

FUTURE DIRECTION OF ARTIFICIAL INTELLIGENCE AND ITS IMPACT ON SOCIETY

Prerana Singh¹, Mahe Parah², Anirban Bhar³, Moumita Ghosh⁴

^{1,2} B. Tech student, Department of Information Technology, Narula Institute of Technology, Kolkata, India.

^{3,4} Assistant Professor, Department of Information Technology, Narula Institute of Technology, Kolkata, India.

ABSTRACT

Artificial intelligence (AI) is a multifaceted tool that allows individuals to reevaluate how we combine information, analyze data, and apply the ensuing insights to improve decision making. Already, AI is revolutionizing all facets of human life. Because of rising data volumes, improved algorithms, and modern civilization, artificial intelligence is advancing quickly. This essay tries to clarify and elucidate the relationship between artificial intelligence and innovative technologies, which in turn is resulting in a more developed and better society. AI can be applied in a variety of fields, including medical research and the accurate detection of health issues by computer algorithms. Aside from these, programmes like Spotify and Netflix also employ AI technology. This kind of AI will keep track of a user's routines and offer suggestions in light of their most recent activities.

Keyword: - Robust Datasets, Data Analysis, Artificial Intelligence, Innovative Technologies.

1. INTRODUCTION

A promising new technology that has enormous potential for Indian students is artificial intelligence. It is employed in a variety of industries, including agriculture, transportation, the automotive industry, and education, and it presents great opportunities through a variety of features like self-learning, mimicry, and reasoning. AI is helping people make decisions, comprehend data, and handle various modern scenarios. In this post, we discuss the advantages, practical applications, AI careers, potential future uses, and common employment role.

Artificial intelligence (AI) is a general term which refers to perform the task of human beings with the help of machine and technology. According to "Barr and Feigenbaum," AI is the part of computer science concerned with designing an intelligent computer system that exhibits characteristics we associate with intelligence in human behavior-understanding language, learning, reasoning, problem solving, and many more. Artificial intelligence is a transformative technology, which works in the field of computer science and emphasizes on the creation of an intelligent machine that works such as speech recognition, planning and problem solving, robots, games, and modelling.

In 1950, British mathematician Alan Turing posed this topic in a paper titled "Computing Machinery and Intelligence." In order to determine whether a machine is intelligent or not, he also published the Turing Test.

Numerous academics and mathematicians, besides Turing, were interested in this subject. In 1956, at a symposium, the phrase "artificial intelligence" was first used. Up until 1980, governments devoted a lot of attention to its growth. Because of lack of interest and sluggish progress, AI research came to an end during this time. But after a while, the work started up again. Garry Kasparov, a Russian grandmaster, was defeated by IBM's Deep Blue in 1997. Since then, AI has advanced significantly.

As AI is used more and more in many facets of society and across numerous industries, there are a growing number of difficult moral and ethical decisions that must be made. It has propelled the necessity for establishing a reasonable

balance between possibility of rapid advancement in the society taking help of AI and protection of privacy of personal data endangering societal normative values.

Although the effects of AI on our society have not yet had a significant impact, there are still many unanswered questions on our radar. If we do not think about these questions now for the society and wait until they become acutely relevant to the society, it may be too late to make any progress in answering them.

In this paper we have taken an attempt to project the good effects of AI on the society, challenges faced by the society by the applications of AI along with a comprehensive conclusion at the end.

2. HISTORICAL BACKGROUND

Since the 1950s, the idea of AI has been around. People back then had very high expectations for the success of AI in all spheres of society [1,2,3,4]. AI is viewed as a reliable method for issue solving without human assistance [5,6,7,8,9]. AI is typically thought of as a computer-centric technology capable of quickly and flawlessly resolving a variety of issues in difficult settings without even a small amount of human aid, which was previously thought to be a unique human treasure [10, 11, 12]. Applications of AI include the analysis of information, including personal information, for learning purposes and to make wise decisions on its own [13, 14, 15, 16]. As AI is used more and more in many facets of society and across numerous industries, there are a growing number of difficult moral and ethical decisions that must be made. It has increased the need for striking a fair balance between the possibilities of rapid societal growth using AI and the protection of personal data privacy compromising societal normative values [17, 18, 19, 20, 21]. Regarding India, the debate over privacy protection has picked considerable steam, especially in light of a recent ruling by the Indian Supreme Court. Although the effects of AI on our society have not yet had a significant impact, there are still many unanswered questions on our radar. If we do not think about these questions now for the society and wait until they become acutely relevant to the society, it may be too late to make any progress in answering them. In light of the foregoing, this article makes an effort to project the positive benefits of AI on society as well as the difficulties society has encountered as a result of the applications of AI. It also makes some recommendations and offers a thorough conclusion at the end.

