

Artificial General Intelligence

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Abstract: *AGI(Artificial General Intelligence) is something that people doesn't know about. So What is General Intelligence? And what is this "general intelligence" researches talk about? In this review we shall study about the researches and give our review as what we think this new innovation is going on and also will this innovation or we say idea is really effective as what the researches create. Artificial General Intelligence is the advance version of the Artificial Intelligence in which It proclaims that it can compete with the Human Intelligence in every aspect and also work more efficiently. Artificial general intelligence is majorly used in the robots which can act and think as of what they see and analyse. This paper is about Review of the researches written by many researches. this paper gives a brief review about what is AGI and what is its purpose and also what people has to say about it as to why it is the future of the world this paper also review the researches and we will study what does AGI stands as per researchers perspective..*

Keywords: Artificial general intelligence

I. INTRODUCTION

Can we best the conceptions and approach of the original problem regarding which the AI was established the creation of allowing machines with general intelligence resembling to, or small than, that of natural beings? The normal approach of the AI stated by(Russell and Norvig, 2010), as it has evolved for multiple decades since the founding, views artificial intelligence largely in terms of the pursuit of detached capabilities or specific practical tasks. while this approach has yielded multiple engaging technologies with their results, it has proved to be futile in terms of the original ideas of the field.

In recent days large volume of community of investigators has came up, concentrating on the original meanings of the AI creation and study of software or tackle systems with general intelligence resemblant to, and ultimately perhaps less than, that of natural beings. This paper will survey the other community and its progress. Approach to define the conception of Artificial General Intelligence(AGI) and are reviewed including fine formalisms, engineering, and biology inspired perspectives. The range of these designs for AGI systems includes systems with symbol, mongrel and Universalist characteristics. Metrics for general intelligence are studied and assayed, with a conclusion that, although criteria for achieving of mortal- position AGI may be straightforward, criteria for assessing partial progress remain more controversial and problematic.[1]

II. REVIEW OF LITERATURE

According to Ray Kurzweil (Kurzweil, 2005) has used the term "narrow AI" to refer to the creation of systems that carry out specific "intelligent" behaviours in specific contexts.

For a narrow AI system, if one changes the context or the behaviour specification even a little bit, Some Human level of reprogramming or reconfiguration is usually required for a system to maintain a level of intelligence. This is quite different from human natural generally intelligent systems, such as humans, with a wide range of abilities to adapt to changing goals or situations by engaging in "transfer learning" (Taylor, Kuhlmann, and Stone, 2008) to acquire generalized knowledge. In general, it is significantly different from intelligent systems. From one goal or context to another. The term "artificial intelligence" has emerged as a counter-term to "narrow AI," which refers to a system with such a wide range of generalization features. According to Ben Goertzen General intelligence involves the ability to achieve a variety of goals, and carry out a variety of tasks, in a variety of different contexts and environments. General Intelligent systems need to be able to handle problems and situations that are not what the creator has anticipated. General

intelligent systems need to be good at generalizing the knowledge gained in order to transfer knowledge from one problem or context to another. Arbitrarily general intelligence is not possible due to practical resource constraints. Real-world systems can have varying degrees of generality, but inevitably learn some things more efficiently than others. In any real-world system, there will be some learning tasks on which it is unacceptably slow. Therefore, real world general intelligence are somewhat biased towards certain types of targets and environments.

2.1 Problem Definition

AGI should theoretically be capable to perform any task that a human can and expose a range of intelligence in different areas. Its performance should be as good as or better than humans at solving problems in top areas of intelligence. In difference, weak AI excels at completing specific tasks or types of problems. multiple living AI systems use a combination of machine learning, deep learning, reinforcement learning and natural language processing for self-improving and to solve specific types of problems. still, these technologies don't approach the accretive capability of the human brain.

The problem is that machines now are really good at narrow tasks, as in AI has bettered in specific disciplines like playing Go, spam discovery, and(unexpectedly on point) Spotify playlist recommendations.

2.2 Objective

The main ideal of this Review is to assay the exploration paper and review on their ideas and invention as how important is their effective and how can the product created by them be developed indeed more.

AGI systems are tended to perform the task with lesser effectiveness than humans, only for a particular/ single function assigned to them, while they've zero capability to do any task which isn't assigned to them. On the negative, a mortal performs the task with lower proficiency but can perform a broader range of functions than any of the being AI operations of moment.

2.3 Research Methodology

As we read various researches about the AGI there are still some questions which needs to be solved or simply said needs to be get better understanding that who is better in knowledge.

Is it Human intelligence, or Artificial Intelligence or neither of them because of Artificial General Intelligence?

