Artificial Intelligence and its impact on social world

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***Abstract*— Artificial intelligence is the ability of machines to execute human tasks including speech recognition, decision-making, and visual recognition. Almost all tasks that necessitates the use of human intelligence are included. As a result, the focus of this study is on the social implications of artificial intelligence. This research aims to cover all of the areas where AI is relevant. Artificial intelligence systems can recognise and understand the demands of people and the environment in real time, allowing them to make the most desirable or satisfied judgments in milliseconds based on a vast number of signals. With applications ranging from education to healthcare, self-driving cars to agriculture, security systems to financial markets, AI is transforming our world. The problem is identified in real time by AI, and it is immediately addressed. Entertainment, Real Estate, Food Tech, Retail and Ecommerce, Travel, Medical, Education, Manufacturing, Logistics and transportation, Banking and financial services, Agriculture, and Defense are among domains where AI is used. It has some advantages, but it also has some drawbacks. AI has been designed to perform a heinous act. Artificial intelligence systems that are programmed to terminate are known as autonomous weapons. These weapons might potentially result in huge casualties if they fall into the wrong hands. Also, too much usage of robots in our daily lives makes people drowsy. As a result, it is critical to understand all aspects of AI so that it does not become destructive. AI research should be beneficial to everyone.**

Index Terms: **Artificial Intelligence; social world; Impacts on social world.**

1.INTRODUCTION

AI is defined as "the study and design of intelligent agents, where an intelligent agent is a system that senses its surroundings and performs actions that maximize its chances of success," according to Science Daily. AI is made up of a complex set of algorithms. Each algorithm does unique jobs in a distinct way, therefore we may say AI performs a specific set of tasks (according to the algorithm coded). It means that AI can effectively collaborate with programmed devices in our daily lives.The use of artificial intelligence (AI) in corporations, governments, security frameworks, energy and natural resource management, and other areas is rapidly increasing. Although AI advancement and application may vary significantly from one geographical place to the next, there is strong evidence that more individuals are recognising the benefits that the technology provides. As a result, we must acknowledge the AI developer's primary focus. The majority of AI developers are now focused on attaining a single goal. They've been tasked with developing AI models that can effectively replace direct human labor. The deficiencies of human labor efforts, which are characterized by inaccuracy, inefficiency, and other problems, have prompted this demand. Artificial intelligence, for example, has been touted as having the potential to improve medical accuracy. As a result, utilizing this framework, you can be certain of a more precise surgical process than is now possible to most humans. As a result, we might claim that the benefits of artificial intelligence to our world are the polar opposites of human deficiencies. Despite the fact that work is still being done to considerably improve the technology's applicability, genuinely big advancements are still to come. AI is all around us, yet we don't always realize it. For example, image identification on Instagram/ Facebook is powered by AI. AI has also been used to manage calendars and political campaigns, and it is rapidly approaching almost everything. More people would be able to avoid having to perform so many jobs on their own if AI was used. We'll be able to eliminate the most tedious activities from our life with a personal assistant AI like alexa, siri, google assistant. These assistants record your voice and translate them into actions such as calling a friend , opening a light , closing the door etc .The AI helper

understands exactly what to do and when to do it. Consider the usefulness of such assistance in managing your communications, organizing your closet, and doing your laundry. The AI, on the other hand, would only function in accordance with its pre-programmed instructions. As a result, one AI may be built to operate on a variety of tasks, whereas another may have a much narrower field of applicability. The amount of money invested in AI technology is significant. AI-based firms garnered $18.5 billion in venture finance in 2019. By 2023, total investment in the sector is expected to be close to $100 billion. The majority of artificial intelligence modules are linked to other frameworks like cloud database and storage, big data, cryptography and blockchain, and the internet of things (IoT), among others. As a result, they can improve the speed and efficacy of information transfer as well as reproducibility from beginning to finish. Due to significant wage reductions, an AI-operated corporation with largely eliminated human labor costs enjoys huge long and short-term profits. Despite the high expenditures of AI development, analysts believe that the company that uses it will benefit much in the long term, and it may even save the company's life. The potential for AI to be used in the future is huge. This is already evident in the medical, banking, gaming, transportation, industrial, and defense industries. According to Musk, if artificial intelligence created by humans grows widespread, it may become a nuisance to humans. Regardless of how analysts, stakeholders, and fans see things, artificial intelligence's fundamental value is apparent and widely acknowledged.

