

IMPACT OF ARTIFICIAL INTELLIGENCE (AI) ON HUMAN SOCIETY

Abstract

The simulation of human intelligence in computer systems and machines is referred to as artificial intelligence (AI). It has an impact on more than just our daily activities and interactions; it also has an affect on our self-perception. This article seeks to define artificial intelligence (AI) and investigate its revolutionary implications on industry, society, and the economy in the twenty-first century. AI exists in numerous forms at the moment, and its modern incarnations have both significant beneficial and harmful effects on human society.

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I. INTRODUCTION

We call ourselves Homo Sapiens, or "man the wise," because of our high regard for intelligence. Throughout history, we have made enormous efforts to comprehend the workings of our own thoughts, attempting to comprehend how a small piece of matter can comprehend, foresee, and manage a vast and intricate universe. Furthermore, the science of artificial intelligence (AI) seeks not only to comprehend intelligent beings but also to build them.

After World War II, AI developed as a dominant field of science and engineering, ushering in a new age for the United States. AI is frequently regarded as one of the most attractive fields to work in by scientists from diverse disciplines, alongside molecular biology. While some may believe that all of the breakthrough concepts have already been implemented, this is not the case. While some may believe that great minds such as Galileo, Newton, and Einstein have already claimed all of the innovative discoveries, AI continues to draw bright thinkers such as Einstein and Edison.[1]

Artificial intelligence currently plays a complex role in human society. It has a tremendous impact on many facets of our everyday life, allowing for faster and smoother processes with less time consumption. Its uses range from communication to robotics to human psychology and a variety of other domains.

II. WHAT IS ARTIFICIAL INTELLIGENCE?

The phrase "Artificial Intelligence" (AI) refers to a broad range of computational approaches and practices aimed at improving machines' ability to handle tasks requiring intelligence, such as pattern recognition, computer vision, and language processing [2]. While there are various interpretations of AI, the essential concept stays consistent: it involves the use of machines and computers to assist humans in problem solving and workflow optimization. Simply, artificial intelligence (AI) refers to computer intelligence that mimics the cognitive capacities of the human mind [3]. AI is always evolving because to the rapid advancement of technology and a broad definition. This is known as the "AI effect" or "odd paradox," in which innovative advances become ordinary and are no longer characterized as AI, while subsequent, more amazing technology are dubbed as AI [4].

III. HISTORICAL BACKGROUND OF AI

Dartmouth College hosted the first artificial intelligence workshop in 1956, when participants set the groundwork for AI research. They worked with their kids to create revolutionary programs that wowed the media. These programs taught computers how to prove logical theorems, play checkers, solve algebraic word problems, and even talk in English. During the mid-1960s, the Department of Defence took an active interest, building facilities around the world and substantially financing AI research in the United States [5,6].

Researchers were optimistic in the 1960s and 1970s that their approaches would eventually lead to the creation of a computer with artificial general intelligence, which was viewed as the field's ultimate aim. Herbert Simon projected that machines would be capable

of executing complex tasks within the next two decades. In twenty years, machines will be able to perform any task that a man can, according to Herbert Simon.[6,7].

IV. DIFFERENT TYPES OF ARTIFICIAL INTELLIGENCE

Eventually, we see various kinds of Artificial Intelligence. Let us discuss two types of AI, one is weak or narrow and the other is strong or general AI[8]:

1. **Weak or Narrow AI:** The term "weak AI" describes AI systems that are only capable of carrying out certain tasks. These AI systems do their assigned tasks exceptionally well, but they lack general intelligence. Voice assistants like Siri or Alexa, recommendation algorithms and image recognition systems are a few examples of weak AI. Weak AI operates within set parameters and is unable to generalize outside of its specialized field.
2. **Strong or General AI:** Strong AI, usually referred to as general AI, describes AI systems that are intelligent enough to compete with or even outperform humans in a variety of tasks. Strong AI would be akin to human cognition in that it would be able to comprehend, reason, learn and use information to solve complicated problems. However strong AI development is still mostly a theoretical endeavour and has not been completed to this point.

