**The Intersection of Artificial Intelligence and Society**

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AI won’t replace people; instead, people with AI will replace people without AI. According to experts, the increasing prevalence of artificial intelligence is expected to improve the lives of the majority of people in the next decade. However, there are widespread concerns regarding the impact of AI advancements on human identity, productivity, and the exercise of free will.

Let’s first explore the definition and current state of artificial intelligence before exploring its future. The ability of machines or computer-controlled robots to do tasks normally associated with human intelligence is known as artificial intelligence. Artificial Intelligence is essentially a branch of computer science that focuses on building intelligent devices that can mimic human behaviour.

The truth is that we currently don’t know anything about the prospect of superintelligence. Nothing is certain; it could occur in a few decades, centuries, or never at all. Numerous studies have asked AI specialists when they believe there is a 50/50 possibility that we will reach human-level AI. But hey, what do you know? They all return with the same response: it’s anybody’s guess because the greatest experts in the area are unable to agree. Consider the Puerto Rico AI conference in 2015. The average answer among the specialists there was about 2045, although others suggested it would not be that long possibly hundreds of years.

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It’s undeniably true that automation and AI have the potential to drastically alter the labour market, and in many situations, they already have. It would be oversimplified to see this as just a simple change in employment from humans to machines. Concerns regarding job losses have arisen as a result of the revolution that AI has brought about across all industries. However, in actuality, AI has also opened up new career prospects across a range of industries. All machines still need to be operated and supervised by humans. Although AI has taken the place of some employment, it has also increased the number of jobs available to people.

There’s a widespread misperception that AI runs entirely on its own, without human intervention. Though, AI technology isn’t yet developed enough to be able to make decisions for itself. It still needs human input, especially from machine learning engineers or specialists who take care of things like model development, data preprocessing, training dataset creation, variance and bias identification and addressing, and so forth. Every AI model still mostly depends on human input. Having stated that the original model can be trained to steadily improve its performance over time.

The ultimate aim of artificial intelligence (AI), which is for a machine to possess a form of general intelligence akin to that of a human, is one of the most ambitious goals ever proposed in the realm of science. Its level of difficulty is comparable to other monumental scientific aspirations, such as unravelling the mysteries of life’s origin or the Universe or comprehending the structure of matter. Throughout history, the pursuit of creating intelligent machines has led to the development of various models or analogies inspired by the human brain. For instance, in the seventeenth century, Descartes pondered the possibility of complex mechanical systems, comprising gears, pulleys, and tubes, being capable of thought emulation. Two centuries later, the metaphor shifted to telephone systems, as their interconnectedness seemed analogous to a neural network. Presently, the prevailing model is computational and is rooted in digital computers. Consequently, this is the model that will be discussed in the following article.

AI has numerous applications in various industries. For instance, in healthcare, AI is employed for disease diagnosis, treatment recommendations, and epidemic prediction. In finance, it aids in fraud detection, risk analysis, and portfolio management. Additionally, AI is instrumental in transportation for developing self-driving cars, drones, and intelligent traffic management systems.

However, despite its immense potential, AI is not without limitations. One significant constraint is the lack of understanding and interpretability of AI systems. For example, deep learning algorithms, a subset of machine learning, operate as “black boxes,” making it difficult to comprehend how they arrive at decisions. This lack of transparency can impede trust in AI systems, particularly in high-stakes industries like healthcare and finance.

The future of AI presents both excitement and challenges. AI technologies are advancing rapidly, with breakthroughs emerging each year. Among the emerging technologies in AI are deep learning, neural networks, and quantum computing. Deep learning, a subset of machine learning, enables computer systems to learn from vast amounts of data using neural networks. Neural networks, which simulate the human brain’s functionality, are a type of AI model. Quantum computing, on the other hand, utilizes quantum mechanics to perform complex computations at speeds much faster than classical computers.

The potential applications of these emerging technologies are extensive. For instance, deep learning and neural networks can lead to the development of more accurate AI models for industries like healthcare, finance, and transportation. Quantum computing has the potential to revolutionize fields such as materials science, cryptography, and drug discovery.

However, as AI technologies become more sophisticated, ethical considerations become increasingly important. One major ethical concern is the potential impact of AI on employment. With AI systems becoming capable of handling complex tasks, there’s a risk of job displacement, particularly in manufacturing and customer service industries. Another significant ethical concern is bias. AI systems are only as unbiased as the data they’re trained on, meaning biased training data can lead to unfair outcomes.

What will be the eventual outcome for society with the rise of artificial intelligence? We explore the most probable scenarios, ranging from a future where AIs resolve all our challenges to one where they pose a threat to our existence.

The advancement of AI offers significant opportunities for innovation and growth across industries, enabling companies to streamline operations, reduce costs, and introduce new products/services. However, this progress is accompanied by challenges like job displacement, bias, and privacy concerns. Job displacement is a prominent issue as AI’s proficiency in complex tasks may lead to job losses, especially in manufacturing and customer service. Addressing this involves investing in retraining programs for displaced workers. Bias and privacy are also key concerns as AI’s fairness is contingent on training data, and AI-powered surveillance raises privacy worries. Solutions include developing ethical AI frameworks and implementing robust data privacy/security measures.

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