Islamic Philosophy and Artificial Intelligence: Mapping the Terrain

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Abstract: The development of artificial intelligence (AI) is progressing through stages: artificial narrow intelligence (ANI), artificial general intelligence (AGI) and artificial super intelligence (ASI). This article aims to map out recent literature in Islamic philosophy which discusses and explores AI with respect to those divisions. In other words, this is a baseline study on the potential discourse of AI within the various schools of Islamic philosophy such as masha'ī (peripatetic), ishraqī (illuminationist), and sadranī (transcendental). Our inquiry concerns with how do contemporary scholars in Islamic philosophy give response to the recent development of AI? We seek various open access English references which discuss AI and Islamic philosophy, and we discover 19 English references published in between 2014-2024. We take the initiative to broaden our investigation to include 12 Arabic references. Although classical Islamic philosophy contains a significant number of discussions on intellect and mind, this has not been sufficient to attract more research on AI and Islamic philosophy. Therefore, we present and identify some questions to stimulate further academic research on AI within Islamic philosophy.

Keywords: artificial intelligence, Islamic philosophy, baseline study.

Abstrak: *Perkembangan kecerdasan buatan (AI) mengarah pada kecerdasan buatan sempit (ANI), kecerdasan buatan umum (AGI) dan kecerdasan buatan super (ASI). Artikel ini bertujuan untuk memetakan literatur terbaru tentang filsafat Islam yang membahas dan mengeksplorasi AI dalam kaitannya dengan tiga pembagian tersebut. Dengan kata lain, penelitian ini merupakan studi dasar atas wacana potensial AI di ruang-ruang filsafat Islam seperti* masha'ī *(peripatetik),* ishraqī *(iluminasionis), dan* sadranī *(transendental). Penyelidikan kami menyangkut bagaimana para ahli kontemporer dalam filsafat Islam memberikan tanggapan terhadap perkembangan AI terkini? Kami mencari berbagai referensi bahasa Inggris dengan akses terbuka yang membahas AI dan filsafat Islam, dan kami menemukan 19 referensi bahasa Inggris yang terbit antara tahun 2014-2024, dan kami mengambil inisiatif untuk memperluas penyelidikan kami pada 12 referensi bahasa Arab. Meskipun ada sejumlah besar diskusi filosofis tentang intelek dan akal dalam filsafat Islam klasik, namun hal itu tidak cukup untuk memicu lebih banyak penelitian tentang AI dan filsafat Islam. Oleh karena itu, kami*

mengemukakan dan mengidentifikasi beberapa pertanyaan untuk menstimulus penyelidikan akademis lebih lanjut tentang AI di bidang filsafat Islam.

Introduction

Islamic philosophy is the fundamental study of the nature of existence, knowledge and reality, grounded in various Islamic teachings. There are three prominent schools of thought in Islamic philosophy viz., the *masya'i*/Peripatetic/Aristotelian Islamic philosophy, the *ishraqi*/Perennial Islamic philosophy and the *hikmah muta'aliyyah*/Sadranian Islamic philosophy. Each of these schools investigates areas such as God, minds, knowledge, reality, existence, mysticism, and more.

The rapid development of artificial intelligence (AI) raises various questions on the nature of intelligence and mind, consciousness, and free will. While classical Islamic philosophy offers numerous discourses and insights into these issues, contemporary Islamic philosophy may be particularly relevant to the inventions and utilisations of artificial narrow intelligence (ANI), artificial general intelligence (AGI) and artificial super intelligence (ASI). It is plausible that the three schools of Islamic philosophy could offer distinct analysis and evaluations of these AI types. If this is the case, then each school of Islamic philosophy might pose unique philosophical questions concerning ANI, AGI and ASI.

However, contemporary scholars of Islamic philosophy have not yet paid sufficient attention to the issue and discourse of AI. This might be due to the fact that most Muslim countries are not at the forefront of AI technology development. According to the *Tehran Times* report on 27 February 2024, the top three Muslim countries which develop AI are Iran, Saudi Arabia and Turkey based on the total AI documents published in the Web of Science (WoS) database in between 2013 and 2022. These countries published 2,638 documents, 2,465 documents and 2,303 documents respectively. If the total WoS documents are compared with non-Muslim countries, then Iran ranks 14th in global AI development.[1] However, this figure is not specific to documents on AI and

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[1] NN, "Iran tops Islamic nations for AI documents", *Tehran Times*, online edition (Tehran, 27 Feb 2024), https://www.tehrantimes.com/news/495440/Iran-tops-Islamic-nations-for-AI-documents, accessed 13 Jul 2024.

Islamic philosophy; rather, it includes documents on the science, technology, engineering and mechanics of AI.

Urban Muslims are more exposed to AI than their counterparts in rural areas. Constant internet access enables urban Muslims to utilise AI for works, study, and religious activities. If this trend continues, then there could be a gradual shift in the relationship and interactions among urban Muslims, their religious authorities, and God. Therefore, it is essential to portray how academic references have been capturing AI at the level of Islamic philosophy.

