REPLACEMENT OF HUMAN INTELLIGENCE BY ARTIFICIAL INTELLIGENCE: A MYTH OR A TRUTH

*Pravin Rotkar   **Dr. Pravin Bagde   ***Dr. Laxmi P. Bagde

Introduction

The concept of "artificial intelligence" has its origins in ancient times, when philosophers contemplated existential concerns related to life and mortality. In antiquity, inventors devised "automatons," mechanical devices capable of autonomous movement without human intervention. The term "automaton" originates from ancient Greek and signifies the independent execution of actions. An ancient account from 400 BCE mentions a mechanical pigeon, made by a companion of the philosopher Plato, as one of the earliest known examples of an automaton. Leonardo da Vinci constructed one of the most renowned automatons around in the year 1495.

The period 1950 to 1956 saw the culmination of the interest in AI. Alan Turing's publication "Computer Machinery and Intelligence" introduced The Turing Test, a benchmark employed by specialists to assess computer intelligence. The term "artificial intelligence" was coined and subsequently gained widespread popularity.

The period between the coining of the term "artificial intelligence" until the 1980s witnessed a combination of significant progress and challenges in the domain of AI research. The decade from the late 1950s to the 1960s witnessed a substantial surge in artistic and intellectual output. AI rapidly gained mainstream popularity, with enduring programming languages and influential books and films delving into the idea of robots.

During the 1970s, significant progress was achieved, such as the invention of the initial humanoid robot in Japan and the innovation of the inaugural self-driving

*Assistant Professor, Hislop College, Nagpur and Ph.D. Research Scholar, C.P. & Berar College, Nagpur
**Associate Professor, Department of Business Management, C.P. & Berar College, Nagpur, pravin_bag@yahoo.com
**Assistant Professor, G.H. Raisoni Institute of Management & Research, Khaparkheda, Nagpur

vehicle by a graduate student in engineering. Nevertheless, AI research faced significant challenges during this period, since the U.S. government displayed minimal enthusiasm in providing further financial support for AI research.

The mainstream of the 1980s witnessed a phase of swift expansion and enthusiasm for AI, commonly referred to as the "AI boom." This resulted from both significant advancements in research and supplementary government funding allocated to help the researchers. The popularity of Deep Learning Techniques (DLT) and Expert Systems has increased, enabling computers to learn from errors and make autonomous decisions.

As cautioned by the Association of Advancement of Artificial Intelligence, an AI Winter ensued. This was the period during 1987–1993. The word denotes to a phase characterized by diminished consumer, public, and private enthusiasm for AI, resulting in reduced research funding and thus, limited advancements. Both private investors and the government withdrew their financial support for AI due to the perceived discrepancy between the high cost and the seemingly limited benefits. The occurrence of this AI Winter was a outcome of various obstacles confronted by the machine market and expert systems. These obstacles included the termination of the Fifth Generation project, reductions in strategic computing initiatives, and a decrease in the application of expert systems.

Despite the limited financial resources during the period known as the AI Winter (During the years 1993-2011), significant progress was made in AI research in the early 1990s. Notably,

the first AI system capable of defeating a reigning world champion chess player was introduced. This era also brought about the integration of artificial intelligence (AI) into daily life with advancements like the initial release of the Roomba and the first commercially-accessible speech recognition software for Windows computers.

The upsurge in interest was subsequently accompanied by a corresponding upsurge in financing for study, so enabling further advancements to be achieved.

The year 2012 leads to the latest advancements in AI, up till now. There has

been a significant increase in the usage of AI technologies that are usually used, such as virtual assistants and search engines. During this era, Deep Learning and Big Data gained widespread popularity.

The present day has witnessed many AI applications from Personal Assistants to Image Recognition. Some of the applications are Banking, Healthcare, Ecommerce, Transportation, Entertainment, Navigation, Social Media, even as personal assistants like Alexa and Siri.

With the growth and vast applications of AI, a thought process has begun to develop that AI might replace Human Intelligence with more growth and research in AI. Yet another thought process is the orthodox one which implies that AI cannot replace Human Intelligence and in fact it will augment Human Intelligence. Can AI really replace Human Intelligence? This is a million dollar question which at this instance of time needs more debates grounded on the facts. This paper attempts to answer this questions based on some facts.

Limitations of AI

It is crucial to remember that there are restrictions to the capabilities of AI. A significant constraint is that the performance of AI is contingent upon the superiority of the data it is taught on. Should the data exhibit bias or incompleteness, the AI system will accurately mirror such biases and limits.

