

Study of Artificial Intelligence(AI) with Augmented Reality(AR)

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Abstract

Artificial Intelligence is the subarea of Computer Science, which deals with making machines work like humans. The concept of artificial intelligence has almost overruled the concept of typing on various Search Engine tools, rather people are interacting with computers like they interact with the humans. They give command to the systems and the systems respond accordingly, as humans does. So this artificial field has immensely grown in this real world. Nowadays a new concept has evolved i.e augmented reality. It means integrating the virtual things with the real environment. It is basically a sixth generation technology, which provides a real interface of virtual objects. Earlier it was not very much used but these days people are using this technology for education, for hospitals and in various other fields. This paper deals with the significance of integrating the technologies together.

Keywords

Interface, Augmented Reality, Technology, Artificial Intelligence, Significance, Virtual

I. Introduction

Artificial Intelligence has replaced humans in various areas. It has now become a tool to gather knowledge for users. Knowledge comes from information, and information comes from data. So artificial intelligent machines help users to gather data, then through this data users infer wisdom, which they then apply in real world. Artificial Intelligent machines are used for problem solving, they understand the natural language of humans and then respond accordingly. Hence, it is more useful for people who are disabled, those who cannot walk or cannot write, they simply have to give instructions to the machine and the machine will respond accordingly.

Applications of AI-

- Image processing
- Game theory
- Robotics
- Virtual Reality

A. Areas of Artificial Intelligence

1. Language Understanding

The ability to “understand” and respond to the natural language. To translate from spoken language to a written form and to translate from one natural language to another natural language.

2. Learning and Adaptive Systems

The ability to adapt behaviour based on previous experience.

3. Problem Solving

Ability to formulate a problem in a suitable representation, to plan for its solution and to know when new information is needed and how to obtain it [6].

The term Augmented Reality (AR) is used to describe a combination of technologies that enable real-time mixing of computer-generated content with live video display. AR is based on techniques developed in VR [1] and interacts not only with a virtual world but has a degree of interdependence with the real world. Augmented reality technology has its roots in the field of computer science interface research [3]. Augmented Reality is another new development in the area of computer science. It merges the real world image with the virtual image, people feel like those images are real, and they interact with them. Many devices have been developed so far like google glasses etc. Through mobile phones also one can see the virtual image that has been incorporated with real image. Many recent papers broaden the definition of AR beyond this vision, but in the spirit of the original survey we define AR systems to share the following properties:

- Blends real and virtual, in a real environment
- Real-time interactive.
- Registered in 3D[4].

Augmented Reality and Virtual Reality

The term virtual reality means not real. Imaginary world that exists only in dreams. According to [ii], virtual is defined to be being in essence or effect but not in fact.

Application of AR-

AR has shown significant promise in overcoming cyberphysical system visualization and interaction challenges in multiple domains, including medicine, construction, advertising, manufacturing and gaming [5].

II. Integration of Artificial Intelligence with Augmented Reality

The goal of this paper is to tell the viewers that though both the technologies are different, but then also they can be integrated together to produce huge results in the history of computer science. Many industries are now integrating the technologies together for more benefit. Let's see this through an example, suppose a group of students visit some of the computer labs which are very well decorated with charts and diagrams, AI system will collect information regarding the charts you like or the charts you disliked and time of your visit and will suggest you to do certain work accordingly. Now suppose you like one chart which has only diagrams drawn in it. Suppose you want to know extra information about that chart, then you point out the camera, which has Augmented reality technology embedded in it, in front of the chart, new virtual images will pop up in front of you, now with the help of touch recognition technology you may choose one. This is what augmented reality does.

III. Conclusion and Future Scope

In the next ten years, people will highly get rely on artificial intelligence and augmented reality technology, search engine will get a bit slower and will soon vanish. Augmented reality technology has various disadvantages associated with it. The

cameras used in clicking the pictures are not good enough that they can take good quality pictures at night as well. The quality of picture also depends on the distance from which the picture has been taken. At night also the view is affected. So these all drawbacks are to be removed in near future. So that the technology improves and a better quality picture can be taken and then better results can be inferred.

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