V. THE IMPACT OF ARTIFICIAL INTELLIGENCE ON HUMAN SOCIETY

1. **Negative Impact:** Artificial Intelligence has created a very negative impact on our human society because everything can be completed mechanically not by human beings. So let us see the negative impact AI will have on human society [9,10,]:
 - When AI is created by humans, it bears the risk of acquiring racial biases or being motivated by selfish objectives, thereby causing harm to specific individuals or entities. In response to such worries, the United Nations has taken steps to limit nuclear power development, fearing that technology could be used without prejudice to imperil humanity or exert control over specific races or regions.
 - The human community will undoubtedly undergo substantial societal transformations in the way we live. Survival in this changing terrain will necessitate ingenuity, but with the introduction of AI, we may now simply order a computer to accomplish activities on our behalf, removing the need for human labour or tools. As AI replaces the requirement for face-to-face interaction for idea exchange, the human connection will eventually dwindle. As personal interactions will no longer be necessary for communication, AI will stand in the way of people.
 - Another source of concern is the potential increase in unemployment as a result of extensive job automation. The use of machines and robots in a variety of industries, notably modern auto assembly lines, has resulted in the displacement of a large number of conventional workers. Human labour may become obsolete as a result of the use of digital technology in grocery shops and other retail environments.
 - Emerging difficulties arise not only in the societal setting, but also in the area of artificial intelligence. As AI systems are educated and directed to perform certain jobs, there is a risk that they will progress to the point where humans will lose control, resulting in unanticipated issues and repercussions. This refers to AI's ability to

function autonomously based on its core algorithms, disregarding the orders provided by its human operators.

- Due to the fact that AI investors would receive a disproportionately large portion of the profits, wealth disparity will be produced. It will result in a widening of the wealth and poverty gap. More people will be aware of the alleged “M” shape in wealth distribution.
- When a machine can mimic human intelligence, it is a great accomplishment. It can be time-consuming, resource-intensive, and costly. AI is expensive because it requires the most modern technology and software to stay current and fulfil standards.
- AI technologies automate and streamline countless arduous and repetitive operations, reducing the need for human memorization and problem-solving in a variety of activities. As a result, we are relying less on our cognitive ability. This tendency has the potential to develop to AI addiction in future generations, posing risks to human well-being.
- Morality and ethics are important human characteristics that can be difficult to include into an AI. Many individuals are concerned that as AI advances, humanity may be utterly destroyed by it. This is the moment of the AI singularity.
- We are taught from a young age that machines and computers do not have emotions. As humans thrive on group collaboration, good team management becomes critical in achieving goals. While robots have indisputable benefits over people, computers cannot replace the true human connections that are the foundation of teams.

2. Positive Impact: However, there are many positive impacts on humans as well as especially in the field of human society. From medical diagnosis and treatment to traffic management and environmental preservation, artificial intelligence (AI) offers considerable advantages. Our fundamental rights, as well as the procedures, customs and structures of a democratic society, are all seriously threatened and challenged by the power of AI. Its penchant for automated and autonomous decision-making is replacing human deliberation and accountability and as Cambridge Analytical demonstrates, it can be used to stymie democracy, control population and monitor them. The task of addressing these issues falls on policymakers and the larger civic society [11,12,13,14,15].

- **Automated Inquiry System:** An automatic information-retrieval system that searches its database to offer the user with specific information or “facts,” rather than making referrals to external sources based on a man-machine dialog that identifies the user’s demands.
- **An Individual's Biological Model:** The system periodically checks the patient’s blood flow, lung and heart function, muscular activity etc. to provide inputs to a personal biological model that can then be used to evaluate the patient’s current condition and simulate the effects of medication and treatment.
- **Automatic Language Translator:** Already in the marketplace, low-quality computerized language translation is employed to create rudimentary but comprehensible abstracts of foreign technical articles. The input speech must first be understood before being recreated in the target language to ensure that all intended nuances are captured. Thus, such translation is only possible in the few semantic domains that existing language comprehension programs have already proven to be effective at handling.

