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Consciousness In Algorithm

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ABSTRACT

Mother nature has crowned the human race with unique intelligence. Life on earth emerged some 3.8 billion years ago. Human species evolved six hundred million years ago. At present in the twenty first century scientific innovations and technologies have advanced rapidly. Man acquired the potentiality to transform mere computing machines, into intelligent agents. The dawn of artificial intelligence. There are four types of artificial intelligence. The goal of A.I is to Artificial General Intelligence or strong AI. Is technological singularity an inevitable consequence in the future. Transhumanism and cyborg are by products of the Artificial Intelligence Researches. Economic impact due to Artificial Intelligence. Great theoretical physicist Stephen Hawking had given detailed warning to the human race due to advancement in the field of AI and Mathematician Sir Roger Penrose states that consciousness and mind cannot be produced in the laboratory. Human beings possess different type of intelligence as stated by psychologists. Few of them are mathematical intelligence, musical intelligence, spatial intelligence, Naturalistic intelligence, Inter- personal and Intra personal intelligence, emotional intelligence and spiritual intelligence. Is it possible to manifest all these in a mechanical machine. On the other hand spiritual philosophers and Gurus like Sri Vethathiri Maharishi state that human beings hold privileged and special status in the evolutionary process of the universe. Divine qualities like Faith, Devotion, Love, Compassion, Emphth and Bliss can never be replicated in the machines. Human consciousness is a exclusive phenomenon, machines cannot become conscious.

Key Words : Strong AI - Artificial Intelligence Winter - Cognitive functions - Neural networks - Robotics - Robotrights - Super Intelligence - Transhumanism.

INTRODUCTION

Cosmologists suggest that our universe had started from the Big Bang explosion followed by the inflation phase and for thirteen billion years it has been expanding. Many theoretical physicist approve that the initial conditions were fine tuned to produce intelligent species in the later years of the evolutionary process of the universe. Human race had proved beyond doubt that they are the six sensed beings with the thinking faculty. Man became powerful than the rest of the species on the earth. The scientific discoveries and inventions gave birth to the new field known as Artificial Intelligence. The ability to think, to analyse and to act upon that decision were possible only to human race. A giant leap had been taken by human beings to incorporate intelligence into the machines or computers. Computers revolve around the use of Algorithms. Computers are feed with external data, they interrupt and give outputs to achieve certain specific goals or targets. Any act of mathematical deduction can be made by mere shuffling of symbols as 0 and 1. Alan Turing's method of computation or theory of computation was the result of mathematical logical study. From ancient civilization man had tried to establish whether mechanical reasoning was possible or not. Actually this field of Artificial Intelligence was established at the workshop at Darmouth college in 1956. Scientist John Mccarthy was the first person to coin the word "Artificial Intelligence". The areas of technology which goes hand in hand with Artificial Intelligence field are Robotics, Logic, Artificial Neural Networks and Machine learning. Some AI researches are aiming in researching the ability of the computer algorithms to improve themselves automatically through experiences. Perception is originally considered to

be a human quality but AI researches are successful in producing machines which recognize human faces and facial expressions which are monitored by them. Object recognition and speech recognition machines are produced by AI researches.

TYPES OF ARTIFICIAL INTELLIGENCE

Intelligence encompasses the ability to perceive, interpret signals from external agencies and make decisions to achieve a desired result. Generally intelligence are many in types and each individual has different talents and potential depending on what type of intelligence they have inherited through genes. Some have musical intelligent and are inclined towards music. Intrapersonal intelligence makes a person aware of his own feelings, desires and emotions. But in the field of artificial intelligence there are mainly four types. They are reactive machines this type of machines are well versed in playing games with human beings example - playing chess. The machine Deep Blue played chess with the Grand master and won the game. The second type is limited memory, these type of machines retain data from previous events. The third type of machine is based on the theory of mind. The famous robot Sophia is one such example. The fourth type is the machine with self-awareness. These type of machines are the dream of the Artificial Intelligence research.

ARTIFICIAL GENERAL INTELLIGENCE (AGI)

This is also known as the strong Artificial Intelligence. The aim of this field is to produce the faculty of mind in the machine. The researches state that appropriately programmed computer with right inputs and outputs will possess a mind like human beings. Neurologists, Psychiatrists, Biologists and Doctors are not still very clear about the concept of mind and consciousness. Philosophers like Sri Vethathiri Maharishi explain that consciousness is present everywhere and it is all pervading. But the supporters of AGI state that in few years they would be able to mimic the human mind in machines. If this becomes true then the question arises regarding rights of these machines which has mind. Because if intelligence is present in a system then the machine can have feelings of its own. Then here comes the field of Robots rights. In California "Institute for the Future" which researches on this topic puts forth this question of rights of the machines or Robots. In answer to these questions some scientists have stated that the rights of the machine will lie in between the spectrum of human and animal rights. It might sound very odd to us in discussing the rights of a machine, made by man but once it has intelligence, it cannot be viewed as a machine any more. Some critics enquire, are there any limits to how intelligent machines can become, and AI researchers state there is no such limits and the computer or the machine may excel the intelligence of human beings and it would become what is called as a super intelligence or hyper intelligence or super human intelligence. It will overtake the ability and efficiency of a most brightest and intelligent human being. Scientists in the field of cybernetics, the designers of Robot of advanced technology and inventors of Robots have all uniformly stated that in the future the synthesis of human beings and machines are extremely possible. The merger of human being and machines are called as cyborgs. These cyborgs which are a combination of man and machine will have the strength and ability of both. It will be more powerful and efficient. This concept of fusion between biological intelligence and Artificial Intelligence is known as Transhumanism.