This research aims to map out recent English and Arabic academic references concerning the discourse of Islamic philosophy and AI. In other words, we exclude all academic references that discuss AI but not within the context of Islamic philosophy. Having said that, we may include certain references that, while not explicitly in the context of Islamic philosophy, could prove beneficial to the Islamic philosophy community, such as English-to-Arabic translations of books investigating AI. Our research question is as follows: How do contemporary scholars in Islamic philosophy give response to the recent development of AI? We do not have strict criteria or qualifications for the notion of 'contemporary scholars in Islamic philosophy.' Instead, all academics, professors, students, and entrepreneurs who have publications in English and Arabic discussing, exploring, and investigating AI with respect to Islamic philosophy are considered 'contemporary scholars in Islamic philosophy' for the purpose of this study. It might be the case that some do not directly address our research question; however, it remains necessary to delineate their research focus on AI and various topics in Islamic philosophy. Furthermore, this research aims to address the research question based on various academic publications, such as journal articles and books, from the last ten years (2014-2024). We choose this timeframe to anticipate very few quantities of academic publications in English and Arabic that explore AI in the realm of Islamic philosophy.

Method

We manually collect all open-access journal articles from Google Scholar, Scopus, Web of Science, JSTOR, and EBSCO. Our search includes keywords such as "Islamic philosophy," "artificial intelligence," "artificial general intelligence," "artificial

super intelligence," "artificial narrow intelligence," "Peripatetic Islamic philosophy," "Perennial Islamic philosophy," "Sadranian Islamic philosophy," and other relevant variations. Additionally, we use Amazon.com to find appropriate books, though we do not apply the systematic literature review or the bibliometric analysis for this search. We include journal articles, books, newspapers, magazines and other potential writings published between 2014-2024, and we exclude technical AI papers, especially those lacking philosophical discussion or exploration.

Once we secure the journal articles and books, we will categorise them by their affiliation with the *Masya'i*, *Ishraqi* or *Sadranian* schools of Islamic philosophy. This is crucial for mapping their philosophical tendencies and identifying key ideas for further research on Islamic philosophy and AI. However, there have very few articles and books published between 2014 and 2024 that discuss and explore artificial intelligence at the level of Islamic philosophy. During our search in October 2024, we discovered only 19 journal articles and books that fit our criteria, all published in English. Therefore, we expanded our search to include Arabic literature and found 12 academic references published in Arabic that explore artificial intelligence, although some of these references do not investigate AI specifically from an Islamic philosophical perspective.

Result

Given that our research aims to map current literature discussing and exploring AI in relation to Islamic philosophy, we do not delve into or scrutinise the content of every academic source we found. We are, in fact, surprised by the small number of academic references addressing AI at the level of Islamic philosophy. Even when we expand our investigation to Arabic references, we do not unfortunately find substantial or meaningful discussions on AI and Islamic philosophy. We do not have a conjecture ourselves as to why this is the case, especially considering that the philosophical discourse on the mind in Islamic philosophy should have been a fertile ground for current philosophical speculation on AI.

Ziauddin Sardar identifies two general challenges concerning AI, even though some literature argues in favour of AI as a repository of wisdom. First, the operational function of AI often reflects prejudices, bias, ethnocentric judgements, and ignorance.

Second, there is no objective framework to measure AI's wisdom.[2] Moreover, AI will shape what Sardar calls as "trigoxic" which he defines as "a complex, evolving entity that combines true and toxic knowledge that is shrouded by the smog of Ignorance."[3] In addition to Sardar's points, there is a potential threat that Western international branch campus could colonise the education of future Muslims.[4]

According to Jones, the emergence of recent technologies like AI and gene sequencing has led to a multiplication of epistemological choices, particularly regarding the manipulation of evolution. This emergence should integrate both the contradictory and convergent aspects of such epistemological multiplication so that the latter can develop its own evolution effectively.[5] We will now provide a brief sketch of the variety within Islamic philosophy. For this purpose, we have selected one philosopher to represent each school of Islamic philosophy, though our investigation is not limited solely to these three figures. First, Mulla Sadra argues in favour of *wujud* as follows:

> "…whoever is ignorant of the knowledge of *wujūd*, his ignorance runs through the most important of all subjects and the greatest among them; and he will become mindless of it and of the secrets of divine knowledge; and its inner meanings will become lost to him, as well as the science of Divine Names and Qualities, prophecy, and the science of the soul and its connections [with the whole of cosmology]"[6]

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[2] Ziauddin Sardar, "The Smog of Ignorance: Knowledge and Wisdom in Postnormal Times", in *Emerging Epistemologies: the Changing Fabric of Knowledge in Postnormal Times*, ed. by Ziauddin Sardar (Herndon, Va.: International Institute of Islamic Thought, and Centre for Postnormal Policy & Future Studies, 2022), p. 33–34.

[3] *Ibid,* p. 32.

[4] Shamim Miah, "Epistemology and Higher Education in the Muslim World", in *Emerging Epistemologies: the Changing Fabric of Knowledge in Postnormal Times*, ed. by Ziauddin Sardar (Herndon, Va.: International Institute of Islamic Thought, and Centre for Postnormal Policy & Future Studies, 2022), p. 145.

[5] Christopher Jones, "Epistemologies and Change in Postnormal Times", in *Emerging Epistemologies: the Changing Fabric of Knowledge in Postnormal Times*, ed. by Ziauddin Sardar (Herndon, Va.: International Institute of Islamic Thought, and Centre for Postnormal Policy & Future Studies, 2022), p. 52.

