ISSN:0975-9646



# Artificial Intelligence in Various Domains of Life – A Review

**Aryan Singh**
*DPS Faridabad*

**Abstract -Artificial Intelligence is the activity of making machines intelligent since intelligent means to work with foresight in the given environment. It is the science of making intelligent computer programs and related to tasks of using computers to understand human thoughts and decisions. Artificial Intelligence is involved in various domains of life-like education, entertainment, transportation, employment etc. No doubt, Artificial Intelligence has transformed lives but it has to be adopted under suitable and relevant policies. AI applications will be common and useful in near future but some challenges like gaining public trust, overcoming fears, should be addressed and handled. The present study reviews the facts and application of Artificial Intelligence mentioned in various research papers and reports. It further elaborates the transformation made by Artificial Intelligence in various domains of life.**

***Key Words: Artificial Intelligence, Domains of Life, Review***

## INTRODUCTION

Artificial intelligence has become the important part of human life and changing this life tremendously. Not only it changed the life style but affected various domains of life-like education, health and safety. Artificial Intelligence is helping people to get education, to drive safety, to enjoy various games, to get better medication etc. Its various applications can be visible in school and colleges, hospitals, transportation and houses (One Hundred Year Study, 2016). The technology tycoons, researchers, governments all are working to make Artificial Intelligence more useful and practical in various domains of life. Facebook, Google invest heavily to find out the new applications of Artificial Intelligence so that they could innovate and offer services to people. Artificial Intelligence has changed the life style of people and the way they use technology ( One Hundred Year Study ,2016).Artificial Intelligence can be felt in smart phones, GPS, video games etc.

The present study reviews the facts and application of Artificial Intelligence mentioned in various research papers and reports. It further elaborates the changes made by Artificial Intelligence in various domains of life. It is important to understand the meaning of some terms before discussing the applications.

### Artificial Intelligence

Artificial Intelligence is the activity of making machines intelligent since intelligent means to work with foresight in the given environment (Nilsson, 1980). It is the science of making intelligent computer programs and related to tasks of using computers to understand human thoughts and decisions. Artificial Intelligence works to synthesize software and hard work for better results with foresight (Nilsson, 1980). It is a subpart of computer science which makes them intelligent and advanced. That is the reason that the use of Artificial Intelligence is increasing in technology based large companies. Artificial Intelligence is interacting researchers also to understand its applications in various domains of life (Brooks, 1990).

### Artificial Intelligence Vs. Human Intelligence

Human intelligence works naturally and takes decisions by using cognition. On the other hand artificial intelligence works on a model that behaves like humans.Artificial Intelligence is an artificial thing and Human Intelligence is a natural thing. Human intelligence works in the form of signals & artificial intelligence is digital. Artificial Intelligence is based on hardware and software but human intelligence is not based on these issues. Some researchers consider machines equally important and capable as human intelligence. The study conducted by McCarthy, Minsky, Rochester & Shannon, 1955 emphasis that Machines can work like human brain but the major problem is the inability of writing programs. Computers have adequate data handling ability and speed but it requires knowledge of basic principles of machine – learning techniques (Samuel, 1959)

## OBJECTIVES

The present study has following objectives:

(a) To review the applications of Artificial Intelligence in some selected research papers and reports.

(b) To enquire the changes made in various domains through Artificial Intelligence based on some selected resource papers and reports.

## METHODOLOGY

The present study is a review bases study which is based on secondary data. Some research paper and reports were selected for the purpose of review.

Research papers were selected by their content. Only those papers and reports were selected which were based on 'Meaning of Artificial Intelligence' and 'application of Artificial Intelligence'

## DISCUSSION

Artificial Intelligence is involved in various domains of life. Some of the domains and Artificial Intelligence's involvement are discussed below.

### *Education*

Although human teachers are required for effective education but Artificial Intelligence has made advance in education. Its applications are used by educators (One

Hundred Year Study, 2016).The study by Nilsson, 2010 also indicates the Artificial Intelligence's involvement in education. It indicates the use of procedural knowledge, programming, symbolic structures in education which are various important applications of Artificial Intelligence.

***Transportation***

Artificial Intelligence is showing its presence in the transportation domain with autonomous transportation. Artificial Intelligence is working towards making smart cars and self driving vehicles. GPS has become successful in personal vehicles also. It helps drivers to know about transportation patterns (One Hundred Year Study ,2016).Sensing capabilities for vehicle, sensors used in video cameras, radars have made the transportation planning easy and effective ( One Hundred Year Study ,2016).But driverless automobiles under a range of conditions is even more difficult and challenging than controlling a space craft (Nilsson, 2010).