AI lacks the capacity to exhibit genuine creativity or innovation. Although AI has the capability to produce novel ideas and solutions by analysing available data, it lacks the capacity to think creatively and generate really original ideas. The cause for this is that AI relies on algorithms and patterns, but human creativity is fuelled by intuition, inspiration, and imagination. Hence, artificial intelligence (AI) can serve as a vital instrument for enhancing human creativity and resourcefulness, although it can never supplant it.

Furthermore, AI lacks the capability to exhibit empathy or emotional intelligence. Although AI has the capability to recognize and assess emotions, it lacks the capability to genuinely

comprehend them or provide a substantial response. Consequently,

artificial intelligence is incapable of substituting human connections or social interactions for the necessity of possessing a profound comprehension of human emotions and behaviours. Hence, although AI possesses significant capabilities for many tasks, it is crucial to acknowledge that it cannot replace human intellect, empathy, and ingenuity.

Potential of AI

Although AI has certain limits, it possesses immense potential to revolutionize numerous industries and address major global concerns. According to Andrew Ng, who is a co-creator of Google Brain and the founder of deeplearning.ai,

"It is difficult to think of a major industry that AI will not transform. This includes healthcare, education, transportation, retail, communications, and agriculture. There are surprisingly clear paths for AI to make a big difference in these industries."

Artificial intelligence (AI) can enhance decision-making by analyzing extensive datasets and detecting patterns and leanings that may escape human perception. This can be particularly advantageous in the fields of healthcare and finance, as precise forecasts and diagnoses can have profound and transformative consequences.

The major significant application of AI is its capability to automate monotonous and repetitive jobs, thereby allowing individuals to allocate their time and effort towards more imaginative and purposeful endeavors. This has the capacity to augment efficiency and production across various industries, ranging from manufacturing to customer service.

Moreover, AI has the capability to facilitate the progress of novel products and services that were previously unattainable, through the amalgamation of data and insights in unique and inventive manners. In general, the capacity of AI is immense and thrilling, and we have only begun to explore the full extent of what this technology is capable of.

The Human Input

Although AI holds immense potential, it is crucial to acknowledge that it is not a panacea. AI systems necessitate human input and supervision to function

effectively and make decisions in situations that lack clarity.

In essence, AI does not supplant human intelligence; rather, it aids as a tool to assist us in attaining our objectives. However, it is imperative that we exercise responsible and ethical usage of this technology.

In addition, people possess a diverse array of experiences, inventiveness, and intuition that cannot be replicated by AI in the decision-making process. Although AI has the capability to analyze extensive quantities of data and detect patterns that may elude humans, it is incapable of substituting the significance of human intuition and creativity in the course of decision-making.

It is crucial to comprehend that AI does not serve as a substitute for human intellect. It is a continuation or expansion of the previous concept. While technology can enhance our decision-making and productivity, it cannot fully substitute the significance of human intuition and creativity.

Replacement of Human Intelligence by AI

Million dollar question lies unanswered. Though AI can do miracles it is ultimately human dependent as humans are the sole controller of the situation. The following discussion and points pitched can easily portray the point that AI cannot replace humans.

Emotional Intellect

Human humans exhibit emotional intelligence, enabling them to display emotions, articulate feelings, and rapidly perceive others' emotions. Businesses cannot employ AI as a complete replacement for their customer service, as a case. Customers desire personalized contact as robots lack the capacity to exhibit sympathy and emotions towards customers.

Businesses may experience customer attrition due to a absence of direct engagement with their clientele. Artificial Intelligence, sometimes known as AI, exhibits qualities of rationality, precision, and swiftness. AI systems lack empathy, cultural sensitivity, and intuition. These abilities that human beings possess are what enable them to be productive from now on. Humans possess the capacity to perceive facial expressions and promptly discern the appropriate response.

Creativity

With the rapid advancement of Artificial Intelligence, individuals are presented with the chance to pursue more and more innovative occupations. In several fields such as the creative sector, finance, and coding, individuals must possess exceptional creativity in order to effectively work on and successfully complete significant tasks.

Many firms are recognizing that the true promise of Artificial Intelligence lies in enhancing their employees' abilities by replacing error-prone, repetitive manual operations with clever

automated solutions. Businesses are now aware that the introduction of AI allows employees to allocate more time towards engaging in creative and higher-priority jobs.