[6] Mullā Ṣadrā, *The Book of Metaphysical Penetrations: A parallel English-Arabic text*, first edition edition, ed. by Ibrahim Kalin, trans. by Seyyed Hossein Nasr (Provo, Utah: Brigham Young University Press, 2014), p. 3-4.

If this is the case, then Sadranian scholars should determine AI's position in the landscape of the knowledge of *wujud*. Given that ASI's sole ambition is to outweigh human intelligence, it would challenge maxims such as 'creatures will never overshadow their creator(s).' Having said that, AI might never reach the ASI level if it cannot overwrite its initial algorithm. This presents an opportunity for scholars in the Sadranian school to frame AI as an extension of the idea of *tajalli* (manifestation).

Second, although Ibn 'Arabi was more renowned as a Sufi than a philosopher, his thought on philosophical *tasawwuf* might also reflect the ideas of the Perennial school of Islamic philosophy. His reflection on the bezel of Prophet Muhammad provides a clue about the nature of human beings and Divinity, as follows:

> "The world was created in God's image, and the human was created in two images (the Real and the world), hence, no human temperament perceives only one of the two aspects (good and evil). Thus, any human temperament can perceive the difference between the good and the evil, and to know by experience that a thing is evil and without experience (that is, by reason) that it is good, so that his (rational) perception of the good in a thing diverts him from (seeing) its evilness. This is conceivable. However, the removal of evilness from the world, that is, from being, is inconceivable. God's Mercy applies to both the good and the evil. With respect to itself, the evil is good and vice versa. Regarding a certain human temperament, a good thing may be evil from a certain standpoint and vice versa"[7]

If that is the case, then how should the invention of AI be positioned concerning the creation of humans as the image of the Real (or God) and the world? How could AI differentiate between good and evil, especially since its invention is not a direct consequence of the image of the Real and the world? Scholars of Perennial Islamic philosophy should address these questions and establish whether AI is value-laden or value-neutral regarding the unity of existence (*wahdatul wujud*).

Third, Ibn Sina makes an interesting claim about the mind that could provide a significant clue regarding a key distinction between human intelligence and its artificial counterpart. He expounds that:

> "Be that as it may, the mind can still be susceptible to uncertainty, making it possible that, relative to [the mind, the individual] is designated, for example, either by determinately being animate to the exclusion of being inanimate or determinately being inanimate to the exclusion of being animate, even after it is judged that in itself it cannot be both things but is determinately one or the other of them"[8]

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[7] Binyamin Abrahamov, *Ibn al-ʿArabī's Fuṣūṣ al-Ḥikam: An Annotated Translation of "The Bezels of Wisdom"* (London and New York: Routledge, 2015), p. 179.

[8] Avicenna, *The Physics of The Healing: Books I & II*, ed. by D. Morgan Davis and Muhammad Eissa, trans. by Jon McGinnis (Provo, Utah: Brigham Young University Press, 2009), p. 9.

In other words, the presence of uncertainty is what determines whether the mind falls into the category of animate or inanimate. In contrast, AI attempts to reduce the probability of uncertainty, which ultimately classifies it as inanimate. However, scholars of Peripatetic Islamic philosophy should offer a proper response on how to locate AI within the theory of emanation, particularly considering Ibn Sina's gradation of intelligence (*aql*).

Although there is no single line of argument among classical Islamic philosophers regarding the idea that human beings could develop AI, we suspect that AI technology itself could profoundly shape and reshape how people not only gather knowledge and information but also grapple with their individual existence, knowledge, God, religiosity, and self-consciousness, as well as restructuring the way we interact with the world around us.

Key Ideas in Three Schools of Islamic Philosophy

Islamic philosophy comprises numerous concepts and theories, all of which are intricately intertwined and often overlap. The following table aims to simplify this complexity, while also posing specific questions about AI in relation to each school of Islamic philosophy:

Table 1 Mashayī, Ishraqī, and Sadranī Schools of Islamic Philosophy

Feature	*Masha'ī* (Peripatetic)	*Ishraqī* (Illuminationist)	*Sadranī* (Transcendental)
Epistemology	Emphasis on logic, reason, and sense perception	Intuition, illumination, and direct spiritual experience	Balance of reason and intuition, with a focus on transcendental knowledge
Metaphysics	Aristotelian-based, with focus on substance, accidents, and causality	Neoplatonic influence, emphasizing unity, emanation, and light	Synthesis of Peripatetic and Illuminationist metaphysics, with a focus on transcendent reality

Cosmology	Hierarchical universe with a clear distinction between the material and spiritual realms	Universe as a manifestation of divine light, with a focus on spiritual dimensions	Hierarchical universe with both material and spiritual aspects, emphasizing the unity of existence
Human Nature	Rational being with a potential for intellectual perfection	Spiritual being with a capacity for direct union with the divine	Combination of rational and spiritual aspects, with a focus on human's place in the cosmic order
Ethics	Virtue ethics based on reason and moderation	Ethics rooted in spiritual purification and union with the divine	A comprehensive ethical system incorporating both rational and spiritual dimensions

