to doctors faster or not at all when telemedicine is used, relieving pressure on healthcare providers and boosting patient comfort. Doctors can also use AI-driven instructional modules to expand their knowledge and talents on the job, demonstrating the data management capabilities of AI in healthcare.

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 2, March 2022
Impact Factor: 6.252

3.3 Personalized Medicine

The ability to uncover therapy choices by analysing massive amounts of patient data. Through cloud-based technologies that can analyse natural language, the technology can identify therapeutic possibilities.

3.4 Drug Discovery

With pharma businesses able to incorporate cutting-edge technology into the expensive and time-consuming process of drug research, another great location for AI to slip in is drug discovery. When it comes to testing and identifying new medications, AI's advantages are immediately obvious, with a focus on time savings and pattern recognition. In the early stages of drug development, companies like Benevolent AI and Verge Genomics have been known to use algorithms to comb through large amounts of data for patterns that are too complex for humans to detect, saving time and allowing us to innovate in ways we might not have been able to otherwise.

IV. Artificial Intelligence In Education

Grading homework and assessments for large lecture courses must be exhausting for a teacher. Interacting with students, preparing for class, and working on professional development take up a large amount of time. This, however, will no longer be the case. Though it will never be able to completely replace human labour, it comes close. So, with the automated grading system, multiple-choice questions, fill-in-the-blank testing, and automated student grading may be completed in a flash. It can identify areas in which there is room for improvement .Many times, professors are unaware of any gaps in the lectures or instructional materials that a student may be experiencing. Students may become perplexed as a result of this. The AI system notifies the teacher and informs him or her of the problem. It sends students a personalised message with hints for the right response. As a result, this aids in filling up any explanation gaps that may arise during a course. It also ensures that all pupils have the same conceptual background.

4.1 Individualized Learning

Artificial Intelligence enables a student's particular demands to be prioritised. To provide more tailored courses, many large education platforms, such as Carnegie Learning, invest in AI. Individual instructions, testing, and feedback are all feasible these days. As a result, students study on subject that they are ready for and fill up the gaps in their knowledge. It may be able to scan and evaluate students' facial expressions as Artificial Intelligence improves. If the information is too difficult, the platform might alter the course to meet their requirements.

4.2 Voice Assistants

Voice assistants like Amazon Alexa, Apple Siri, and Google Home allow students to connect with a variety of learning resources without having to speak to a teacher. As a result, an education platform can be used anywhere and at any time. For example, Alexa is used by Arizona State University for everyday campus needs. The assistant can provide answers to typical questions as well as keep track of the student's schedule. Furthermore, learners find employing such aides to be highly intriguing and thrilling, thus they are more engaged in the educational process.

4.3 Existing AI Based Solutions In Education

In the education market, there are numerous tech-driven solutions. DreamBox, Khan Academy, Achieve3000, and many others are AI examples. These platforms can assess knowledge levels, allow backward communication, and develop a strategy for improvement, among other things.

- **Third Space Learning:** This system was developed with the assistance of London University College scholars and makes extensive use of Artificial Intelligence capabilities. The system can make suggestions for ways to improve teaching methods. The systems, for example, will give a message if the teacher speaks too quickly or slowly.

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 2, March 2022
Impact Factor: 6.252

- **Little Dragon:** It's a startup that uses Artificial Intelligence to make smart apps. These programmes may detect and alter the user interface based on the emotions of the users. The firm also creates instructional games for children.
- **Brainly:** It's a collaborative social network for students. Learners can, for example, discuss topics related to their assignments or gain new information from other students. The company leverages Machine Learning to give a better user experience. Machine learning aids in the detection of spam and unwanted information. AI is also utilised to provide more tailored materials.

V. Artificial Intelligence In Autonomous Vehicles

A lot of progress has been made in the autonomous vehicle area, with long-range radar, cameras, and LIDAR. These technologies are utilised in a variety of ways, and each one collects data in a different way. The data is useless unless it is processed, and no insights can be extracted from it. Artificial intelligence is employed in this context, and it can be compared to the human brain. Its applications in autonomous vehicles include:

- Directing the automobile to a gas station or recharge station when it runs out of gas.
- To discover the shortest route, adjust the trip's routes based on known traffic conditions.
- Incorporate speech recognition for improved passenger communication.
- Virtual help technology and natural language interfaces.

5.1 Sensor Data Processing

During operation, a variety of sensors provide data to the vehicle's central computer. Sensors offer data for the road as well as other vehicles on the route as well as any other barriers that can be detected in the same way that a human can (Khayyam et al., 2019). Some of these sensors may be able to provide superior perception than a person, but we'll need smart algorithms to decipher the data streams provided in real time.

Detecting and identifying objects ahead of and surrounding the vehicle is one of the most important jobs (Sagar and Nanjundeswaraswamy, 2019). The algorithms most commonly employed for this job are artificial neural networks (ANN). Because a neural network has several layers with many nodes, this field is also known as deep learning. Figure 2 depicts a deep neural network, albeit the number of nodes and layers in actuality can be much higher.

Machine learning techniques and, most likely, neural networks are used to classify objects in video data. Because we have a variety of sensors, it makes reasonable to have distinct hardware/software modules for each one. This method enables for concurrent data processing and, as a result, speedier decision-making. Each sensor unit can run its own AI algorithm and then relay its findings to the other devices or the central processing computer.

5.2 Path Design

Path planning is essential for optimising a vehicle's trajectory and resulting in better traffic patterns. This can help decrease traffic congestion and delays on the road (Abduljabbar and Dia, 2019). Artificial intelligence algorithms are well suited to the task of planning. It's a moving target.

When executing the path, a task that might take into account a large number of factors and solve an optimization problem. "Path planning for AVs enables self-driving vehicles to determine the safest, most convenient, and economically beneficial routes from point A to point B by using previous driving experiences that assist the AI agent make far more accurate decisions in the future," according to the definition.