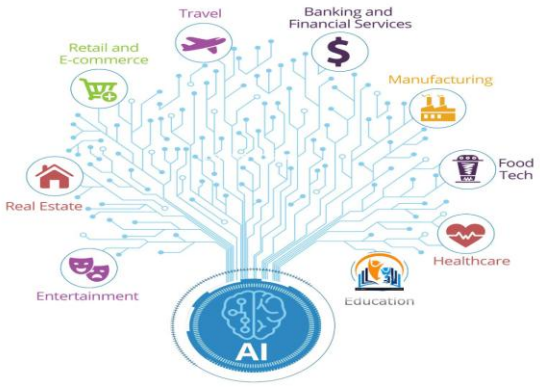

Figure 1. Some of the significant AI applications disrupting major industries [Source 2].

2.LITERATURE REVIEW

2.1 History of AI

● Artificial Intelligence Maturation (1943-1952)

Warren McCulloch and Walter Pits began working on the evolution of AI in 1943.They suggested an artificial neuron model.Donald Hebb then demonstrated an update algorithm for altering the strength of connections between neurons in 1949. Hebbian learning is the name given to his rule. Later, in 1950, Alan Turing built the Turing machine, which aids in the development of machine learning models. A Turing test can be used to determine whether or not a machine can demonstrate intelligent behavior comparable to human intelligence.

●Artificial Intelligence's Beginnings (1952-1956)

Between the years 1952 and 1956, AI was born.The Logic Theorist was created by Allen Newell and Herbert A. Simon as a "thinking machine." The Logic Theorist was a computer programme that could verify Whitehead and Russell's Principia Mathematica theorems in symbolic logic.John McCarthy is considered one of the "founding fathers" of artificial intelligence, having coined the term at the Dartmouth Conference.

●The golden years-Early enthusiasm (1956-1974)

The first chatbot, named ELIZA, was created in 1966 by a researcher named Joseph Weizenbaum.

Waseda University began the WABOT project in 1967, and the WABOT-1, the world's first full-scale humanoid intelligent robot, was completed in 1972.The AI boom began in 1980, when AI resurfaced with the "Expert System." Because AI research is expensive, it was slowed between 1974 and 1980 and 1987 to 1993 due to a lack of government funding. Since 1997, AI research has grown at a rapid pace.

2.2 Impact of AI on Education

After the 2020 Pandemic (Covid19), 86 percent of educators polled by edtech firm Promethean agreed that technology, especially artificial intelligence (AI), should be a core component of education. Regardless of their interests, abilities, or level of schooling, the epidemic has pushed students and instructors alike into the digital world. Students are compelled to sit in front of a screen for long periods of time. Many new technologies are now being offered in the sphere of education that use AI. Teachers and professors, as

well as pupils and students, have found themselves working in radically different circumstances as schools close and colleges focus solely on distance learning. Happy Numbers, the first AI teaching assistant robots, have already been used in schools in the United States. Some instances of AI in education include brainly, gradescope, Content Technologies, Inc. (CTI), Thinkster math, and Duolingo.

2.3 Impact of AI on Healthcare

The medical industry makes extensive use of AI technologies. AI is effective in a variety of applications, including operations in the form of small robots, diagnosing patients, end-to-end drug discovery and development, increasing physician-patient communication, transcribing medical documents such as prescriptions, and remotely treating patients. In a pandemic, when covid spreads from one person to another, doctors and nurses find it extremely difficult to treat patients. Then AI steps in to save the day. It is quite simple for doctors to treat patients with the help of AI robots. NLP tools that can understand and classify clinical documents are a prominent use of artificial intelligence in healthcare. NLP systems can evaluate unstructured clinical notes on patients, providing invaluable insight into quality, technique improvement, and improved patient outcomes. The most difficult hurdle for AI in healthcare is assuring its acceptance in daily clinical practice, not whether the technologies will be capable enough to be useful. Clinicians may eventually gravitate toward tasks that demand specialized human abilities, such as those that require the highest level of cognitive function.Those that refuse to collaborate with AI may be the only ones who miss out on the full potential of AI in healthcare.A team of medical scientists from the University of Leeds has devised a novel technique to use artificial intelligence to forecast cancer from patient data without putting personal information at danger. The researchers wanted to see if swarm learning, a type of AI, could be used to help computers predict cancer in medical photos of patient tissue samples without disclosing the information from hospitals. "We were able to show that AI models trained with swarm learning can identify clinically important genetic changes directly from photos of tissue from colon cancers," Dr. Kather stated, "based on data from over 5,000 patients." Developing an AI system capable of completing this task enhances our ability to use AI in the future."