Before discussing our findings and analysis, it is important to consider which branch of philosophy AI belongs to. We discover that only one Arabic writer explicitly claims a position for AI in the landscape of philosophy. Azizi asserts that the philosophy of mind is the root concept of AI.[9] If this is the case, then Islamic philosophy should have been a fertile academic area for exploring AI. However, there is no adequate argument to support Azizi's claim, as he seems to take for granted that the most relevant association of intelligence is mind. According to Yahia, a gap exists between how AI perceives the mind and how Islam teaches about it. On the one hand, AI perceives the mind as nothing more than a set of computational processes working based on a certain simulation and program. On the other hand, Islam explains that mind, soul and consciousness are well connected to a divine aspect and are essential elements of human beings.[10]

We discover several important points during our investigation. First, writers on AI and Islamic philosophy are primarily academics on the level of professors, lecturers and

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[9] Mustafa Azizi, "فلسفة الذكاء الاصطناعي ولاهوته", *Al-Daleel Journal*, vol. 7, no. 2 (2024), https://aldaleel-inst.com/en.

[10] D. Hellal Yahia, "الذكاء الاصطناعي ... هل هو اختراق الحدود الروح في الفكر الإسلامي؟", *ASJP (Algerian Scientific Journal Platfrom)*, vol. 12, no. 22 (2021), p. 71–88.

graduate students; with only a small number of public intellectuals and entrepreneurs contributing to the discourse. Second, some prominent contemporary Islamic philosophers, such as Professor Osman Bakar, tend to respond to AI pessimistically. Bakar argues that human natural intelligence will always be superior to AI because the former creates the latter. He posits that prophetic intelligence represents the most perfect intelligence attainable by humans, and worries that the popularisation of AI could erode appreciation for higher forms of natural intelligence.[11] Furthermore, Bakar also claims in another writing that the human mind can only achieve prophetic intelligence as its most developed form. He asserts that prophetic intelligence ought to be the definitive source for both human and artificial intelligences, and that Islamic philosophy provides the best rational approach for expounding upon it. Bakar believes that artificial super intelligence (ASI) will ultimately fail because, as he states, "the best of human creation will still fall within the creaturely realm. As such, it could not surpass the perfection of the Muhammadan prophetic intelligence." He suggests that ASI would be located within what al-Farabi calls "internal senses," and the machine-like dimension of AI would impose limits on ASI.[12] It gives the impression that both types of intelligence belong to the same individual or collective levels. However, prophetic intelligence appears to be individual, whereas AI involves collective intelligence.[13]

Third, we find that most writers explore AI within fields like management or other academic fields, rather than directly at the level of Islamic philosophy. There is a limited number of publications that genuinely lie at the intersection of AI and Islamic philosophy.

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[11] Osman Bakar, "The Clash of Artificial and Natural Intelligences: Will It Impoverish Wisdom?", in *The Muslim 500: The World's 500 Most Influential Muslims, 2023*, ed. by Tarek Elgawhary and Aftab Ahmed (Amman: The Royal aal al-bayt Institute for Islamic Thoughts, 2022), p. 218–22.

[12] Al-Farabi in Osman Bakar, "Islamic Philosophy, Prophetic Intelligence, and the AI Agenda", *themuslim500.com*, https://themuslim500.com/2024-edition/guest-contributions-2024/islamic-philosophy-prophetic-intelligence-and-the-ai-agenda/, accessed 9 Oct 2024.

[13] We thank our colleague, Dr Rahmat Hidayatullah of UIN Syarif Hidayatullah, Jakarta for drawing this distinction to our attention.

These works argue for and against various issues, including: free will,[14] consciousness,[15] AI in Islam and ethics,[16] AI in Islamic theism and theology,[17] the philosophical aspects of AI,[18] machine learning and the variety of epistemological theories in Islam,[19] AI and education,[20] transhumanism,[21] rights and existence,[22] religious authorities,[23] privacy,[24]

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[14] Mustafa Çevik, "Will It Be Possible for Artificial Intelligence Robots to Acquire Free Will and Believe in God?", *Beytulhikme: An International Journal of Philosophy*, vol. 7, no. 2 (2017), p. 75–87.

[15] Muhammad U. Faruque, "AI versus Human Consciousness: A Future with Machines as Our Masters?", *Renovatio* (2022), https://renovatio.zaytuna.edu/article/ai-versus-human-consciousness, accessed 23 Oct 2024.

[16] Shahino Mah Abdullah, "Human Capital Development in the Age of Artificial Intelligence", *ICR Journal*, vol. 9, no. 2 (2018), p. 245–8; Qusthan Firdaus, "Is artificial intelligence subject to ethics?", *The Jakarta Post* (Jakarta, 6 Oct 2018), https://www.thejakartapost.com/news/2018/10/06/is-artificial-intelligence-subject-ethics.html, accessed 3 Nov 2024; Mohamed Ghaly, " أخلاقيات الذكاء الاصطناعي بين المدينة ‘الفاضلة’ والمدينة ‘الذكية’ (١) المدينة في الفاضلة: الخيال الفلسفي والمشروع الأخلاقي", *Research Center for Islamic Legislation and Ethics* (2022), https://www.cilecenter.org/ar/research-publications/op-ed/akhlaqyat-aldhka-alastnay-byn-almdynt-alfadlt-walmdynt-aldhkyt-1, accessed 30 Oct 2024; Amana Raquib et al., "Islamic virtue-based ethics for artificial intelligence", *Discover Artificial Intelligence*, vol. 2, no. 1 (2022), p. 11; Ali Kamal, "الفلسفة والذكاء الاصطناعي: مساءلة نقدية", *Al-Hikma Journal for Philosophical Studies*, vol. 12, no. 1 (2024), p. 927–40.