Empathy

Humans have the ability to express and communicate a wide range of emotions, including but not limited to delight, sadness, happiness, hope, appreciation, optimism, and kindness. Moreover, it is difficult to comprehend that AI has the ability to display all facial expressions and interpret the emotions of others more effectively than a person can.

To gain the trust and loyalty of individuals, organizations must incorporate a human element, as people still have a preference for interacting with humans rather than robots. Artificial Intelligence (AI) machines or computers can imitate human speech, however they lack compassion and the human element.

Out of the Box Thinking

Artificial Intelligence has the ability to generate innovative solutions to emerging challenges due to limitations in its programming code. It is widely recognized that robots are programmed to operate within their designated parameters. AI, or Artificial Intelligence, lacks proficiency in critical thinking when faced with complex problems, assessing context, and devising intricate methods.

Artificial Intelligence is limited to processing data that has been

programmed into its system, whereas companies and their teams regularly engage with the external environment. AI lacks the ability to assess the influence of the external environment, unlike human people. Various work environments require distinct capacities to adapt to abrupt alterations.

Intuition and Gut Instincts

The human mind possesses an extraordinary ability known as intuition. Our ability to make quick and well-informed decisions, even when we don't have all the facts, is a result of a combination of experiences, knowledge, and subconscious processing. AI utilizes algorithms and logical thinking, however humans possess an inherent capacity to rely on their intuition, enabling them to make judgments that surpass the boundaries of pure logic. The intuitive instincts we possess often serve as the driving force behind ground-breaking advancements, prosperous entrepreneurial endeavours, and even critical life-preserving decisions.

Dynamic Learning and Adaptability

Humans are perpetual learners, continuously developing and adjusting to novel circumstances and obstacles. The human ability to absorb novel knowledge, cultivate fresh skills, and adjust to evolving conditions provides us with a competitive advantage over artificial intelligence. Humans have the capacity to extrapolate knowledge from one domain to another, apply skills across a range of tasks, and integrate information from many sources. Our flexibility allows us to effectively navigate unknown environments, embrace and accept change, and consistently transform ourselves.

Ethical Decision Making

At the core of human society, ethics and morality exert a profound influence on our decision-making and behavior. Although AI is capable of following programmed rules and norms, it lacks the inherent ethical thinking and moral responsibility that humans possess. Humans grapple with intricate moral quandaries, taking into account various viewpoints, cultural subtleties, and the lasting effects on society. As humans, we carry the burden of accountability for our choices, while AI systems depend on human interaction and supervision to

guarantee ethical behavior.

AI tend to Hallucinate

It is commonly acknowledged that generative AI readily fabricates information when it lacks the factual answer to a question. OpenAI cautions about the problem of "hallucinating," as referred to by AI specialists, in their blog post introducing ChatGPT. Daniela Amodei, the co-founder and president of Anthropic, a business specializing in AI safety and research, recently stated to the Associated Press that she believes all current models are prone to hallucination to some extent. Depending solely on AI-generated content without subjecting it to human editors and fact-checkers could potentially result in negative consequences. Earlier this year, a pair of attorneys encountered difficulties when they presented a legal document in court that was generated by ChatGPT. The document referenced non-existent previous court cases, according to the Associated Press. Although utilizing generative AI to produce material can save time, it is crucial to have a human review it prior to publishing or submitting. Alternatively, the organization may appear dumb at the very least and face legal repercussions at the most severe.

AI still needs ideas from humans

Despite appearing to write and produce images autonomously, large language models and other generative AI solutions acquire their abilities by assimilating extensive datasets comprising

human-generated content. OpenAI, for instance, constructs substantial language models by utilizing publicly accessible online information, licensed data from external sources, and input from human trainers, as stated in their article "How ChatGPT and Our Language Models Are Developed." In essence, the formation of high-quality content through generative AI necessitates well-constructed prompts, feedback, and guidance from humans. 3. Machines do not inherently possess impartiality.

Machines can't be impartial

Human stakeholders must review AI-generated work due to the likelihood of

prejudice. The National Institute of Standards and Technology (NIST) warns that using faulty datasets to train programs can outcome in unjust disqualification of loan or rental applications. NIST researchers have proposed a "socio-technical" approach to address AI bias, recognizing that relying only on technical solutions may overlook the wider cultural factors at play. In the future, the rapid evolution of AI may lead to the elimination of these constraints. Currently, machines lack the ability to completely replace humans. Although artificial intelligence has the capacity to revolutionize your business, the presence of human intelligence remains essential for achieving success.

