

Artificial Intelligence vs. Human Mind: Survey & Predictions

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Abstract— Research & Development in Artificial intelligence is growing day by day on a very large scale. Artificial Neural Network is a process of representation human mind that try to simulate its learning process. This paper shows the surveys on artificial intelligence that 1. What is Artificial Intelligence? 2. Comparison between human mind and Artificial intelligence. 3. How beneficial it can in long run or can also bring destruction in Human workforce.

Keywords— Artificial intelligence, Artificial, Neural, Network, Machine

I. INTRODUCTION

Today in 21th century, in any field such as education, business development, or any other profession the intelligence is the core supporting part of any field. Intelligence is the only characteristic that carries out any of the work either it is an education, driving a car, cooking food etc. The intelligence is the core part. Without the intelligence everything seems too incomplete and none of use. We are hearing new and trending words such as Artificial Intelligence. Artificial intelligence can just be said as a synonymous of Human intelligence in reference of Technology. Scientists are working day by day to improve the intelligence of machines developing in the industries. Let's take an example of a robot chef in any restaurants, the machine can cook food for a group of human beings as it is being programmed for or it has been taught to do so but what if a in a Italian restaurant the customer demanded a French dish that the robot does not know about or not being programmed for[1]. The machine should be ready for all consequences and find an alternative method to deal with the problem either it is solving the problem or dealing with the problem in a manner so that the result must not go against. Today artificial

intelligent robots or machines are not that developed to deal with any kind of consequences. Imagine an era with 100% deployment with artificial intelligence around us, every task will be done very efficiently and with zero chances of error, but everything has a dark side either, with the deployment of robots everywhere billions of people will have to leave there jobs and be unemployed in a sec. when we as humans take 10 seconds to to solve a problem while machine can solve the same problem in less than a 1 second , if in any case or a virus in the machines can bring destruction as machines with more thinking capacity and physical strength will do whatever the virus pulls them towards and can even make their own army. Artificial intelligence will serve the humans if used in a limited and restricted manner but if is used and deployed with 100% can bring destruction also.

II. COMPARISON OF HUMAN BRAIN WITH ARTIFICIAL INTELLIGENCE

In today's time periods the machines have not been that intelligent to reach the mental ability of humans. To have the knowledge about what is the difference between AI and human intelligence the lets dig up the roots! "What is Intelligence?" Intelligence is the mental ability of problem solving, Reasoning and learning the things by seeing or by being taught to. Because of its nature, intelligence amalgamates cognitive functions such as sensation, attention, memory, language and planning. Here we discuss a brief ide how a human brain and Artificial intelligence functions and how a decision making occurs in an human brain and Artificial intelligent machines.[2]

1. Human Brain :

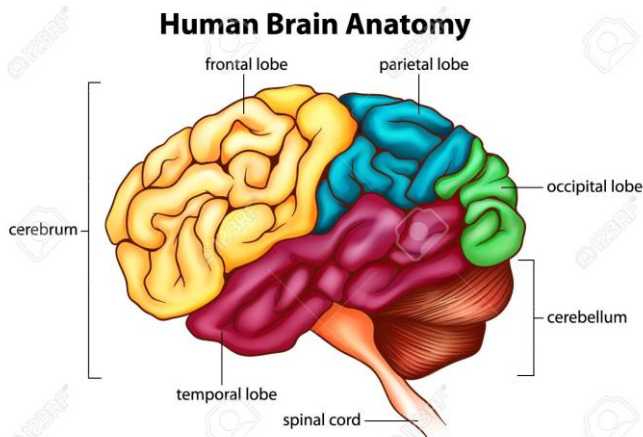


Fig 2.1: Human brain anatomy

The human brain is the command center for the human nervous system.

Facts about human brain:

- It weighs about 3.3 pounds (1.5 kilograms).
- The mind makes up around 2 percent of a human's body weight.
- The cerebrum makes up 85 percent of the mind's weight.
- It contains billions of nerve filaments (axons and dendrites), the "white issue".
- These neurons are associated by trillions of associations, or neurotransmitters.
- Our cerebrum utilizes 20% of oxygen and blood from our body.
- 60% of our mind is fat.
- When we gain some new useful knowledge the structure of mind changes.[1]

The biggest piece of the human mind is cerebrum can be unmistakably found in fig 2.1, the cerebrum comprise of further more parts that don't should be examined in this paper.

The cerebrum is likewise separated into a few flaps:

- The frontal projections are in charge of critical thinking and judgment and engine work.