[17] Enis Doko, "Islamic Classical Theism and the Prospect of Strong Artificial Intelligence", *Ilahiyat Studies*, vol. 14, no. 1 (2023), p. 85–105; Azizi, "فلسفة الذكاء الاصطناعي ولاهوته".

[18] Khadija Rabie Abd El-Ghaffar El-Demerdash, "فلسفة الذكاء الاصطناعي", *Moutoune Journal (SAJP)*, vol. 16, no. 3 (2023), p. 88–113.

[19] Biliana Popova, "Islamic Philosophy and Artificial Intelligence: Epistemological Arguments", *Zygon: Journal of Religion and Science*, vol. 55, no. 4 (2020), p. 977–95.

[20] Drwish Hasan Drwish, فلسفة الذكاء الاصطناعي في التربية والتعليم (Berlin: Democratic Arab Center, 2024), https://democraticac.de/?p=97541, accessed 30 Oct 2024.

[21] Sina Tofangchi et al., "The Body as a New Media or Transhumanism in the Age of Artificial Intelligence", *Journal of Philosophical Investigations*, vol. 16, no. 40 (2022), p. 225–42.

[22] Anthony Asekhauno and Wesley Osemwegie, "Genetic Engineering, Artificial Intelligence, and Natural Man: An Existential Inquiry into Being and Rights", *Journal of Philosophical Investigations*, vol. 13, no. 28 (2019), p. 181–93; Ali Reza Mazarian, "Critical Analysis of the 'No Relevant Difference' Argument in Defense of the Rights of Artificial Intelligences", *Journal of Philosophical Theological Research*, vol. 21, no. 79 (2019), p. 165–90.

[23] Robby Habiba Abror, Rabiatul Adawiah, and Nanum Sofia, "AI Threat and Digital Disruption: Examining Indonesian Ulema in the Context of Digital Culture", *Journal for the Study of Religions and Ideologies*, vol. 23, no. 67 (2024), p. 59–79.

[24] Mahmoud Sobhi Mohamed Mahmoud Zayed, " الجذور الفلسفية والتاريخية للذكاء الاصطناعي وأثرها علي حق الخصوصية", *BJHS (Benha Journal of Humanities Science)*, vol. 2, no. 4 (2023), p. 931–56.

Ibn Sina's thoughts,[25] human capital,[26] epistemology,[27] human souls,[28] AI for and against critical thinking,[29] fuzzy logic for AI,[30] AI and mental health,[31] the comparison between AI and real intelligence,[32] AI's potential to re-write its initial programming,[33] the potential of AI would create religion in the future,[34] and the idea that ASI would be both the greatest event and the last calamity humans have ever created.[35]

Faruque argues that our definitions of 'intelligence,' 'consciousness,' 'personhood,' 'soul,' 'self,' and similar concepts determine the very problem of AI. He categorises strong AI as encompassing Artificial Superintelligence (ASI) and Artificial General Intelligence (AGI) while weak AI refers to Artificial Narrow Intelligence (ANI),

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[25] Abigail Tulenko, "What Philosopher Ibn Sina Can Teach Us about AI", *Scientific American* (2024), https://www.scientificamerican.com/article/what-philosopher-ibn-sina-can-teach-us-about-ai/, accessed 16 Oct 2024.

[26] Abdullah, "Human Capital Development in the Age of Artificial Intelligence".

[27] Mahmoud Abbasi and Mehrdad Teymouri, "The Philosophy of Artificial Intelligence; From the Basics And Origin to the Realm of Metamorphosis", *Journal of Legal Philosophy Studies*, vol. 1, no. 2 (2023), p. 1–17.

[28] Juris Arrozy and Wendi Zarman, "Philosophical Underpinnings of Artificial Intelligence and the Concept of Human Soul in Islam: Some Issues at the Interface", *TAFHIM: IKIM Journal of Islam and the Contemporary World*, vol. 17, no. 1 (2024), p. 23–55.

[29] Mebarek Fadhila, "ديداكتيك الفلسفة وأسطورة الذكاء الاصطناعي", *Mokarabat Falsafia Journal (SAJP)*, vol. 11, no. 1 (2024), p. 105–21.

[30] Al-Sayed Abdel Fattah Gaballah, "المنطق الغائم وعلاقته بالذكاء الاصطناعي", *Misr University for Science & Technology Journal*, vol. 1, no. 2 (2021), p. 261–330.

[31] Gabriela Ramos and Eric Fourniret, "الدور الأساسي للفلسفة في تشكيل مستقبل يتسم بالإنسانية: قضية الأخلاقيات في التكنولوجيا والصحة النفسية", *United Nations Facts* (2023), https://www.un.org/ar/211939, accessed 30 Oct 2024.