2.4 Impact of AI in Defense

Artificial intelligence has invaded nearly every civilian industry imaginable. It has altered the way individuals and businesses operate, and it is quickly becoming an integral part of modern warfare. The strength of a country's army is one of the factors that determines its power. Large volumes of data can be efficiently handled by AI-enabled military gear. Furthermore, such technologies have improved self-regulation, self-control, and self-actuation as a result of their greater computing and decision-making abilities. Defense organizations are employing machine learning to predict and protect against illegal breaches. Following the 2+2 ministerial, India and the United States agreed to hold a dialogue on artificial intelligence to explore prospects for cooperative innovation and cooperation in new fields. A virtual conference between Prime Minister Narendra Modi and President Joseph Biden preceded the Dialogue. The Ministers emphasized the need of increasing scientific and technology collaboration in the US-India Joint Technical Group (JTG) as well as evolving new defense sectors such as space, artificial intelligence (AI), and cyber during the discussion. The financial and skill commitment required to adopt AI-based technology is one of the key hurdles. It's a major issue to figure out how much we can afford to spend on infrastructure to build such technologies, especially in middle-income countries like India, where a large portion of the population is still poor. Policymakers could assess which AI programmes are essential for national security and work toward them as a possible answer.

2.5 Impact of AI in Food -tech

Smart farming, robotic farming, and drones are the future of the food industry, thanks to AI and machine learning. AI could improve packaging by boosting shelf life, a combination of menus by utilizing AI algorithms, and food safety by creating a more transparent supply chain management system. According to a recent study, The most essential responsibilities of AI in the food industry can be divided into two categories: food security management and food quality management. Robots can be used to ensure the safety of food and food

warehouses, or mathematical modeling techniques can be used to manage food quality. Soil monitoring, automated cropping, and predictive analysis are the three steps of smart farming. In a recent Soil Monitoring (SM) scenario, after a farmer sends a sample of their farm soil to the monitoring organization, the customer will receive a complete report of the contents of their field soil. Following the results, an appropriate decision was made for bacteria, fungi, and microbial progression in general. In Japan, the first AI-based drone was employed for crop dusting in 1980. To keep an eye on crop health, most corporations are now using farm AI and airborne technologies. Robocrop is one of the tools created by many research groups. It's an artificial intelligence (AI)-powered robotic technology that speeds up the yielding process. It performs precise crop tool alignment at a rapid rate. Various environmental effects on agricultural productivity, such as weather variations, are tracked and forecasted using learning algorithms. Algorithms based on machine learning play a crucial part in this. In collaboration with satellites, machine learning algorithms examine crop sustainability, forecast weather, and assess farms for the presence of pests and diseases. Because AI has so much potential to provide reasonable and healthier productivity for clients and staff, it will alter the food processing business in the future.

2.6 Impact of AI in Entertainment

Today's entertainment sector is the most inventive in the world. The impact of AI in this area is enormous. The entertainment industry's future is AI. It will be useful when performers are unable to set a date since they are working on another film. As a result, movies will be completed quickly because there will be no wait for performers who are unable to act at a specific time. An actor will be resurrected by AI. A deceased actor will also be resurrected by AI. There will be huge savings in both money and time. In the entertainment industry, technology is a game changer. AI assists film editors while editing feature-length films. AI algorithms can discern crucial characters and sort particular situations for human editors using facial recognition technology. Editors might focus on sequences that feature the major plot of the script if the first draft is completed swiftly. Spotify and Netflix, two of the most popular music and video streaming services, are successful because they cater to a wide range of demographics with varying likes and preferences. This is achievable because of AI. AI is also assisting media companies with their strategic planning. Leading media and broadcasting businesses, for example, are employing machine learning and natural language generation to construct channel performance reports based on BARC's raw analytics data. Artificial intelligence in Youtube allows video publishers to add automatic transcription to their videos. In the entertainment industry, there are various examples of AI that assist firms enhance their commercial performance by improving user experience and entertainment value with higher efficiency. AI is a game changer, but it is not a substitute for human actors. Deep fakes or imitations of characters, as well as cheap copies of music or dance, will be one of the main difficulties with AI in the entertainment sector.Everyone recalls a video of Barack Obama disparaging President Donald Trump becoming viral, but this was not the case. Jordan Peele, a comedian, recorded a voice-over and used AI techniques to make it look real, making Barack Obama appear to be the perpetrator. Overall, the media and entertainment sector will be able to use AI to make visual material more engaging and intriguing in the future. It will aid in the delivery of tailored, data-intensive, and personalized automated content to the audience.

