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Artificial Intelligence: A Kalam and Sufi Perspective

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Abstract: The recent remarkable progress in Artificial Intelligence (AI) has renewed the discussion on the possibility of human-level AI. Despite the difficulty of the problem and the presence of many large gaps and challenges, most people working in the field think that human-level AI is achievable, but they disagree on the date. In this paper, I briefly discuss the possibility of human-level AI from the perspective of two traditions in the Islamic world, namely Kalam and Sufism, and despite their different mode of investigation, they converge to the same conclusion on this topic.

Keywords AI; artificial intelligence; kalam; sufism; philosophical sufism; philosophy of science; science and religion

Introduction

Artificial Intelligence has recently produced many remarkable achievements and it is expected to show more in the future, however it still far from approaching human-level intelligence. Most of this progress come from Deep Learning (DL) which is very promising in pattern recognition, but it is still limited in high-level functions such as reasoning [1,2]. Although recent AI systems show some abstraction and reasoning abilities, however, they seem to use pattern matching, shortcuts, and memorization of some aspect of the reasoning process [50–54]. Despite the remarkable ability of Large Language Models (LLMs) [9,70–74] in learning some patterns of the reasoning process and then apply them in different context, they still lack understanding of the coherent text they produce when they are probed more deeply [68,75–78,86–88].

[89]

Another flaw in the argument that deep learning will lead to human-level intelligence is the assumption that intelligence will somehow emerge through training neural networks without providing any convincing justification for this assumption. There is also a growing interest recently

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in studying artificial general intelligence [3–9,79–81]. Despite few skeptical views [60–62], most experts in the field think that human level intelligence is achievable but they disagree on the date [8]. Although a large part of what we do could be automated, however, there is still something beyond these automatable tasks, this key necessary building block is understanding. Searle [10] illustrated the basic idea through the Chinese room experiment, he argued that computation will not be sufficient for thinking, understanding, and consciousness, and the causal power of the brain should be duplicated to achieve this goal.

Penrose [11,85] also provided many examples to illustrate why computers will not be able to show human like understanding, he argued that understanding is not governed by rules and it is not a computational procedures. He suggested that understanding can be achieved using non computational processes and quantum physics might be a good candidate. Palmer [34] also provided many arguments why quantum physics should play a role such as energy efficiency.

To further illustrate the importance of understanding in the scientific discovery context, consider how the idea of quantum computing was developed, to be able to discover the idea, one should have understanding of the binary representation, understanding of how computer programs work, and understanding of how quantum mechanics works. Then to combine these ideas together to come up with the idea of quantum computing, without understanding of each of the above concepts this process cannot be achieved. Many other problems at the frontier of science have similar nature and would require understanding to be solved, current AI systems are only showing promising results on narrower problems such as finding the mathematical equation that describes specific phenomenon [59,60,82–84]. Several other examples can be given to show that there is something beyond computational processes and without it, AI systems will keep operating at a shallow level.

Muhtaroglu [13] discussed the possibility of achieving strong AI within both dualist and non-dualist views, where strong AI will be less challenging in a non-dualist view. He also discussed the Kalam views on free will [14]. Ritchie [15] provided a comprehensive discussion on God action in the natural world with focus on human consciousness, she argued that divine action theories that locate divine actions in a nonphysical mind are insufficient, she suggested that theistic naturalism is more compelling, where natural processes do not compete with divine actions, but participate with God in a natural manner.

Despite the potential of the Kalam and Sufi thoughts and the later synthesis between the two in addressing key challenges in the philosophical foundation of modern science and in the philosophical thoughts in general, we can only see few works that started to engage with these challenges, see for example [21,22,63–65,67,69]. In this work, I only provide a brief summarization of the Kalam and Sufi perspective on the possibility of human-level intelligence in machines.

Kalam Perspective

One key difference between Kalam [17–20] and other philosophical traditions in the Islamic world is that the Kalam tradition takes the compatibility between the world and divine actions and attributes more seriously when studying the natural world. Due to this key difference, each one of these traditions produced different philosophical foundations of natural science. Altaie [21,22,69] has recently discussed and summarized these key foundational principles with their implications. In this work I will focus on one key principle relevant to this work, namely causality [23–25].

In this work I will focus mainly on the Ash'arite school of Kalam with major figures like al-Ash'ari, al-Baqilani, al-Isfarayini, Ibn Furak, al-Juiani, al-Ghazali, al-Razi, al-Amidi, al-Iji, al-Taftazani, and to a lesser degree on the mu'tazilite school. The discussion on the rational bases and how these two schools developed their systems is beyond the scope of this paper. After establishing God existence and his attributes, God sovereignty is one of the main theme of the Ash'arite system, nothing in the world can happen outside the will of God, this emphasis allowed their system to be more consistent than the mu'tazilite system in addressing key challenges like the problem of evil. According to the Ash'arite [23–25] nothing can have genuine causal power over anything and all causal power belong only to God. According to the Ash'arite, any deterministic view that limits God sovereignty and actions in the world is necessarily flawed. The fire does not have a causal power to

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burn and God is the creator of the act of burning and he might decide not to create that action, but it is God habit to usually do so. The main implication of the Ash'arite view is that the laws of nature can not be deterministic. This view suggests that all laws of physics -not only quantum mechanics- should be probabilistic, similarly the laws of biology should be probabilistic, and finally the laws of intelligence, this might suggest that quantum mechanics could play a role in these fields too. Using similar reasoning, they proposed even a more radical idea namely recreation, which state that the entire world is recreated at each moment by His action, nothing can sustain its existence and without continues recreation everything will be annihilated. According to the Ash'arite, nothing has causal power, nothing can sustain its existence, and nothing can understand.