3. IMPACT ON SOCIETY

The effects of artificial intelligence on civilization are hotly contested. Many contend that AI enhances daily life by performing commonplace and even complex jobs better than humans can, making life easier, safer, and more productive. The voice assistants on our mobile phones are one such example that we utilize on a regular basis. The gift of AI is voice assistants. Aside from this, AI has given us innovations like reusable rockets, humanoid robots, and self-driving automobiles. The use of AI has increased human inventiveness. Others contend that AI increases the risk of identity theft, exacerbates racism by standardizing people, and costs jobs to employees, increasing unemployment.

3.1 Negative impact

There will be a significant societal shift that will drastically alter how we live in the human community. Humanity must work hard to survive, but thanks to artificial intelligence, we can simply teach a computer to perform a task for us without even picking up a tool. The necessity for face-to-face interaction for the exchange of ideas will be replaced by AI, which will gradually reduce the closeness of human relationships. AI will act as a barrier between individuals as personal interactions will become unnecessary for communication.

The next is unemployment because a lot of jobs will be automated. The use of machines and robots on many modern auto assembly lines has resulted in the displacement of many conventional workers. Even at grocery stores, store employees will no longer be required since digital devices may replace human work.

As AI investors will receive the lion's share of profits, wealth disparity will be generated. The wealth disparity between the rich and the poor will increase. It will be easier to see the alleged "M" shape of wealth distribution.

As AI is trained and taught to perform a task, new concerns arise not only in the social sense but also in AI itself since it may eventually develop to the point where humans no longer have any control, leading to unexpected issues and repercussions. It refers to AI's ability to automatically act on its own course without following a command from a human controller once it has been loaded with all necessary algorithms.

AI may be developed by human creators with racial biases or selfish goals in mind, harming particular individuals or objects. For instance, the United Nations has decided to restrict the development of nuclear power out of concern that it could be used indiscriminately to eliminate humanity or to target particular races or regions in order to establish

dominance. It is theoretically feasible for AI to target a certain race or some programmed objects in order to carry out the programmers' instructions to destroy them, resulting in global catastrophe.

3.2 Positive impact

However, there are also a lot of benefits for people, particularly in the area of healthcare and other areas. AI enables computers to reason, learn, and use logic. Together, scientists, medical researchers, physicians, mathematicians, and engineers can create an AI that is focused on medical diagnosis and therapies, providing dependable and secure platforms for the delivery of healthcare and other fields.

Economical Impact: The next ten years will see tremendous growth as more industries use artificial intelligence; by 2025, the market for AI software is expected to be worth close to \$90 billion. Data scientists and business managers alike are drawn to AI's presence because they want to automate number crunching in order to make their companies more intelligent overall.

Environmental Impact: The large and diverse area of ecology relies around analysis and statistics for the advancement of research and technology, and hence outcomes. Because of the complexity of different ecological systems, both researchers and managers face numerous obstacles, such as gathering and evaluating enormous amounts of data, working with a wide range of samples, and dealing with the unpredictable and constantly changing ability of organisms to adapt. Additionally, the range keeps growing.

Sociological Impact: Every technological breakthrough carries with it the real possibility of both societal harm and advancement. AI can analyze and process data. This power of AI is anticipated to aid in resolving several global crises. AI can benefit society in this way.

Impact on Health Care: With the aid of AI, there has been significant improvement in the detection and treatment of diseases. There are accessibility issues for medical professionals in remote places. People who live in those isolated places thus feel uneasy about how to treat their health risk. AI has arrived to solve this issue. AI can foresee illness epidemics in advance, giving medical workers the opportunity to take preventative measures before the outbreaks actually occur. There are tools for image recognition thanks to AI. The sick and visually challenged are helped by this. There are further instances where AI can benefit the healthcare sector.

Impact on Education: The education system will be impacted as long as the globe invests in AI. As we previously stated, researchers predict that by 2025, artificial intelligence will create more employment than it will eliminate, but these new occupations will require greater skill sets than equivalent jobs did previously. Governments, educational institutions, and businesses should think about how they can most effectively create learning programmes that give people the skills they'll need to be competitive in the contemporary economy as new capabilities emerge.

Agricultural Impact: With the use of AI, it is now able to collect accurate data pertaining to agronomic and weather-related difficulties. The farmers can increase agricultural production with the help of this. Precision agriculture is the practice of enhancing crop output to better meet the needs of an expanding population.

Climate forecasting: Weather occurrences can be foreseen with the use of AI. It can also forecast the weather and the likelihood of natural disasters. AI has made it possible to recognize the insects and animals that transfer disease.

Impact on Governments: Many governments are currently utilizing AI technology to increase the productivity of all levels of personnel. Governments from several nations are also using AI to enhance their budget optimization and money allocation processes. There are more examples when AI's blessings are being felt by society.

