

Artificial Intelligence and Related Suggestions in Accordance to India's Condition

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Abstract: Artificial Intelligence is very interesting agenda for discussions in recent times. It has faced massive expansion and has improved every phase of today's world. The special algorithms and specific programs are designed as per new demands of humans. Though scientist have explored about every possible innovation but still there exists some innovation specifically required as per the India's condition in different sector of India.

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1. Introduction

Artificial Intelligence is the most emerging concept which focuses on getting human work done by machines in most accurate manner. It's much wider concept than just getting work done; rather it's the system of softwares and programs designed together to maximize human comfort and minimizing human force while maintaining higher productivity, speed and accuracy in different tasks.

There are multiple examples of artificial intelligence around us including systems like SIRI and ALEXA for regular purposes to self driven cars and robotic doctors for major surgeries.^[1] The vast concept of artificial intelligence has been innovated to much extend and almost in every aspect, however there are still in some areas which artificial intelligence cannot replace.

Elaborating on last premise, the most obvious example is artificial intelligence cannot replace human emotions in conditions where human emotions are to be given more priority than practicality or programmed given, for instance situation of civil wars.

Although it is very difficult to criticize or find loop holes in artificial intelligence, but scientists have not overlooked the other side of this coin. Many scientists have argued over certain issues such as superiority of artificial intelligence, separate interpretation and a few more.^[2] On the last premise, the interesting point to be noted is there are more good done to society and most of negative arguments are based upon future which is completely uncertain.

Artificial Intelligence is a very wide topic if every aspect is taken into consideration, so here we illustrate few applications, positive and negative aspects and concluding with some suggestion which can be done as per India's condition.



Figure 1

2. Some Applications of Artificial Intelligence

- a) **Chatbot:** A chatbot is a virtual helper designed to communicate with human user and complete the tasks. Some most common examples of chatbots are:
 - i) **Amazon Echo:** It is a special device designed to perform tasks given in desired language by using speech recognition and natural language processing (NLP).^[3]
 - ii) **Google Assistant:** It is mainly designed to perform and manage general tasks in devices with a human touch by using NLP. It perform general task such as send messages, scheduling appointments, managing call etc. and add human touch by general statements "how are you?", "nice talking to you", "hope to meet you soon" etc.
- b) **Social Media:** Social media networks are one of the most active part where millions people are active at a time. Artificial intelligence has given a back support to social media by making use of features easier and convenient for users.
 - i) **Face Recognition:** Social media uses face media making easier for uses to use certain feature. It is based on machine learning, which include algorithms, and deep learning, which includes extracting minute detail of all available data on site via some neutral networks.^[5]
 - ii) **Language analysis:** This is very well known feature used by Twitter to identify terroristic language and other hatred filled speeches by additionally using NLP. With this feature Twitter was able to find several terroristic-linked groups.
 - iii) **Auto complete feature:** This is the most recently used feature by Gmail. While writing mail Gmail automatically gives suggestion for next statements or words which are commonly used. This feature works with the help of algorithms which defines an input field which provides suggestions when similar sentences or phrases are written.^[6]
- c) **Creativity:** Artificial Intelligence has left no area of our real world untouched, even the noble aspect of creativity which gives the originality to a piece of art can be assisted by algorithms of Artificial Intelligence.
 - i) **Wordsmith:** Wordsmith is very artistic program designed to create small and beautiful write ups from simple paragraphs. It can be bitterly known as content automation tool.^[5]

ii) Musenet: Musenet is a program of algorithms which is able to create a few minutes of compositions with different musical tunes and instrumental notes. However, this program was mainly designed for understanding music but it turned out to be a program that discovered patterns of music with rhythms and notes.^[3]

iii) AARON: AARON is program designed for drawing. It is all based upon combination of artistic algorithms put together resulting in perfect drawing as per the users command. It was developed very early in 1973 by Harold Cohen.^[4]

iv) Interactive Robotic Painting Machine: It is an algorithms designed for painting in robotic style.

d) Autonomous Vehicle: The most revolutionary development in transportation system is of autonomous vehicle which are mainly self-driven and more of environmental friendly. Autonomous vehicle mainly includes:

i) Self-driven cars: The most interesting innovation in transportation is of self-driven cars or auto-pilot feature. It mainly works with deep learning algorithms, GPS, object detection and vehicle radars. Although there are other systems that compliments this such as cameras, computer vision etc.^[5]

ii) Self driven Trucks: Similar to self driven cars in many ways, self-driven trucks are also very revolutionary invention which are different programmed for special purposes such as platooning, when trucks moves very close to each other in a straight line, and highway driving.^[7]

e) Health Care: Artificial Intelligence has assisted several health care aspects relating to surgery and medication. This has made surgeries easier and has also improved success rate of typical operations involving heavy risks. Some examples are:

i) Decision making support system: It is a system designed by Combio organisation. It is software designed to give warning to physician before a patient could get a heart stroke. This is mainly based upon data analysis and its programming done accordingly.^[3]

ii) Robotic Surgery: One of the hot topics in health care services is of robotic surgeries. Robotic surgery mainly involves robots assisting doctors in operation theatre by proving them closer view of the patients' body and assisting is better 3-D prints. Not only is this, robots are assisting in various ways in surgeries and each one is programmed accordingly.^[5]

3. Positive and Negative Aspects

Artificial Intelligence is the very revolutionary aspect in today's life. It has been continuously innovated to make our lives easier and better. However, scientists has long discussed over its positive and negative aspects. In a summarized manner positive and negative aspects of artificial intelligence are explained below.

Artificial Intelligence has primarily improved various securities in various institutions and areas by face recognition, finger print sensor and password system.

Secondly, in the field of medicine, AI has been used for predictions of diseases and their preventions. Thirdly, AI has been more successful in providing data analyzed programs due to algorithms used. Furthermore, reasoning based answers are more appropriately given by the use of these algorithms.^[8] Lastly about the untouched topics, AI has made human life a way more practical, technical, analytical and easier.

However, the opinions of the scientist who have argued over expansion of AI can't be ignored. Firstly, AI has touched every part of industrial sector, resulting in decline in demand of work force. Secondly, economists argue that AI is a reason for declining economy as it is responsible for massive unemployment. Thirdly, AI is taking over

every human work due to its better efficiency and productivity, as the result it is turning to supreme power.^[9] Lastly, psychologists argue that with the recent advances, AI has been preferred in areas where human emotions and creativity matters more, resulting in decline of humanitarian values.

4. Suggestions for Artificial Intelligence

- a) **Language Pronunciation:** As per the current advances in chatbots, scientists have developed verbal communication systems which are focusing of multiple languages. Robots are now able talk in different languages; however they lack proper pronunciation of words. This aspect can be achieved by using proper audio data and working on NLP.
- b) **Agriculture:** In a country like India where low productivity crisis in agriculture are prevalent, a system to maintain soil health is required. As per the recent conditions, rise in soil pollution has resulted in decline of productivity. AI can be used in agricultural process of ploughing which identifies and removes plastic waste from soil including large and micro plastics. It will work efficiently in improve crop productivity. It can be designed by using infrared camera, the unnatural color detector system morphology classifiers etc.
- c) **Plantation and productivity:** Looking at the uncontrollable and unpredictable climate changes due to global warming, AI can be used to get a manipulated climate in a closed room where depending upon the plant type and its growth patterns climate is changes accordingly. This will not only improve plantation but will also open a scope for reducing crop failures in India for marginalized farmers. Marginalized farmers work over a small area of land, so with the help of manipulated climate crop failures can be reduced over small lands.

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