5.3 Execution of a Path

As a result, several manufacturers have begun to split the problem down into smaller portions and address them one at a time, allowing them to achieve complete autonomy in smaller steps. In the sector, there are always startups and innovative enterprises attempting to tackle the complete problem. Self-driving challenge, with the goal of having fully operable vehicles on the road by 2020. The reality is significantly more difficult now, and many of the hurdles are due to

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 2, March 2022
Impact Factor: 6.252

AI's intrinsic shortcomings. As AI develops and improves, we will be closer to having safe and autonomous transportation. We'll need a lot of development and testing time till then, and adoption will be slow.

Figure 1: AI-Powered Autonomous car of the future

VI. Artificial Intelligence In Tourism

The travel and tourism sector is extremely competitive. You've probably noticed that prices fluctuate and alter frequently. You may have also purchased a plane ticket in advance or waited until the day before travel to locate cheaper prices. Everyone does it, but with AI, the struggle is reduced. The price can be forecasted using artificial intelligence-driven predictive analytics. The software can forecast price patterns and notify travellers when it is time to purchase tickets. As a result, you can find the best deal before booking your flights to your destination. On the basis of the data collected on each route, the pricing trend is examined. As a result, you'll be notified when it's time to book your flight. Thank artificial intelligence for booking it at the right time and at the right price.

VII. Artificial Intelligence In Social Media

Artificial Intelligence (AI) is a new trend in advertising and recommendation systems. It is effective at having an impression on social media by allowing businesses to discover, engage, and learn from their followers in a timely manner. There are numerous methods to summarise Artificial Intelligence; one of them is Social Artificial Intelligence, which allows you to collect and select user-generated content and data from social media channels based on your customer history. As a result, they are able to provide more relevant material, which ensures a better user experience for their followers.

Social networks are now investing in Social AI technologies. Many companies have yet to use social AI to engage their audiences, attract new customers, and analyse massive amounts of social data. The combination of artificial intelligence (AI) and marketing platforms like social media is rapidly proving to be one of the most significant breakthroughs in the world of digital marketing.

What is the impact of AI on social media marketing?

A strong and healthy balance between Human Intelligence and Artificial Intelligence is required.

Machines surpass people on some grounds, but humans exceed machines on others. Businesses will have a better grasp of the digital market by utilising Artificial Intelligence in social media.

Overall, social AI has the potential to improve the social experience. From facial recognition to tailored news feeds, the social network has already implemented Artificial Intelligence into its platform in a variety of unique ways.

VIII. Conclusion

To summarise, artificial intelligence has significantly enhanced people's lives in a variety of ways, and individuals are no longer the same as they were before AI was introduced. As previously said, AI deployment has resulted in time savings, which has resulted in higher output from enterprises and day-to-day human tasks. Furthermore, AI advancement

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 2, March 2022
Impact Factor: 6.252

has led to reduced human effort, computerised procedures, automated transportation systems, and participation in dangerous vocations. Evidently, AI has had a significant impact on people's lives and has done wonders to aid in the automation of practically all of their operations. The completion of several of these approaches involves a significant amount of time and manual labour. AI automation of these operations will significantly contribute to people's and industries' actual actions and enable progress. In this paper we showed the uses of artificial intelligence in various domains such as healthcare, education, tourism, social media and autonomous vehicles.

REFERENCES

[1]. Abdalla, A. M. B., Mustafa, M. A. M., Yousif, A. A. A., & Osman, M. A. A. A. (2016). Line Following Robotic Vehicle (Doctoral dissertation, Sudan University of Science and Technology).

[2]. Brynjolfsson, E., & McAfee, A. (2014). The second machine age: Work, progress, and prosperity in a time of brilliant technologies. WW Norton & Company.

[3]. Cunha, F., Villas, L., Boukerche, A., Maia, G., Viana, A., Mini, R. A., & Loureiro, A. A. (2016). Data communication in VANETs: Protocols, applications, and challenges. Ad Hoc Networks, 44, 90-103.

[4]. Frey, C. B., & Osborne, M. A. (2017). The future of employment: how susceptible are jobs to computerization?. Technological Forecasting and Social Change, 114, 254-280.

[5]. Frey, C. B., & Osborne, M. A. (2017). The future of employment: how susceptible are jobs to computerization?. Technological Forecasting and Social Change, 114, 254-280.

[6]. Gurkaynak, G., Yilmaz, I., & Haksever, G. (2016). Stifling artificial intelligence: Human perils. Computer Law & Security Review, 32(5), 749-758.

[7]. Harper, C. D., Hendrickson, C. T., & Samaras, C. (2016). Cost and benefit estimates of partially-automated vehicle collision avoidance technologies. Accident Analysis & Prevention, 95, 104-115.

[8]. Helbing, D., Frey, B. S., Gigerenzer, G., Hafen, E., Hagner, M., Hofstetter, Y., & Zwitter, A. (2017). Will Democracy Survive Big Data and Artificial Intelligence? Scientific American. Feb, 25.

[9]. Hussain, F., & Qamar, U. (2016). Identification and Correction of Misspelled Drugs Names in Electronic Medical Records (EMR). In ICEIS (2) (pp. 333-338).

[10]. N Ramesh, C Kambhampati, JRT Monson, PJ Drew, "Artificial intelligence in medicine", 2004.

[11]. Charles Weddle, Graduate Student, Florida State University "Artificial Intelligence and Computer Games", unpublished.

[12]. Fatai Adesina Anifowose, Safiriyu Ibiyemi Eludiora, "Application of Artificial Intelligence in Network Intrusion Detection", World Applied Programming, Vol (2), No (3), March 2012.