

EXPLORING PARALLELS BETWEEN ISLAMIC THEOLOGY AND TECHNOLOGICAL METAPHORS

Ammar Younas^{1,2,3,4,*} and Yi Zeng^{1,2,3,4,*}

¹ Institute of Philosophy, Chinese Academy of Sciences, Beijing, China

² School of Humanities, University of Chinese Academy of Sciences, Beijing, China

³ Institute of Automation, Chinese Academy of Sciences, Beijing, China

⁴ Center for Long-term Artificial Intelligence, Beijing, China

*Correspondence: doctorammaryounas@mails.ucas.ac.cn , yi.zeng@ia.ac.cn

Abstract:

As the scope of innovative technologies is expanding, their implications and applications are increasingly intersecting with various facets of society, including the deeply rooted traditions of religion. This paper embarks on an exploratory journey to bridge the perceived divide between advancements in technology and faith, aiming to catalyze a dialogue between the religious and scientific communities. The former often views technological progress through a lens of conflict rather than compatibility. By utilizing a technology-centric perspective, we draw metaphorical parallels between the functionalities of new technologies and some theological concepts of Islam. The purpose is not to reinterpret religious concepts but to illustrate how these two domains can coexist harmoniously. This comparative analysis serves as a conversation starter with an intention to mitigate any apprehensions towards technology by highlighting its potential to align with religious concepts. By fostering an environment where technological innovations are seen as tools for enhancement rather than threats to tradition, we contribute to a more inclusive discourse that encourages the religious community to engage with and potentially embrace contemporary technological advancements.

Keywords: Technological Ethics, Interfaith Dialogue, Science and Religion, Religious Compatibility, Theology

Dialogue Between Religious Traditions and Technological Innovations

When initiating dialogues between the religious community and proponents of new technological innovations, it has been a challenge to identify an effective conversation starter¹⁻⁴. The crux of the matter lies in bridging two domains which are commonly viewed as distinct or inherently contradictory⁵⁻¹⁰. Our proposition hinges on the concept of uncovering and highlighting similarities between science and religion as the keystone for fostering dialogue. By drawing parallels between different concepts from both domains, we can create a common ground that invites participation from both sides. As a conversation starter and to engage the religious community in discussions about technological advancements can be facilitated by illustrating how

these innovations reflect, or are in harmony with, principles and narratives found within their religious texts and doctrines¹¹⁻¹⁶.

For instance, the concept of stewardship in many religions can parallel scientific endeavors to harness technology for sustainable development and environmental conservation. Similarly, the emphasis on seeking knowledge and wisdom found in religious teachings can resonate with the scientific pursuit of understanding and innovating.

On the other hand, for scientists and technologists, acknowledging the depth of ethical, moral, and existential questions addressed by religious traditions can improve the framework within which technology is developed and deployed¹⁷⁻²⁰. Many of the ethical dilemmas posed by new technologies, such as AI and genetic engineering, are in essence questions about human nature, responsibility, and the future of society²¹⁻²³. These are the same themes that religion has contemplated for centuries. By recognizing that religious traditions offer a wealth of insights on these matters can open up avenues for integrating ethical considerations into the innovation process from a more holistic perspective.

We, therefore, not only provide a tangible starting point for dialogue but also underscore the potential for mutual enrichment, by positioning the similarities between science and religion as the focal point of our conversations. This approach acknowledges the value of both religious wisdom and scientific knowledge in order to suggest that in their intersection lies the opportunity for more ethical, thoughtful, and inclusive advancements in technology.

Exemplary Metaphorical Parallels

There is a rich field of analogies that reveals parallels between religious principles and modern technology. For instance, Zakat, the Islamic obligation of almsgiving²⁴, mirrors the collective support seen in crowdfunding platforms, both aiming to promote welfare. The concept of Ijma²⁵, or consensus in Islamic law, finds its counterpart in decentralized decision-making processes used in technologies like blockchain²⁶ and emphasizes community-based validation. The tradition of Waqf²⁷, which involves creating endowments for public benefit, is reflected in the ethos of open-source software development, where contributions are made freely for the communal good. These analogies underscore the intersection of traditional wisdom and contemporary technological practices and highlight shared values of community, trust, and public welfare.