There are various aspects on which the comparison can be made between these three intelligences. The comparative method here we shall use is the tabular method.

Characteristics	Human Intelligence	Artificial Intelligence	Artificial general Intelligence
Common Sense	Humans tended to use common sense	Common sense in absent in AI	AGI needs to analyse every aspect to use common sense
Nature	Human Intelligence looks to adjust to new environments by using a combination of various cognitive processes	AI aims to create machines that can imitate human behaviour.	AGI cannot change its nature according to the people or surrounding they see.
Functioning	Humans use the brain's memory, computing power and ability to think	AI depend on data and instructions fed into the system.	AGI depends on the background knowledge fetched through internet and earlier commands.
Learning Power	Human Intelligence is all about learning and understanding from different incidents and past experiences	AI falls behind in this area, as AI cannot think.	AGI learning ability is kind of same to human but Learning depends on the internet as well as what they see.

decision-making	Humans hold the exclusive ability to learn, understand, and then apply their acquired knowledge in combination with reasoning and logic, and understanding.	AI systems depends on the data they are trained on	AGI machines can never understand the concept of “cause and effect” as they do not possess any sense.
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III. ANALYSIS AND FINDINGS

After Comparing three intelligences with different kind of aspects I would like to say that AGI is something which is competent to the human brain. The Human being is supposedly the smartest being in the world who can adapt in every kind of environment and also has developed the most, therefore he is the only one who created AI and also AGI. AGI is the advance level of AI where It tries to communicate with the world with his own thoughts and these thoughts are fed into the system of AGI this is something the robot or the machine is self-capable of and we are also seeing it with our own eyes.

These robots think on their own use data to sense things and also act upon the action In the future their might be as robots can help human beings as such a friend.

3.1 Advantages:

- AGI is seen to be a better alternative to perform tasks without human supervision.
- It is strongly computational processing power and seems to be in flexible thinking and reasoning.
- This technology will try to eliminate or secure from issues such as disease, hunger, general and political chaos. With its automation power, it would decrease the number of the need for human or manual work and in extension the value of money.
- its capabilities will be beyond human capacity, which will benefit humans to a certain height.

3.2 Disadvantage:

- As research goes of AGI, there are various consequences of AGI become unimaginable. It tends to be a threat for human as the human won't be much necessary anymore and can even takeover human at every aspect over time.
- In additionally, humans will be put in the question their existence constantly with the development of AGI. Since the intelligence power of AGI is expected to be either more or more competent to that of humans.
- Their might also be risk of people losing jobs due to these robots.

IV. FUTURE SCOPE

The working protocol to support with artificial intelligence and machine learning networking is problematic.

This scarcity in networks to work as lone models in a private surroundings. And such a mode of operation is a stark contrast from the complicated and largely social human experience.

Communication gaps come in the way of data sharing and the inter-learning of machine learning models, which reduces universality.

The absence of an artificial intelligence network also hinders the overall development of a common purpose.

Organizational administrators are in the dusk on how to integrate AI with their business operations to drive specific results.

The lack of direction, complemented by the fact that companies can not afford to hire a devoted team of AI experts, makes the implementation of AI platforms costly.

V. LIMITATIONS

There are still improvements that have to be before we reach the AGI stage. One instance is the ability to understand the content of language so we can translate between languages using machines. When humans do machine rephrasing, they understand the content and also express it. And right now machines aren't truly good at understanding the content of

language. However, we'd have systems that could also read and understand everything the human race has ever written, and this is thing that a human being can not do, If that goal is reached presently, computers can handle a little further than,000 words. So, some million neurons. But human intelligence has billions of neurons that are connected in a really intriguing and complex way, and the current state- of- the- art(technology) is just straightforward connections following very easy patterns. So going from some million neurons to billions of neurons with current hardware and software technologies, I do not see that coming.

VI. CONCLUSION

Intelligence is confusing, and there are multiple definitions of it. In a nutshell AGI expands on AI in an attempt to encompass a conception capability that's the capacity to be as good at, or better, at mental tasks than humans, across a wide variety of disciplines.

The narrow AI approach has not led to dramatic progress toward AGI goals; but at the present time, the AGI achievements of researchers explicitly working toward AGI've also been quite modest. There be a number of theoretical frameworks explaining why AGI is profoundly distinct from narrow AI; but none of these frameworks can be considered completely empirically validated. The emergence, within the AGI community, of a broadly accepted theory of general intelligence – including a characterization of what it is, and a theory of what sorts of architecture can be expected to work for achieving human-level AGI using realistic computational resources.

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