Locations of transport destinations can also be inferred (Liao, Patterson, Fox & Kautz, 2007) through Artificial Intelligence. Sensors can be integrated into any Artificial Intelligence applications for smarter cars. Tracking and identifying people can also be done through sensors (Cooka Augusto, Jakkula, 2014).Automated vehicles can save lives by reducing crashes and managing traffic congestion (Wagner, Baker, Goodin, Maddox, 2014). Map databases, graphs can be used to show road & links.

***Games***

Computer games are also one of the applications of Artificial Intelligence. Artificial Intelligence techniques make them more appealing (The quest of Artificial Intelligence). Chess playing programs on computer these programs have been developed though Artificial Intelligence techniques (Nilsson, 2010). The defeat of the world chess champion, Garry Kasparov, by IBM's "Deep Blue" is the live example of application of Artificial Intelligence. Checkers and game of poker are also the result of Artificial Intelligence (Nilsson, 2010)

***Home***

Robots, vacuum cleaner, a vacuum cleaning robots are the live applications of AI at homes (AI 100). These robots have the capability to avoid falling down stairs. Microwave ovens are also used at home and have sensors (Nilsson, 2010)

***Health care***

Artificial Intelligence applications can improve health outcomes. Patient monitoring assistance in surgery, management of health care systems is the useful applications of Artificial Intelligence in the domain of health (AI 100). As per study conducted by Nilsson, 2010. Artificial Intelligence technology has been an important part of medical systems and support. Even a monthly magazine 'Medical Device & Diagnostic Industry' also recognized its importance in health care industry (Nilsson, 2010)

***Employment***

AI has impact on employment also although it is difficult to accurately assess current impacts (AI 100). Employment is dependent on many factors. Some studies held too much technological progress responsible for employment problem especially in America (Brynjolfsson, 2012) but computers have started making inroads in some important area. Information processing tasks make the use of Artificial Intelligence techniques (Andrew, 2012)

***Research***

Artificial Intelligence has given opportunities to research to organize and take part in International Conferences on Artificial Intelligence and related issues. University of Washington, Donald E. Walker organized large conferences on AI (Nilsson, 2010).

Texts and Books are also published in AI like AI search strategies, neutral-network and statistical methods in pattern recognition etc. (Nilsson, 2010)

**Challenges**

No doubt, Artificial Intelligence has transformed lives but it has to be adopted under suitable and relevant policies since it has some challenges.

- Driving in a crowded city can be a problem for automation due to unexpected events.
- Artificial Intelligence can become important for millions of people for their health but only if trust of doctors, nurses and patients can be gained.
- Quality education will require active engagement of teachers. Artificial Intelligence can be used effectively if teachers accept it and they are trained to use it.
- Employment issue can become prominent with the excessive use of technology.
- There is slow growth in diversity of applications in home domain.

**Limitations**

The present study has certain limitations like:

(a) It is based on some research papers and reports so the results cannot be generalized.

(b) Selected papers are based on 'Meaning of AI' and 'Applications of AI in domains of life' which restricts the vision of the researches. There are so many other areas which should be discussed before writing this kind of review.

Undoubtedly AI applications will be common and useful but some challenges like gaining public trust, overcoming fears, should be addressed and handled. Responsibility and Accountability are also the major concerns (Burrows, 2016).If these concerns are taken care of, AI can be used to improve and transformer the human life.

## REFERENCES


Brooks Rodney A.(1990). Elephants Don't Play Chess .*Robotics and Autonomous Systems*, 3-15

Burrows Leah(2016), What artificial intelligence will look like in 2030[Retrieved from http://news.harvard.edu/gazette/story/2016/09/what-artificial-intelligence-will-look-like-in-2030/]

Automated Vehicles: Policy Implications Scoping Study by Jason Wagner Trey Baker Ginger Goodin and John Maddox Report 600451-00029-1 Project Title: Policy Implications of Automated Vehicles on Texas Highways Sponsored by Southwest Region University Transportation Center Texas A&M Transportation Institute The Texas A&M University System College Station, Texas 77843-3135 January 2014

Contents lists available at ScienceDirect Pervasive and Mobile Computing journal homepage: www.elsevier.com/locate/pmc Review Ambient intelligence: Technologies, applications, and opportunities Diane J. Cooka , Juan C. Augusto, Vikramaditya R. Jakkula

Liao Lin, Patterson Donald J, Fox Dieter, Kautz Henry (2007). Learning and inferring transportation routines. *Intelligence*, Volume, April 2007, Pages 311-331

McAfee Andrew, Brynjolfsson Erik (2012). Race Against The Machine: How The Digital Revolution is Accelerating Innovation. *Driving Productivity, and Irreversibly Transforming Employment and The Economy*

McCarthy John, Minsky Marvin L., Rochester Nathaniel, Shannon Claude E.(1980). A Textbook that Points the Way [Review of Principles of Artificial Intelligence, by Nils Nilsson.

Nilsson Nils J. (2010) .*The Quest for Artificial Intelligence*. Cambridge University Press http://www.cambridge.org/us/0521122937