2.7 Impact of Artificial Intelligence in manufacturing

AI has a huge impact on the manufacturing business in four ways. The first is a more secure workplace. Collaborative robots, or cobots, are meant to work securely alongside people. They are compact and light, making them a more cost-effective solution for manufacturing enterprises interested in robotics. They can contribute to safer workplaces by completing some of the more hazardous duties that frequently result in worker injuries. The second point is to increase quality. AI aids in the improvement of product quality in order to satisfy customers. The Google Cloud Visual Inspection AI solution, for example, uses a set of AI and computer vision technologies to automate visual inspection duties, allowing manufacturers to improve quality control procedures by automatically detecting product faults. The third point is to improve innovation. In manufacturing, artificial intelligence is a crucial

component of generative design, a modern technique. Engineers enter their design objectives, such as material characteristics, production procedures, and cost limitations, into generative design software during this new phase of manufacturing. The software tool evaluates all possible options and "generates" design variations as a solution quickly. Finally, the software examines each iteration using machine learning capabilities to select the optimal design to use. Last but not least, inventory management. Demand forecasting systems powered by artificial intelligence produce more exact findings than traditional approaches. This provides industrial organizations with the tools they need to more effectively monitor their inventory levels, reducing the risk of disasters. In general, there are numerous advantages supplied by artificial intelligence in the industrial industry. More product innovation, increased safety precautions, faster decision-making processes, and quality improvement are all possible thanks to it.

2.8 Impact of Artificial Intelligence in Real Estate

AI is being used in real estate in five different ways. It helps agents generate leads in the first place. Deep learning allows AI to analyze leads appropriately, eliminating the need for an agent to go through each and everyone of their leads to identify who has the finest possibility of turning into a real client in the upcoming years. Second, it is altering how individuals search for housing. Most algorithms propose alternative items that would be an acceptable fit for the user's search parameters, with the most desired products coming first in the user's search results. The third argument is that it is all about streamlining transactions. On the back end of the agreement, AI might make it easier for the agent to manage their real estate agency. For example, Machine learning is used by auto filing information and by generating automated reports in several customer relationship management platforms. The fourth benefit is that it makes assessing the worth of a property easier. Furthermore, one of the most crucial aspects of AI, according to real estate brokers, is its ability to "predict" the future. This is extremely beneficial when determining asset and rental values.It is altering our perceptions about borrowing money. As any agent or investor knows, underwriters examine every piece of information they get before deciding whether or not to give to a potential borrower. Artificial intelligence's ability to help real estate companies in a variety of ways is revolutionary. Decision-makers will prioritize additional case studies, such as other AI divisions, to improve this industry. If firms quickly learn how to apply data science to their operations, customers and entrepreneurs will be more fruitful. Real estate firms should define long-term goals and leverage AI technologies to help them to achieve it faster and more clearly. Though AI will never be able to fully replace people, it will play an active role in the development.

2.9 Impact of AI on Retail and E-commerce

The application of AI in retail and e-commerce is possibly the only arena where the majority of end-users can see it. Because retail is such a competitive industry, retailers are continuously on the lookout for new ways to identify patterns in consumer behavior and coordinate their strategy to outsmart their rivals.
In the grand scheme of things, AI has undoubtedly discovered a sweet spot. Your Amazon account's product recommendations are nothing more than a real-time application of powerful AI algorithms to predict which things you are more likely to purchase. Artificial intelligence (AI) is rapidly being used to improve the customer experience. The web-based firm has no physical presence with clients, and buyers' needs and wishes change over time; however, with the help of AI, inventive new plans to recognise buyers' purchasing behavior and construct things according to buyers' demands were developed. No machine can match people's foundational knowledge, intuition, and flexibility. These are obstacles that AI interpretation in online business would not have to deal with if human translators were involved .