- The parietal flaps oversee sensation, penmanship, and body position.
 - The worldly projections are included with memory and hearing.
 - The occipital projections contain the cerebrum's visual handling framework.
- The distinctive pieces of the cerebrum have diverse capacities obviously.

For instance, the cerebrum is in charge of considerations, for example, thinking, arranging, feelings, critical thinking, and discernments. The cerebellum attempts to look after parity, muscle tone, and walk. The mind stem is particularly critical since it is vital for circulatory strain, breath, and pulse. At long last, the limbic framework controls hunger, thirst, memory, dread, and feeling. These diverse procedures should frequently cooperate. [2]

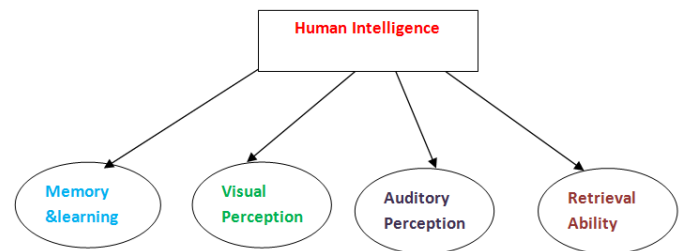


Fig 2.2: Human Intelligence model

- Human Mind/Intelligence depends on four phases i.e.:
1. Memory and Learning
 2. sight Intelligence
 3. Auditory Perception
 4. Retrieval Ability

All these four phases are needful with each other. Memory learning is the ability of remembering the things which we learned either by seeing, reading or by listening. Memories are also of two types:

1. Short term memory
2. Long term Memory

Short term memories will not be remembered long such as the memories of our childhood, dreams and daily accidents and encounters while long term memories cannot be forgotten easily and will be remembered forever such as parents, friends etc.[3]

Long term memories are the actions that are repeated daily so that the human brain never forgets until or unless accidents occur which leads to memory loss.

The human intelligence model discussed in this paper as follows:

A. Memory and Learning:

Learning and memory starts from all the sensory inputs such as hearing, touching or sensing anything.

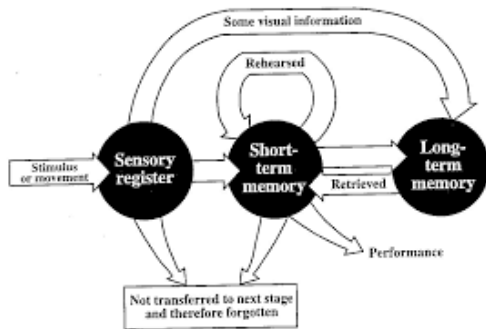


Fig 2.3: Memory and Learning flow

The sensory inputs sense the information and send the Information in fraction of seconds so that the information is not lost. Fig 2.3 depicts the memory and learning flow from sensing the information to storing the information in brain. The brain checks the information that what you already know about the sensory input, if it is having any record then the information is stored in long term memory else in short term memory.[2]

B. Visual Perception:

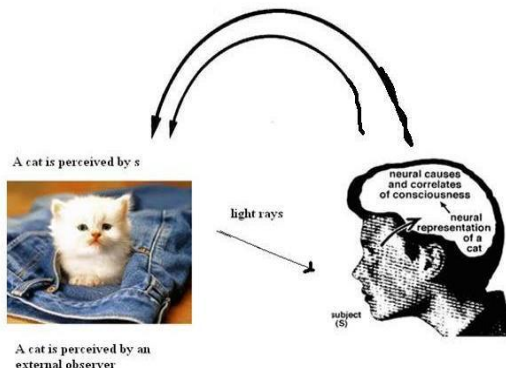


Fig 2.4: An example of visual Perception

It is the ability to sense the information that is visible in the visible light through the surrounding environment[3]. Shown in Fig 2.4.

C. Auditory Perception:

Sound-related recognition alludes to how the cerebrum translates what we hear. This may incorporate discourse sounds just as ecological sounds. Sound-related recognition fits under the wide umbrella of CENTRAL AUDITORY PROCESSING SKILLS. As indicated by the different reviews sound-related based learning and visual based learning are best learning, we can adapt effectively dependent on these observations cerebrum can without much of a stretch handle data and effectively recall it. Since the nerves available at ear will sends the signs to the mind and it is anything but difficult to the cerebrum to keep up a similar data in it. Sound-related based getting the hang of greatly affecting the cerebrum. Fig 2.5 demonstrates the graphical portrayal of Auditory Perception.