TECHNOLOGICAL SINGULARITY

Singularity generally is a term in the field of physics and mathematics. Singularity is a point in space where all known laws of physics do not apply. The centre of the Black hole is termed as a singularity and the Big Bang at the origin of universe is also called as a singularity in physics and in the field of cosmology. At the singularity point nothing can be predicted. Same way a famous fiction story writer in science Verner Vinge had given this name Technological Singularity in the field of Artificial Intelligence. This type of singularity is reached when the intelligence of the machines surpasses the intelligence of human race. The growth of the artificial intelligence will be exponential and dramatically and the future cannot be predicted or comprehended. The machines of this version will not only excel humans but it will try to control and ultimately bring an halt to human race. Some scientist have strongly admitted that this singularity of technology will eventually happen. And this will occur in the next few decades of this twenty first century. This was calculated on the basis of the famous Moore's law which ascertains and confirms the drastic exponential improvement in digital technology.

ECONOMIC IMPACT

Experts warn that AI will impact economy both the ways. Automation might bring large Job opportunities for skilled professionals and executives. The famous quotation states "To err is human", but this does not happen with a machine. Human errors are largely reduced. Human become tired and exhausted over time but computers or machines are always active. But there is an disadvantage with machines of not connecting with a bond with people, while rendering transactions. The machines are very useful in doing repetitive works, calculating and computing without taking a break. But the human qualities of care and bonding are absent in machines. At current times AI are very expensive and very costly, only very big companies can afford it. Many citizens of the developing countries will be unemployed because of the introduction of Artificial Intelligence machines. AI machines can only imitate human in decision making, problem solving, understanding emotions and perceptions. The Artificial intelligent applications are used in many fields. Originally it was utilized only in the field of Information technology and Technical industry. But today it is made use in educational institutions, medical system, Business management and in Business Administration, in the law field and manufacturing industries. In the day to day life the application of Artificial intelligence are Siri, Boxever, Flying drones, Echo, Netflix, Tesla, Pandora, Nest and Cogito. All these above mentioned AI tools are classified under the head of Artificial Narrow Intelligence (ANI). The next category is called artificial General intelligence, it is ranked as equal to human intelligence. And the last category is called as Artificial super Intelligence (ASI). Which is believed to surpass human intelligence. Many scientists caution the researches and inventors of this field, to keep the machines as assistants to human achievements and intelligent machines should not be allowed to empower the human race.

VIEWS OF SCIENTISTS ON AI

Stephen Hawking had spoken on many issues which are possible threat to mankind. One among them was the aspects of AI and how can it become a great danger to the entire world. Hawking has once quoted in his speech at Cambridge that there is no deep difference between what can be achieved by a biological brain and what can be achieved by a synthetic brain or a computer. In an interview in November 2017 he had stated that we have to advance forward in AI development but we also need to be mindful of its real dangers. He feared that one day AI might replace the whole of human altogether. Hawking had once stated the short term impact of AI depends on who controls it and the long term impact depends on whether it can be controlled at all. The AI which we now have is a very primitive type but Hawking warns of a phase called the explosion of intelligence or Intelligence explosion, in which computers could exceed our intelligence greatly. Sir Roger Penrose is an English mathematical physicist. He and Stephen Hawking had worked on the singularity theorems of Black holes and Big Bang. He strongly recommends that human consciousness cannot be replicated by the machines. He explains in his book "The Emperor's new mind" that quantum mechanical effects in the human brain give rise to consciousness. He also declares that the unified theory of everything which the scientist are working hard to achieve will incorporate the consciousness in the missing link between theory of gravity and quantum mechanics. Roger Penrose and the Psychologist Hamer off had published a paper pertaining to consciousness and the microtubels present in the human brain are responsible for this concept of consciousness. Great philosophers like Shree Vethathiri Maharishi explain that consciousness is one of the divine potentials of the eternal space. According to his philosophy the eternal space has four intrinsic nature they are plenum, force consciousness and time.

CONCLUSION

This field of Artificial Intelligence has many advantages and disadvantages. The present generation of AI are mere machines performing calculations, processing data, facial recognition and voice recognition. When it is used as a instrument to aid human race there is no harm, but once it exceeds its limit then it might become a great threat to every species in the world. Many scientists are very sure that human intelligence cannot be imitated. The mind, the consciousness, the ethics, moral values, the sense of appreciating beauty, ecstasy and Bliss are aesthetic qualities of human beings. These cannot be brought in a machine which is nothing, other than a mechanical instrument working or functioning on the basis of logical algorithm. The subjective experiences of an individual cannot be explained but the processing of information in human brain can be explained. We can conclude by stating that man is a special species and cannot be imitated. Human beings are unique.

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