- **Improving Cancer Diagnosis:** 1.65 million Americans were diagnosed with cancer in 2015, which is a terrifying diagnosis. It can be difficult to wait for biopsy results but AI might hasten the process of diagnosis and therapy. By 2020, Intel hopes to develop one-day precision medicine for cancer patients which would involve visiting a doctor, receiving a diagnosis and receiving a customized treatment plan—all in the space of 24 hours. Intel will be working with leaders in the healthcare industry to achieve this goal.
- **Reframing Farming:** The potential influence of AI on food production is critical, especially in light of the constraints posed by a fast rising global population, intensifying competition for natural resources, and stagnant agricultural productivity. According to the Food and Agriculture Organization of the United Nations (FAO), the world's population will reach 9.7 billion by 2050. As a result, farmers will be faced with the arduous job of raising crop production by roughly 50% while contending with decreasing agricultural land accessible for cultivation.
- **Computer Arbiter:** A system that somewhat successfully simulates Supreme Court rulings has been developed. The computer bases its judgments on legal precedents and the justices' prior rulings, which reveal their prejudices. One might have the basis for an automatic arbitrator if such prejudices were replaced with a structured statement of the principles of justice. Meanwhile, such formalization has not yet been tried.
- **Robot Industry:** On auto assembly lines, robot manipulators are being employed more frequently to perform repetitive activities like spot welding that can be pre-programmed and work without feedback. Simple, tactile and visual sensors would significantly widen the field of applicability. For instance, a system that could mount wheels on a hub was successfully demonstrated by the General Motors Research Lab utilizing visual methods to line up the wheel with the studs.
- **Education purpose:** In this chapter, we looked at the various worldwide consequences of AI, such as its role in promoting digital transformation in society and transforming education. We explored the benefits of AI, such as its potential to transform numerous industries and improve our daily lives, as well as the ethical problems raised by its continued advancement. As AI evolves, it is clear that it will play an increasingly important role in defining our future. While there are clearly difficulties to overcome, such as privacy and security concerns, the benefits of AI are clear. It has the potential to significantly improve our lives in a variety of ways, from transforming healthcare to delivering individualized learning possibilities.
- **Making Children Safe:** According to the U.S. Justice Department, digital technology makes it simpler for predators to produce, access and spread photographs of child sexual assault around the world. According to the National Centre for Missing and Exploited Children (NCMEC) online exploitation is widespread. Its Cyber Tip line got 8.2 million reports about molestation, trafficking and offensive photos in 2016 alone. Although technology may have contributed to the issue, AI might help find a solution.
- **Local Meaning and Context:** The moral significance of taking into account regional interpretations of social practices and language has been emphasized by several authors. In a specific social practice or institutional environment, which has a purpose or objective and its own norms guiding behaviour in that setting, actions and language have meaning*. These social and normative contexts need to be respected in our representations and design. In this context, a crucial topic that frequently arises during

Design for Values in AI is to what extent an AI system should replace a human agent's actions when carrying out a particular task, taking into account the social, normative and institutional goals of that task.

VI. CONCLUSION

There is widespread agreement that artificial intelligence, or AI, has significantly increased people's productivity by enabling a variety of services and programs that assist people in their daily tasks, such as communicating with friends and family, using email applications, or using ride-sharing services. Those who are concerned about AI can take heart in the fact that civilization has been adopting technology for a long time. AI, like every big societal change, has both positive and harmful repercussions. Nonetheless, there is no doubting that artificial intelligence has radically altered the way individuals live in society. To ensure responsible use, AI algorithms must be built in accordance with humanity's larger goals [16].

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