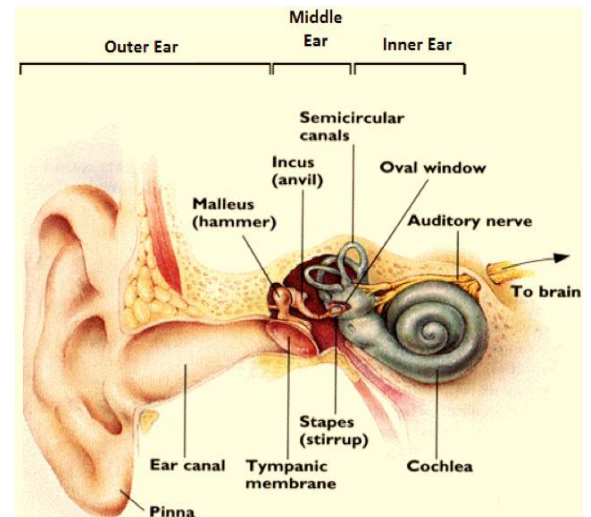


Fig 2.5: Auditory Perception Depiction

D. Retrieval Ability:

While most people think they have either a bad or a good memory, in fact, they are just fairly good at remembering some types of things and not so good at remembering others. The failure to remember something can be a result of the faulty encoding of data, assuming that you don't have a physical disease. The information simply fails to make it to the long-term memory. Fig 2.6 shows the Operation of memory cycle operation.[4]

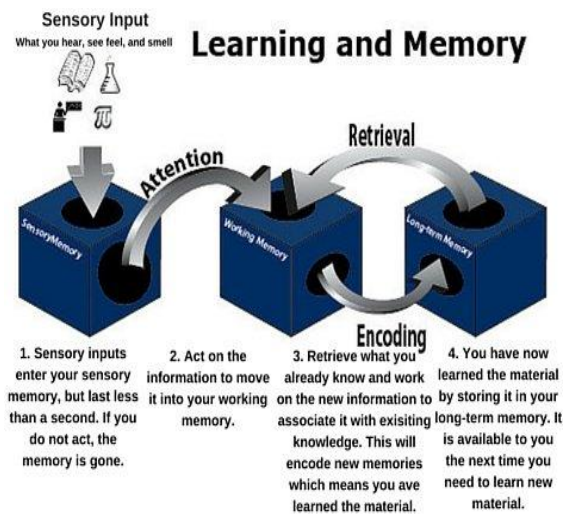


Fig 2.6 : Operation of memory cycle operates.

2. Artificial Intelligence:

The father of Artificial Intelligence Pursuance, Mr. John McCarthy that is "The science and engineering of making intelligent machines, especially intelligent computer programs". AI is a form of construct a computer, a computer operate to the robot, in the similar thing the intelligent humans think. AI is versed by studying how human brain thinks and perform the task, and how humans learn, decide, think about that particular idea or thing, and work while trying to overcome a problem, and then using the after effect of this conversation as a basis of increasing intelligent software and systems.[5]

A. Reasoning and Decision Making:

Artificial Intelligence machines have the power of reasoning and decision making. Artificial Intelligent machines can take inputs, process them and gives the outputs. These machines do not require human supervision for their all operations. Artificial Intelligence machines can also help in making decisions. They reduce the risk factor in taking the decisions in your particular task providing.[5]

B. No Emotions:

Artificial Intelligence machines have not emotions. The decision made by artificially intelligence Machine is not affected by their emotions. They are normally based upon the data analysis.

C. Prevent Hazard:

Artificial Intelligence machines helpful in preventing the hazards. They are programmed to detect the problem at next stage. They perform several tests on the systems and tiding about actual risks and problems in those systems, i.e. any security violation in bank security system is detected by Artificial Intelligence system. That leads to alarm system concerned authorities before serious mishappening.

D. Communication Ability:

Artificial Intelligence have the ability to communicate to the human as well as other artificial intelligence machine. They can communicate in various languages and expert to translate one language into other languages very easily. A Chabot is an example of communication ability of the Artificial intelligence machines.[7]

E. Final Take:

Artificial Intelligence is most helpful human race and doing great things and achieving bigger targets. Nowadays, AI has become an integral part of everyday lives. It has become a

beneficial to numerous enterprises like human services, money, showcasing and so on. Along these lines, it ends up vital for different enterprises to keep pace with the most recent patterns in Man-made reasoning to amplify profits by it.