[32] Mohamed I. Elmasry, *iMind: Artificial and Real Intelligence*, first edition (Boca Raton: CRC Press, 2024).

[33] Mustafa Suleyman and Michael Bhaskar, *The Coming Wave: Technology, Power, and The Twenty-First Century's Greatest Dilemma*, first edition (New York: Crown, 2023).

[34] Beth Singler, "'Will AI Create A Religion?': Views of the Algorithmic Forms of the Religious Life in Popular Discourse", *American Religion*, vol. 5, no. 1 (2023), p. 95–103.

[35] Stuart Russell, ذكاء اصطناعي متوافق مع البشر, trans. by Mustafa Muhammad Fouad and Osama Ismail Abdel-Alim (Berkshire: Hindawi Foundation, 2022), https://www.hindawi.org/books/25350464/, accessed 30 Oct 2024.

designed to accomplish specific tasks. Within the discourse of Islamic philosophy, he suggests it is impossible to imbue AI with human-like consciousness.[36] Interestingly, we only found one writer who establish the relevance of Ibn Sina's philosophy to AI. Tulenko argues that AI's personhood is complicated by the lack of consensus regarding the idea of consciousness. According to Ibn Sina, humans can grasp "the universal," unlike animals whose ability is limited to thinking about particulars. In his book entitled al-Šhifā, Ibn Sina claims that the intellect can identify common similarities among things and what things do not share with one another. This view implies that humans can generalise concepts by extracting the essential features of things.[37] In contrast, computers need an exact supply of information or image to deduce an object. Therefore, the deduction processes differ significantly between humans and computers.[38]

Fourth, while some writers positively view AGI and ASI, most still believe that AI cannot rewrite its initial programming; only two authors, Suleyman and Bhaskar, suggest otherwise. Suleyman and Bhaskar argue that religions like Islam and Christianity have significantly impacted Earth. They believe that AGI aims to outperform human cognitive abilities at most tasks, and that humanity's quest to manipulate atoms represents a brief history of technology. According to Suleyman and Bhaskar, AI could indeed rewrite its initial programming, and since the best and worst of humans extend to AI, it becomes both dangerous and valuable.[39] Such a potential for AI to rewrite its initial programming might depend on the logic it operates on: is it the binary Aristotelian logic or fuzzy logic? In this context, Gaballah claims that fuzzy logic could bring AI closer to human thought processes, especially when machines need to make flexible decisions based on undefined and ambiguous data. This is possible because humans often consider multiple probabilities and aspects before making decisions, and fuzzy logic allows for a

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[36] Faruque, "AI versus Human Consciousness: A Future with Machines as Our Masters?"

[37] Ibn Sina in Tulenko, "What Philosopher Ibn Sina Can Teach Us about AI".

[38] *Ibid.*

[39] Suleyman and Bhaskar, *The Coming Wave: Technology, Power, and The Twenty-First Century's Greatest Dilemma,* p. 230.

gradation of values rather than just a multiplicity.[40] If fuzzy logic successfully makes AI more flexible, it could increase the probability of AI rewriting its initial programming and, consequently, create ASI.

There is another positive perspective on the potential of ASI. Doko posits that creating AI is akin to creating animals or individuals, arguing that AI and philosophy are closely related through logic. He distinguishes between weak AI, which has no mental state, and strong AI, which possesses both mental states and intelligence. Doko suggests that strong AI is not surprising within Islamic theism because functionalism allows for the concept multiple realizability. It means different materials can exhibit the same properties. If this is the case, then consciousness and mental states could exist in both human minds and AI. Mental states are indispensable for thinking, understanding, and self-awareness. While God has mental states, they differ from human mental states. Doko asserts that strong AI actually proves theism due to the validity of theistic functionalism, and he believes strong AI is more compatible with Islam than Christianity. Ultimately, the functionalist view of mental states paves the way for Muslims to accept strong AI (ASI).[41]

The discourse surrounding humans in Islamic philosophy is far more complex compared to AI. Arrozy and Zarman explain that thinking activities in Islamic philosophy involve both the intellect (*'aql*) and the heart (*qulub*). An important framework for analysing human and artificial intelligence is the distinction between knowledge as "the arrival of the soul at meaning" and knowledge as "the arrival of meaning in the soul" within the discourse of Islamic philosophy. The intellect (*al-'aql*), the heart (*al-qalb*), the spirit (*al-ruh*) and the self or soul (*al-nafs*) are the four seats of knowledge in Islamic philosophy.[42] If this is the case, then AI does not possess a soul (*al-nafs*) or a spirit (*al-ruh*). At this point, we are unsure whether AI could develop a form of the heart (*al-qalb*). Indeed, the idea of transforming human beings through AI also attracts the attention of

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[40] Gaballah, "المنطق الغائم وعلاقته بالذكاء الاصطناعي".

[41] Doko, "Islamic Classical Theism and the Prospect of Strong Artificial Intelligence," p. 86-102.

