**From Manual to Autonomous:**

**The Rise of Artificial Intelligent Robotics Implications for the Workforce and Society.**

**Introduction**

Innovation is an action that involves critical thinking and collective efforts of individuals to create preeminent inventions. One of the greatest examples of innovation is artificial intelligence. Artificial intelligence is a machine or computer that has the ability to learn and adapt to the changing world. This technological innovation can perform tasks like humans. According to Coppin (2004), artificial intelligence has the ability to deal with emerging situations, solve problems, answer questions, device plans, and perform various other functions that require some level of intelligence typically evident in human beings. Artificial intelligence encompasses different approaches in different fields including machine learning, deep learning, natural language processing, computer vision, and robotics which foster effectiveness in various industries such as in health, business, space exploration, and other. Through systematic algorithms, artificial intelligence is capable of analyzing data quickly with accurate results. This optimizes the mechanism of investigating faster which accelerates work and aids the problem of slow flow of ideas with a high level of accuracy. As the world continually faces problems, Artificial intelligence will help generate solutions beyond extremeness bringing many impossible into reality and helping humanity.

Robotics is an interdisciplinary branch of both computer science and engineering. This involves designing, constructing, operating, and the usage of robots. This aims to build robots that can assist humans most effectively and efficiently. The role of Robotics is becoming more significant due to the utilization of Artificial Intelligence (AI). AI is facilitating robots to accomplish tasks that necessitate intelligence akin to humans, such as judgment, perception, learning, and adjustment. Usually, robots are considered replicators of humans. Besides, AI is enhancing the capabilities and adaptability of robots, and improving their safety, efficiency, and performance. The field of robotics is used to develop robots that can substitute and replicate humans, especially in most dangerous activities including radioactive experimentations, space exploration, hazardous works, and others.  Across the ages, many academics, innovators, mechanics, and experts have commonly presumed that robots will eventually have the ability to imitate human actions and handle duties like humans. In some ways, sometimes robots can perform tasks better than humans. The presence of humans is required in some robots to operate but in others, they can function autonomously. Nowadays, the arena of robotics is expanding swiftly, with the progression of technology. The exploration, conceptualization, and construction of novel robots cater to diverse pragmatic objectives, encompassing household, business, and military applications.

During the 1950s, a group of scientists, mathematicians, and philosophers conceptualized the idea of artificial intelligence. This began to challenge the world with the idea of “why machines can not do what we do?”. Alan Turing first released a test to test for machine intelligence. During this time, computers lacked functionalities including intelligence, this means that they could not store any commands, and the only thing computers could do was only to execute them.  Also, running a computer is extremely expensive. McCarthy believed that artificial intelligence is achievable, and he led the groundwork for the development of the field. In the 1960s, Eliza, the first ever chatbot was invented by Joseph Wiezenbaum at the Artificial Intelligence Laboratory at MIT. This psychotherapeutic chatbot gives comfort to someone about how they feel. DeepBlue was introduced in 1997. This has become a game-changer in the world of artificial intelligence. DeepBlue was developed by IBM. This chess-playing computer program defeated Gary Kasparov, who was the reigning world chess champion at that time. In the same year the robot named Kismet developed by Cynthia Breazeal that could recognize and showcase different kinds of emotions. Later 2000s, the advancement of voice recognition features became a significant breakthrough in voice assistants like Siri(Apple) Alexa (Amazon), and Google(Google). Although these features are insufficient, developers further give this a major makeover as a result, voice recognition becomes a feature of artificial intelligence. In 2016, Hansen Robotics introduced to the world the humanoid robot named Sophia shocked the world. With the ability to think like a human, she can talk and share her opinion using artificial intelligence. And lastly, in the year 2020, GPT-3 was released by OpenAi, and later on, they released a much more updated version which is the ChatGPT in 2022. This has become a revolutionary tool that automates conversation. This required a well-structured algorithm to have an accurate result. Allowing its user to just type need then it will generate an answer automatically.

As the future will come, will these technologies become the standard practice of humans in terms of surviving in daily lives, or maybe it will become the world’s major challenge in how to deal with many problems that might occur during the time of Artificial intelligence. Undoubtedly, there are a lot of possibilities that might occur in the future, but knowing that technology is changing over time, many impossible things will become possible. Moreover, the only future of the world with AI will have an impeccable impact in changing the world in a much more advanced way that could change how humans will perceive life.

Nevertheless, artificial intelligence has vast branches. We researchers chose robotics since it is more interesting to conduct this research.  Apart from this, most people are familiar with robotics, since it is one of the most researched branches of artificial intelligence. This will help people to fully understand robotics and artificial intelligence.

**Objectives of the Topic**

The domain of artificial intelligence has demonstrated noteworthy advancement over the last half-decade. Artificial intelligence bots have become a hot topic, this study wants to know how robotics impacts the workforce and society.The researchers want to:

* To explain what artificial intelligence is.
* To describe the applications of artificial intelligence in robotics.
* To know the impacts of how AI revolutionized robotics and its application across various sectors: health, agriculture, business, and education.
* To identify the merits and demerits of robotics.
* To establish a well-constructed conclusion about robotics.

**Scope of the Topic**

The researchers want to explore artificial intelligence in robotics. This will only focus on one field of artificial intelligence which is robotics. Also, this study will further understand how artificial intelligence in robotics transformed society in advancement. The researchers want to know how various sectors utilize these technologies and how they critically maximize their efficiency.  In addition, the researchers want to address what are the positive and negative effects of these technologies on the world. Importantly, the actual construction of robots is excluded from this study.

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