III. SURVEYS ON ARTIFICIAL INTELLIGENCE

Year	AI Technologies
2015	perverted 3 time European Go champion 2 dan professional Fan Hui by 5 games to 0.
2016	Machine learning researchers that AI Impacts ran in collaboration.
2017	Robotic process automation using script.
2018	ForwardX CX-1 Robotics Suitcase, Sophia robot (Sophia is a milestone in humanoid robotics)

The field of AI research was installed at a workshop held on the place of Dartmouth College during in the summer of 1956.[1] Those who taken would become the primate of AI research for dickers. What is the processing and states of AI in January 2019? Neoteric records lay down increased sector of AI, some measurable influence, people-related challenges for enterpriser efforts to carry out into AI, and big amount of issues related to data, the lifecycle of AI: what role does data play in the existence of constitution, how safe they keep it and their policies rules and regulations concerning about data privacy. Moreover, the general public is constant not sure if AI is good or bad for manhood and that may play an crucial role in the speed of its acknowledgement as a business equipment[6]. Fig

3.1 Shows the surveys of different countries all over the world.

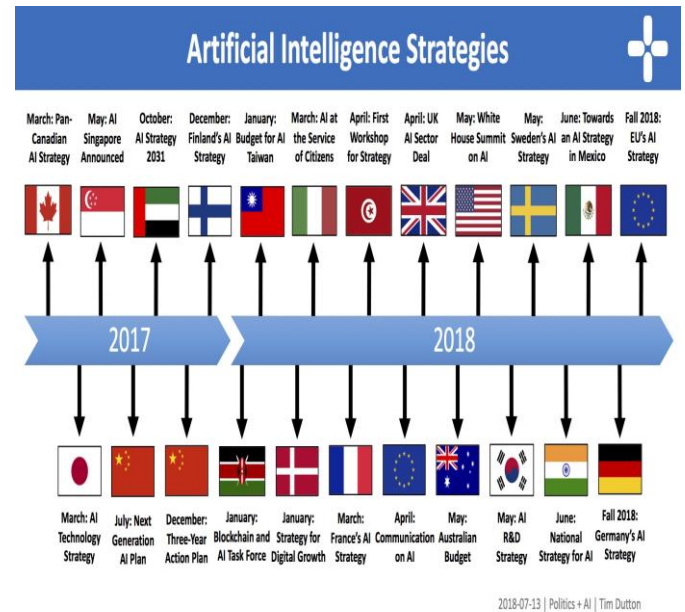


Fig 3.1 : Artificial Intelligence Strategies and Surveys

While AI is becoming one of the most efficient tool for reducing the human efforts but somewhere it is also responsible for people loosing there job and losing the job opportunities for the work force. Fig 3.2 shows the prediction of AI from Cartoon series Tom and Jerry from the early 1970s

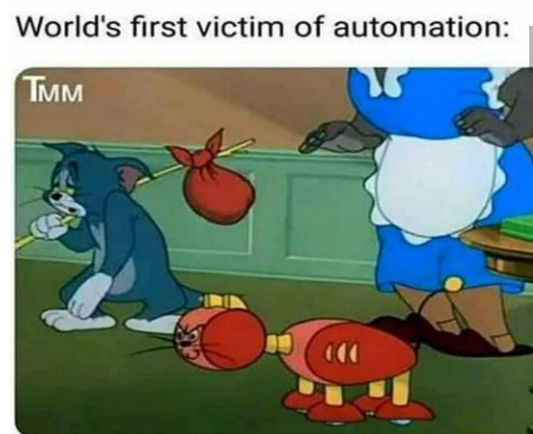


Fig 3.2: A scene from Cartoon Tom and Jerry

While fears about mechanization still exist, labourers see potential for computer based intelligence to improve the security and nature of work, and increment their assortment of errands, as per Gartner :

Numerous industry specialists have made forecasts about the fate of man-made consciousness (man-made intelligence), AI, and mechanization in the work environment—yet little research exists on how gifted and untalented representatives see the coming innovation disturbances.

Gartner reviewed in excess of 2,700 representatives in the US and the UK over various ventures and aptitude levels, including untalented specialists, talented manual laborers, administrative laborers, and experts, to decide how unique gatherings see artificial intelligence in the working environment.