2.10 Impact of AI on Travel Industry

Travelers no longer need to use a travel agency to buy their tickets, and they also don't have to worry about their accommodations thanks to AI. AI assists passengers and does all of these things. For example, facial recognition systems and airport security scanning equipment are both frequently used forms of AI in airports these days. Furthermore, AI can help with duties such as data analysis, calculations, and problem solving, all of which can be beneficial to hoteliers. Ahmedabad Airport recently established an

AI-based monitoring tool to help travelers and provide fast passenger assistance. The Sardar Vallabhbhai Patel International Airport (SVPIA) in Ahmedabad has announced the launch of an indigenously designed artificial intelligence (AI) based surveillance service, the first in India, to aid travelers in distress, utilizing technology to better assist travelers. Desk of Goodness is a service that uses sophisticated detecting techniques to assist passengers, including senior persons, mothers with children, and those who use wheelchairs. It also aids in the detection of falls and unusual passenger behavior. In the travel industry, AI is applied in a variety of ways, including personalized travel planning, robotics and voice assistants, and smart luggage handling, among others.There are a slew of other AI programmes that make travel planning a breeze. AI applications have exploded across the board in the travel and tourism business. Whether traveling by air or water, there are a number of ways customers and travel businesses may use AI to make the journey more effective and smooth while also increasing consumer happiness.

2.11 Impact of AI on Banking and Financial Industry

Banks may utilize AI to improve the customer experience by providing frictionless, 24/7 interactions; however, AI in banking apps isn't confined to retail banking. Investment banking's back and middle offices, as well as all other financial services, could benefit from AI. Front office (conversational banking), middle office (anti-fraud), and back office are the three key areas where artificial intelligence can help banks save money (underwriting). AI applications in the front and middle offices are the most cost-effective for banks. On the front end, AI is being used by banks to make client identification and verification easier, to simulate human personnel through chatbots and voice assistants, to strengthen customer relationships, and to deliver personalized insights and recommendations. Banks are also using AI in middle-office tasks to detect and prevent payment fraud, as well as to strengthen anti-money laundering (AML) and know-your-customer (KYC) regulatory checks. The winning techniques used by banks undertaking an AI-enabled transformation demonstrate how to seize the opportunity to the fullest. These plans emphasize the necessity for a comprehensive AI strategy that encompasses all of a bank's business divisions, as well as usable data, external collaborations, and qualified people.

3. RESEARCH METHODOLOGY

The study looked at the impact of AI on several industries using secondary research. The study employed non-intrusive research methodologies to examine the influence of AI on different industries. Data gathering procedures that are not obtrusive to the subjects being studied are referred to as unobtrusive research. Unobtrusive research approaches are employed by both qualitative and quantitative researchers. Unobtrusive approaches have the distinct advantage of not requiring the researcher to engage with the subjects. It may seem odd that social work, a profession dedicated to assisting people, would use an approach that does not involve human connection. To inform the paper's debates, secondary sources of data such as government reports, worldwide statistics, media stories, peer-reviewed academic publications, books, and current news and events were critically analyzed. The main flaw in this study is that some of the authorized sophisticated factual data, peer-reviewed published papers, and textbooks on the influence of Artificial Intelligence on various industries are still in the works. The author, on the other hand, attempted to make use of information that had been published by academics, private groups, and governments through various organizations. When analyzing a social phenomenon, content analysis has the advantage of being non-invasive.

4. CONCLUSION

AI is gradually assuming the lead as the single most important driving force for technological transformation as it advances to the next level. We live in a time where machines are beginning to comprehend and predict what people desire or are likely to do in the future. It has opened up a world of possibilities, and anything we've seen so far or can guess about in the future is only a fraction of AI's whole potential. Entertainment, real estate, retail and ecommerce, travel, banking and financial services, manufacturing, foodtech, healthcare, education, and

defense are among the industries that will witness the most rapid rise in AI investment in the coming years.

5. FUTURE SCOPE

This research looks at how AI is affecting several industries. Future research into these industries, as well as an analysis of the positive and negative consequences of AI in these industries, will be interesting.

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