Impact on Innovation: Artificial intelligence possesses qualities that could improve the effectiveness of the current economy. Additionally, it might make a bigger contribution to the market's "innovation" sector. These developments have the potential to have an impact on both productions as well as a wide range of goods and services. If we take the example of "atomwise," a young firm that primarily focuses on the identification of medication candidates by the use of neural networks to display the bioactivity of certain individual molecules, we can see two ways that artificial intelligence is being used in innovative domains.

4. IMPACT OF AI IN COVID-19 CRISIS

Since the beginning of the epidemic, artificial intelligence (AI) has been hard at work helping the limitations of human knowledge in the enormous undertaking of comprehending and tracking the spread of COVID-19. Today, a wide range of

fields are using a number of AI-powered initiatives based on data science, machine learning, and big data to forecast, explain, and manage the various scenarios brought on by the health issue. The application of AI in healthcare is expanding, and it is predicting early COVID-19 symptoms to stop the illness from spreading. Using algorithms that analyze data to find illuminating patterns, it is also used to screen, monitor, and forecast future infections in patients.

The primary factor enabling AI's capacity to recognize these patterns is machine learning. For instance, it might be able to forecast how many guys over 60 will die from COVID-19 in a specific nation.

The algorithms used in this technology enable healthcare companies to accurately diagnose patients and personalize medical care and follow-up schedules, improving patient experiences. At the molecular level (e.g., medication and vaccine discovery), the patient level (e.g., patient diagnosis), and the population level, AI is driving COVID-19 prevention (e.g., epidemiological surveillance). As shown in the graphics below, artificial intelligence (AI) helps doctors treat patients more quickly and efficiently.

Real-time decision-making systems are essential for healthcare organizations if they want to stop the coronavirus from spreading. Healthcare professionals can now quickly comprehend the virus's origin and create vaccines to stop its transmission thanks to AI's superb imitation of human intelligence. The screening processes, analysis, forecasts, and patient tracking are all being driven by this results-based system. It is also helping to keep track of confirmed, recovered, and deceased cases, giving doctors crucial information about how to treat patients and put an end to the pandemic.

5. FUTURE DIRECTION

Artificial intelligence is already pervasive in today's world. Here are a few instances of how AI has affected our life without our knowledge. A few of these applications merit our attention.

Art, Images, and Video: Artificial intelligence is influencing the creation, analysis, labelling, and visualization of photos and films. In a number of applications, including image search, video visualization, image/video editing, and machine learning for image categorization, these synthetic media have been utilized to improve user experience.

Google scientists made a ground-breaking announcement on the development of Transformers, a new technology that can produce quick films from a single image input. In the future, the new technology might enable developers to design virtual environments using machine learning techniques as a complementary or alternative method.

The framework represents a significant advancement in video technology since it enables the production of substantially accurate video from sparse data. Other video-related tasks and benchmarks, like semantic segmentation, picture classification, and optical flow predictions, also demonstrated good accuracy for Transformer models.

Self-driving vehicles: The level of artificial intelligence already found in our cars is merely the beginning of its potential development. It serves as the proverbial "tip of the iceberg." Manufacturers like Toyota, Audi, Volvo, and Tesla utilize machine learning to programme their computers to drive in any environment and detect objects to prevent accidents by learning from mistakes.

Facial Recognition: Face filters, a type of facial recognition technology, are used by the gadgets we use every day, such as our phones, laptops, and PCs, to recognize and authenticate us and grant us secure access. Numerous industries, especially those with high levels of security, use artificial intelligence extensively.

Executive Boards Members: CEO robots are probably one of the AI's most unexpected innovations. For the first time ever in the history of business, Tang Yu, a humanoid robot, has been given an executive position at NetDragon Websoft. The China-based online gaming and technology company declared in a news release that its new CEO would accelerate decision-making and boost efficiency by streamlining workflow. Tang Yu will also serve as a real-time data hub and analytical tool for the corporation, which is almost worth \$10 billion, helping it to enhance its risk management system.

6. CONCLUSIONS

People all across the world are becoming more and more dependent on AI. The world is changing dramatically and significantly thanks to artificial intelligence. With better data and machines that comprehend our reality, artificial intelligence holds the key to a brighter future. The effects of artificial intelligence on society are hotly contested. The effects of artificial intelligence on society are hotly contested. According to my research, artificial intelligence has

brought back the traditional practices in practically every aspect of contemporary society. If the issues of privacy and security protection for personal data are not adequately handled by establishing suitable policies, rules, and regulations, then the development of AI for social advantages will be limited. The use of AI will determine how it affects civilization. When AI takes on challenging jobs, it frees up the human labor to focus on projects that, among other things, require creativity and empathy and for which they are more suited. Modern enterprises, governments, and communities can build a high-performing ecosystem that can serve the entire world thanks to artificial intelligence (AI). Some of society's most urgent problems are being resolved thanks to its substantial impact on human lives.

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