The report offered the accompanying tips for innovation administrators accountable for computer based intelligence items and administrations who need to improve their go-to-showcase adequacy:

1. Organize assistive simulated intelligence over computer based intelligence intended to supplant whole employment capacities: Offer laborers instances of assistive artificial intelligence, for example, characteristic language questions or virtual individual partners.[3]

2. Improve selection and commitment by sending purchasers informing that makes laborers progressively hopeful about how computer based intelligence could improve their employments: Portray how you can improve the wellbeing and nature of work and make assignments all the more intriguing, and address and quiet feelings of dread by stressing that specialists will have more opportunity to associate with clients and collaborators.[3]

3. Organize artificial intelligence endeavors in businesses where laborers are generally tolerating and see numerous ways computer based

intelligence could support them: These incorporate interchanges, vitality, and protection.



Fig 3.2: A artificial Representation of AI VS Human Workers

IV. PREDICTIONS ON ARTIFICIAL INTELLIGENCE

1. For Sake of Human beings:

No doubt the Artificial intelligence is serving human beings some of the most important points are as follows:

While 2018 was a big year for AI, the stage is set for it to make an even deeper impact in 2019. Fig 4.1.1 shows the presentation of the relationship between AI and Humans.



Fig 4.1.1: Graphical presentation of relation between Human and AI.

- Artificial Insight, explicitly AI and profound learning – was wherever in 2018 and don't anticipate that the promotion should fade away throughout the following a year.
- AI focuses towards a future where machines not exclusively do the majority of the physical work, as they have done since the mechanical insurgency yet in addition the "considering" work – arranging, strategizing and deciding.

There are some important prediction of AI in 2019 :

A: *Machine learning as a service (MLaaS) will be deployed more broadly:*

In 2018, we witnessed major strides in MLaaS with technology powerhouses like Google, Microsoft, and Amazon leading the way.

Today in 2019, MLaaS is sold primarily on a subscription or usage basis by cloud-computing providers. For example, Microsoft Azure's ML Studio provides developers with a drag-and-drop environment to develop powerful machine learning models.

B: *AI will help companies solve AI talent shortages:*

A shortage of AI and machine learning talent is creating an innovation bottleneck. A survey released last year from O'Reilly revealed that the biggest challenge companies are facing related to using AI is a lack of available talent. And as technological advancement continues to accelerate, To combat this, organizations will—ironically—use AI and machine learning to help address the talent gap in 2019. For example, Google Cloud's AutoML includes machine learning products that help developers train machine learning models without having any prior AI coding experience.[5]

C: *AI governance will gain importance:*

With so many companies investing in AI, much more energy will be put towards developing effective AI governance structures. With so many companies investing in AI, much more energy will be put towards developing effective AI governance structures

D: *AI will create more jobs than it eliminates:*

Over the long term, many jobs will be eliminated as a result of AI-enabled automation. Roles characterized by repetitive, manual tasks are being outsourced to AI more and more every day. However, in 2019, AI will create more jobs than it replaces. Rather than eliminating the need for humans entirely, AI is augmenting existing systems and processes. As a result, a new type of role is emerging. Humans are needed to support AI implementation and oversee its application. Next year, more manual labour will transition to management-type jobs that work alongside AI, a trend that will continue to 2020.

2. Can be against human beings :

Artificial intelligence can also be a reason for affecting the human beings. Most researchers agree that a super intelligent AI is unlikely to exhibit human emotions like love or hate, and that there is no reason to expect AI to become intentionally benevolent or malevolent. Instead, when considering how AI might become a risk, experts think two scenarios most likely:

A: *The AI is programmed to do something devastating:*

Autonomous weapons are artificial intelligence systems that are programmed to kill. In the hands of the wrong person, these weapons could easily cause mass casualties. Moreover, an AI arms race could inadvertently lead to an AI war that also results in mass casualties. To avoid being thwarted by the enemy, these weapons would be designed to be

extremely difficult to simply “turn off,” so humans could plausibly lose control of such a condition. This type of peril is one that’s present even with narrow AI system, but growing like as levels of AI intelligence.

B: *The main purpose of AI is do something beneficial, but it develops a destructive method for achieving its goal:*

It can be happen while we unsuccessful to fully deal out with the AI’s goals with ours, which is mottled stiff. If you ask an meek expert car to bring to you to the airport fast at any how, it exploit infest go running for you there followed by helicopters and inherent in spew. If a super intelligent system is loaded with an rampant geo-designing initiation, it may startup destruction with our biological community as a symptom, and view human efforts to stop it as a hazard to be met.[4]

V. CONCLUSION

We have debated in this paper the sensitive system of human beings and the Artificial neural networks in AI and the process of decision making. Also the major differences between humans intelligence and human intelligence. We have Discussed the surveys on how the AI is serving humans and how it made workers to lose their jobs. Also the predictions that can lead in future for and against humans if not consumed proper.

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