Man vs Machines – an old debate

The ongoing conflict between humans and technology is compelling, fuelling the creativity and provoking intense debates. Which individual or entity is truly deserving of the title of superiority? It is a confrontation of intellect, expertise, and abilities that go beyond ordinary existence.

The human species, equipped with its extraordinary cognitive capacities, stands proudly. The human mind is a repository of creativity, innovation, and critical thought. Humans have the limitless capacity to envision, conceive, and produce artistic works, literature, and innovations that influence the world. Human's emotional intelligence enables them to empathize, establish connections, and really comprehend one another. What distinguishes humans is the fundamental nature of humanity.

However, the advent of technology, an inexorable power, poses a threat to human dominance. That is the prevailing opinion. Notwithstanding all other considerations, technology captivates humans with its rapid processing speed and consistent accuracy. It has the ability to swiftly calculate, analyze, and process vast quantities of data. Advanced machine learning algorithms empower them to forecast, automate, and enhance tasks with limitless efficiency.

However, in this competition for dominance, the question arises: Can technology genuinely transcend the human touch? Can artificial intelligence surpass human capabilities by accurately reproducing the intricacies of human

emotions, the subtleties of human interpersonal connections, and the expansiveness of human creative thinking? Although machines are capable of imitating, duplicating, and executing tasks with perfection, they lack the essence of awareness and the emotional attributes that define our humanity.

Conclusion

Artificial Intelligence has the capability to aid individuals in tasks that are monotonous and require a significant amount of time. Artificial intelligence has made significant progress in certain activities, but it is unlikely to surpass human intelligence in its whole due to the intricate and extensive range of human traits and capacities.

Artificial intelligence is expected to further progress and enhance its capabilities, enabling it to effectively carry out a broader spectrum of jobs. Nevertheless, certain activities and issues will dependably necessitate human intervention and ingenuity. Human intellect will perpetually remain integral to domains necessitating aptitudes like as research, design, strategic planning, and others. Occupations that necessitate interpersonal connections, judgment, instinct, and emotional acumen, such as Physicians, Teachers, HR professionals, and Business Leaders, are not susceptible to automation. However, artificial intelligence will enhance their productivity and efficiency.

To summarize, although AI holds immense potential to revolutionize various sectors and enhance human lives in numerous ways, it cannot fully substitute human intelligence. Although AI exhibits superior speed and accuracy in executing certain tasks compared to humans, it falls short in terms of possessing the same level of general intelligence, creativity, and social understanding that humans do. Hence, the optimal and conscientious strategy towards AI is to perceive it as a tool for enhancing human intelligence rather than supplanting it. Through this approach, the capabilities of AI can be fully unleash while safeguarding the significance of human contribution and ingenuity.

References

1.　Anderson, J. R. (1990). The Adaptive Character of Thought. Hillsdale, NJ: Hillsdale.

2.　Balamurugan, E., Flaih, L. R., Yuvaraj, D., Sangeetha, K., Jayanthiladevi, A., & Kumar, T. S. (2019). Use Case of Artificial Intelligence in Machine Learning Manufacturing 4.0.Proceedings of International Conference on Computational Intelligence and Knowledge Economy (ICCIKE). 656-659. IEEE.

3.　Benko, A., & Lányi, C. S. (2009). History of Artificial Intelligence. Encyclopedia of Information Science and Technology, Pennsylvania, USA: IGI Global, 1759-1762.

4.　Bhosale, S., Pujari, V., & Multani, Z. (2020). Advantages and Disadvantages of Artificial Intellegence. Aayushi International Interdisciplinary Research Journal, (Special Issue 77), 227-230.

5.　Borana, J. (2016). Applications of Artificial Intelligence & Associated Technologies. Proceeding of International Conference on Emerging Technologies in Engineering, Biomedical, Management and Science-ETEBMS.

6.　https://www.tableau.com/data-insights/ai/history

7.　https://www.mylearningspace.com.au/news/10-ways-we-use-ai-in-our-everyday-lives

8.　https://www.stratospherenetworks.com/blog/why-artificial-intelligence-cant-replace-human-intelligence/

9.　https://www.calls9.com/blogs/can-artificial-intelligence-replace-human-intelligence

10.　https://www.stratospherenetworks.com/blog/why-artificial-intelligence-cant-replace-human-intelligence.

11.　https://www.antino.com/blog/why-ai-never-replace-humans