[42] Arrozy and Zarman, "Philosophical Underpinnings of Artificial Intelligence and the Concept of Human Soul in Islam," p. 35-37.

some academics. For instance, Tofangchi et al., perceive that transhumanists consider themselves flexible, evolving biological systems capable of overcoming some biological limitations. They suggest we should focus on humans with machine intelligence rather than simply thinking about robots with superhuman abilities and intelligence. The human evolution process, they argue, should adopt an anthropological perspective.[43]

Fifth, we observe that most writers have not yet applied specific schools of thought, such as the Illuminationist (*Ishraqī*) and Transcendental (*Sadranī*) schools of Islamic philosophy, to the recent development in AI. In contrast, we only found one article that uses the Peripatetic (*Masha'ī*) school, specifically Ibn Sina's philosophy, in relation to AI, as we have discussed earlier. This situation highlights a significant gap between *'aql* (the intellect or the mind) in which classical Islamic philosophers extensively focused on in the past; and *dhaka'* (the intelligence). This gap is further compounded by the fact that most Muslim countries are not at the forefront of AI technological development.

Having discussed our research findings, we would like to recommend some potential research questions on AI and Islamic philosophy with respect to ethics, human nature, epistemology, cosmology and metaphysics. These research questions are open for adjustments and modifications. Our intention is simply to encourage and stimulate academics, researchers and students in Islamic philosophy to pay more attention to AI, despite non-Muslim western countries currently leading AI research development and innovation. Thereby, suggesting these research questions would hopefully trigger further investigations into AI within the discourse of Islamic philosophy. We present our recommendation in this following table:

Table 2 Research Questions for the Discourse of Artificial Intelligence in each School of Islamic Philosophy

Feature	*Masha'ī* (Peripatetic)	*Ishraqī* (Illuminationist)	*Sadranī* (Transcendental)
Epistemology	Could AI have self-consciousness and, let us say, to rewrite its own first and	If intuition requires *qalb*, and *qalb* is equal to the biological heart; then	Would there be such a thing called as AGI, if and only if, AI cannot generate

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[43] Tofangchi et al., "The Body as a New Media or Transhumanism in the Age of Artificial Intelligence," p. 226-227.

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	foremost algorithm in order to achieve the hypothetical existence of ASI?	to what extent could AI serve the function of intuition, given that there has been technological development of artificial heart?	transcendental knowledge by balancing reason and intuition just as humans have been doing?
Metaphysics	In what possible way could causality, substance and accidents be different and similar in the realm of AI?	Where is the position of AI in the concept of Divine unity, emanation and light?	Given that AI can manipulate immanent realities through deep fake videos, to what extent could AI replicate transcendent reality?
Cosmology	In what possible way could AI be present in spiritual realms?	If creatures cannot override their Creator due to the Divine enlightenment, then how could ASI (the creatures) outweigh humans (as the creators)?	Where is the position of AI (ANI, AGI and ASI) in the hierarchy of universe with respect to the concept of existential unity?
Human Nature	How would AI's intellectual perfection be different and similar to the human ones?	Could AI be spiritual and be united with the superhuman controlling power such as God by any possible ends and means?	If AI succeeds to generate their intelligence as good as humans, then how would their spiritual intelligence be similar and different to the human ones? Where is the position of AI in the cosmic order?
Ethics	To what extent could AI do reasoning beyond the limits of its own algorithm?	If AI cannot resemble the human's spiritual purification, then would AI be justified in the *Ishraqī* school of Islamic philosophy?	If AI cannot perform any spiritual dimension, then how could it be ethical by any rate?

The existing gaps in epistemology, metaphysics and axiology (including ethics) between Islamic philosophy and AI should not be a significant obstacle for researchers exploring AI within the context of Islamic philosophy. Instead, these gaps could present

a meaningful challenge, fostering the development of a contextual and contemporary Islamic philosophy. This is precisely why we have ventured to propose the aforementioned questions. In addition to that table, we also suggest some further, general questions for each school of Islamic philosophy, as follows:

Masha'ī Islamic philosophy:

a. To what extent could AI achieve a level of rationality comparable to humans, as it is conceived by the Peripatetic Islamic philosophy's ideas on reason?
b. How could AI remain contingent on the Divine order such as the necessary existence (*wajib al-wujud*)?

Ishraqī Islamic philosophy:

c. What sort of potential challenge does AI pose against the human soul, as one central tenet of the Perennial Islamic philosophy?
d. To what extent could the *ishraqi* idea of universal truth (which underlying all religions) offer some ethical insights to AI?

Sadranī Islamic philosophy:

e. To what extent could AI be considered as an extension and a reflection of the Divine creative power, being consistent with the Sadranian Islamic philosophy of 'transcendent theophany'?
f. How does the Sadranian Islamic philosophy consider AI in the hierarchy of being with respect to the different levels of intelligence?