Although the Ash'arite consider rational investigation one of the main ways of knowing, the Ash'arite system shows that any deterministic view that limits God actions in the physical and the mental worlds is clearly flawed, this implies that human rational investigation cannot escape God sovereignty let alone the machines. Understanding which is a key aspect of knowing is created by God, rational investigation does not have the causal power to produce understanding on its own, God may or may not create understanding after rational investigation. According to al-Ash'ari [47] God create knowledge at rational investigation usually similar to the creation of burning when there is a fire and He may not create it, which means understanding is also probabilistic, this is more clear in the case of understanding than in the case of other natural laws. According to Nur al-Din al-Sabuni [26] a Maturidi scholar, there are two types of knowledge, a necessary (daruri) knowledge created by God without human choice like the whole is bigger than its parts, and acquired (iktisabi) knowledge created by God that is acquired by the human through senses and rational investigation. However, some Ash'arite like al-Razi [47,48] argued that knowledge is not probabilistic after rational investigation, but his view is still different from some mu'tazilite who argued for the emergence of knowledge at rational investigations [47], where God according to them placed a causal power in humans to know. To the Ash'arite, God actions are applicable to possibilities, not to impossibilities, where violating mathematical and logical truths is impossible but understanding them is in the realm of possibilities, and this might be the limit of what machines can achieve from the Ash'arite perspective.

Unlike other natural laws which are applicable everywhere, high-level understanding seems to be unique to humans, even within humans, the same rational investigation by different people not always produce understanding for some (this does not mean that a correct rational investigation will not lead to a true conclusion, which is a different issue, the Ash'arite agree that a correct rational investigation will lead to a true conclusion). Although computer systems are based on quantum mechanics, these systems are built in a deterministic way which means that creating smoothing beyond these deterministic processes would be an exception not the norm. Even for the brain itself, there is no evidence suggesting that the brain can be still functioning after death, even if it is provided with the necessary conditions to function. Near death experiences also seem to suggest that the brain alone is not sufficient for consciousness, particularly experiences that give a correct description of something beyond normal sensory abilities.

The above discussion shows that from an Ash'arite perspective it is very hard to accept the possibility of human-level understanding and intelligence in machines unless He decide to create them in machines.

Sufi Perspective

The Sufis stress the limit of rational investigation in acquiring true knowledge. According to Ibn Arabi [28,29] there is a type of knowledge that cannot be acquired by rational investigation, like knowing the sweetness of honey. According to al-Ghazali [27] the true nature of things and the divine knowledge can be reflected in the mirror of the heart only if the mirror is purified and polished. Qaysari [65,66] also argued that true knowledge of the things as they are is difficult to acquire except for hearts that have been illuminated by the light of God.

The senses alone will give a partial and distorted knowledge as demonstrated by al-Ghazali through many examples [32], and although rational investigation can provide a higher form of

knowledge than the senses, this knowledge will be shaped and limited by the limits of the investigation method and by the limits of the investigator. The self can escape from these limitations only by means of external objective reference [33]. Probably the best way to summarize this is by what attributed to Ibn Arabi describing Ibn Sina 'It is a wonder how far this blind man reached with his crutch', blindness here refer to blindness to unveiling, and the crutch refer to rational investigation. However, there are several strict criteria [30,46,49] that should be met for this source of knowledge, this was the subject of many disagreements between the Kalam scholars and the Sufis [31,56], and between the Sufis themselves [30,46,49].

According to Ibn Arabi [33] the world itself is a veil, and except for the people of unveiling, all other knowledge such as rational investigation is knowledge of the veils through the veil of the self. The purification of the heart is the main way to receive this kind of knowledge, a transformational process that remove the veil to allow the self to see itself and others, as put by Chittick [33] 'removing the ignorance and obscurities that separate the true subject from the true object'. The perspective and the way the self sees the world is changed by each stage of the transformation (see [35–38] for further discussions), until the veil is completely lifted and one reaches to his true self that can have true knowledge 'and breathed into him of my spirit' [43]. This transformational process leads to the perfect human, at this stage the sight is sharpened from the timeless sight, the Sufi no longer knows by himself but by God, it is by Him he sees and knows 'When I Love him, I am his hearing with which he hears, and his sight with which he sees' [41]. The Sufi path is a journey in the world of meaning to the Infinite, therefore there is no limits to the knowledge that humans can have.

The above discussion shows that it is very hard to accept the possibility of having this second important source of knowledge namely unveiling in machines unless He decide to create it in machines.

Conclusion

In this paper, the Kalam and Sufi perspective on AI was briefly discussed. The paper showed that there is a limit on what machines can achieve. Therefore it is hard to accept the possibility of achieving human-level intelligence in machines from the Ash'arite and the Sufi perspectives.

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