Given the insignificant number of English publications on AI and specific school of Islamic philosophy between 2014 and 2024, it appears that the various schools of Islamic philosophy have not yet served as a proper framework for AI development. However, the discourse on *'aql* (the intellect/mind), *qalb* (the metaphorical heart), *nafs* (the soul) and *ruh* (the spirit) within each school could be beneficial and stimulating for the potential emergence of ASI. Elmasry interestingly claims that "The concept of the heart containing the soul was carried over into the teachings of Judaism, Christianity, and Islam, with the crucial difference being that the heart and soul were understood to be in a metaphorical rather than physical relationship."[44] Indeed, notable Muslim scholars such as Ibn Sina, Ibn al-Nafis and Balakhi studied inseparably the concept of the human brain-

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[44] Elmasry, *iMind*, p. 78.

mind.[45] Suppose the Arabic term *'aql* is equal in meaning to the English concept of 'mind.'[46] We consider the mind to be the element that enables a person to think, be aware of personal experiences and the world, and to feel. One may define the mind as the faculty of thought and consciousness. If this is the case, then the discourse of the mind in Islamic philosophy should have been stimulating for philosophical investigations into AI. Intelligence, as we understand it in English, is the faculty of understanding or the ability to gain and apply knowledge and skills. Therefore, mind and intelligence are closely related, as the former is the faculty of thought while the latter is the faculty of understanding.

Current scholars of Islamic philosophy could certainly develop some meaningful thought experiments for and against the recent advancements in AI. Ibn Sina, for example, was famous for his Floating Man argument. Imagine God creating us in a state of levitation. We could be aware of our existence and, according to Ibn Sina, could grasp our own essence, yet we would not feel our own limbs. Ibn Sina argues that the floating man's essence does not require bodily embodiment because we can conceive of ourselves in such a condition. This thought experiment also serves as an argument for self-awareness, and suggesting that self-awareness does not necessitate sensory awareness of the body.[47] We think scholars of Islamic philosophy could develop this Floating Man thought experiment to argue in favour and against various AI innovations. For example, if experts succeed in establishing a form of 'artificial consciousness' in ASI, then Muslims could introduce Ibn Sina's Floating Man into diverse philosophical discussions of AI. However, scholars of Islamic philosophy could also develop new thought experiments, similar to John Searle's Chinese room argument, to support or oppose ASI.[48]

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[45] *Ibid*, p. 79.

[46] This supposition requires a further investigation.

[47] Ibn Sina in Torin Alter, Amy Kind, and Robert J. Howell, *Philosophy of Mind: 50 Puzzles, Paradoxes, and Thought Experiments*, 1st edition (New York: Routledge, 2023), https://www.taylorfrancis.com/books/9781003179191, accessed 3 Nov 2024, p. 5-8.

[48] Searle in *Ibid*, p. 104-109

Conclusion

Having studied all academic English and Arabic references on AI and Islamic philosophy published between 2014 and 2024, we discover that most writings do not yet explore key ideas in *Ishraqī* (Illuminationist) and *Sadranī* (Transcendental) Islamic philosophy. Having said that, we cannot definitively state that most references belong to *Masha'ī* (Peripatetic) Islamic philosophy. Although some key words appear in these writings, it does not always mean the writers' arguments align with *Masha'ī* Islamic philosophy. Regarding our main research question, it is peculiar to notice the limited number of academic publications discussing and exploring AI at the level of Islamic philosophy. This situation encourages us to expand our inquiry into various academic references written in Arabic. Overall, we only find 19 English academic references and 12 Arabic journal articles and books on AI and Islamic philosophy published within this timeframe. Of these, only four journal articles specifically and significantly investigate AI and Islamic philosophy. Scholars of Islamic philosophy might feel uneasy establishing a sound philosophical argument on AI, especially if they are not directly involved in the research and development of AI technology. In contrast, classical Muslim philosophers conducted their own research on human brains to develop plausible theories on the idea of mind (*'aql*) in the past. In our view, academics in Islamic philosophy should embroil and collaborate with experts in fields like computer science and neuroscience prior to developing their own reflections on AI and Islamic philosophy. This is essential to grasp the true nature of current AI development. However, it requires a strong commitment from authorities in Muslim-majority countries to boost their research investments and collaborations in AI and Islamic philosophy. Otherwise, the philosophical discourse on AI and Islamic philosophy would be groundless, and relying on empirical research from Europe and North America could present hurdles, given that Islamic philosophy does not share the same metaphysical, epistemological and axiological views as its Western counterparts.

The theological view saying that 'creatures must not be able to outperform nor exceed the creator' predominates among most Muslims discussing AI. This perspective applies to both optimistic and pessimistic writers regarding the possibility of ASI. Given that some religions are based on revelations while others are grounded in cultures, we suspect it is not impossible for AI to fabricate a type of Earth-based religion, like animism,

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dynamism, or paganism. However, we do not believe that AI would succeed in establishing a new religion or surpassing human intelligence, as these Earth-centred religions are based on human intelligence, as opposed to revelation-based religions such as Islam, Christianity and Judaism. Furthermore, it is peculiar that only one academic reference explores AI in relation to a classical Islamic philosopher like Ibn Sina. Most Arabic references we found are repetitive, often discussing concepts already known in academia, such as Gaballah's argument for fuzzy logic in AI development[49] as if it were a novel idea. However, many academics and laypeople knew that AI in self-driving vehicles, for example, had been applying fuzzy logic even before 2021. Recommending what AI technologists are already doing or what laypeople already know seems unnecessary and pointless. Perhaps, some Muslims take for granted that AI is not relevant to Islamic philosophy, while some scholars might insist that Islamic philosophy should continue to debate classical issues rather than strive to catch up with recent technological development in AI.

Acknowledgement

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[49] Gaballah, "المنطق الغائم وعلاقته بالذكاء الاصطناعي".

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