We want to delve into some specific examples where state-of-the-art technological ideas reflect some theological concepts and offer metaphorical parallels that serve as a bridge for understanding and integration between scientific and religious communities. These analogies not only illuminate the compatibility between technology and religion but also highlight how contemporary innovations can echo timeless theological concepts.

Islamic Concept	Ideological	Corresponding Technology	Description of Parallel
Angels		Artificial Intelligence (AI)	Just as angels carry out God's commands without free will, AI operates based on its programming, executing tasks with precision.
Divine Communication		5G Technology	The swiftness of divine messages to prophets parallels the rapid, efficient communication enabled by 5G technology.
Divine Omniscience		Cloud Computing	The concept of God's all-encompassing knowledge is mirrored in the vast, accessible data storage capabilities of cloud computing.
Day of Judgment (Witnessing and Accountability)		Internet of Things (IoT)	The belief that deeds will be accounted for is likened to the interconnectedness of IoT devices, which can monitor and report data.
Isnad (Chain of Transmission)		Blockchain Technology	Blockchain's chain of trust for information verification reflects the Isnad system's method for ensuring the authenticity of Hadiths.
Ta'weez (Protective Amulets)		Encryption	Encryption secures data from unauthorized access, similar to how Ta'weez are believed to offer spiritual protection.
Qadr (Divine Decree)		Quantum Computing	Quantum computing's potential for multiple states parallels the concept of Qadr, where all outcomes are known to God.
Fitrah (Innate Nature)		Neural Networks	Neural networks' ability to learn and adapt mirrors the concept of Fitrah, the innate disposition towards understanding and morality.

Table 1 Metaphorical Parallels

When exploring these metaphors, it is important to note that they are conceptual tools meant to enhance understanding and not literal translations of religious teachings. By discussing some following examples, we aim to demonstrate that the intersection of faith and technology has rich

potential for mutual enrichment. Through these comparisons, we invite both religious adherents and the scientific community to explore the synergies between their fields to encourage a holistic approach to technological advancement that is informed by ethical and spiritual insights.

1. Angels and AI

In Islamic theology, angels are created by God from light and are considered beings that obey God's commands without free will²⁸. They serve various functions, such as delivering messages, recording deeds, and executing divine decrees. AI, on the other hand, operates based on its programming and can process vast amounts of data quickly and precisely. The similarity can be seen in their "obedience" to a set of instructions. We can say that angels operate by divine command²⁹ whereas programming is required for AI.

This analogy does not equate the spiritual nature of angels with the technological essence of AI but rather uses the similarity in their operational obedience to foster a deeper understanding of how technological constructs can reflect theological teachings. By drawing such parallels, we can appreciate how technological advancements, when viewed through a theological lens, can reflect certain aspects of religious beliefs and demystify the notion that faith and technology are inherently at odds³⁰.

2. 5G and High-Speed Communication

Many religious traditions have mentioned broader themes of communication, protection, and the miraculous. There have been numerous occasions when something was swiftly communicated to prophets. For instance, in Abrahamic religions, the message of God was revealed to the prophets through the angel Gabriel^{31,32}. Angelic Messages to Prophets is fundamentally different from human-made technological communication systems. While religions don't discuss communication technologies like 5G, it does emphasize the swiftness and precision of divine communication. 5G, as a rapid means of communication, can metaphorically be compared to the instantaneous nature of divine revelations.

3. Cloud Computing and Divine Omniscience

In many religious traditions, there is a concept of an omniscient presence or entity that possesses complete and infinite knowledge, meticulously recording every aspect of the universe. This notion often encompasses the idea that nothing escapes this divine surveillance, with every event, action, and thought being cataloged in a cosmic ledger. This universal principle highlights a foundational belief across various faiths in a supreme being's absolute awareness and the preordained nature of the cosmos.

For example, Islam considers God as All-Knowing (Al-'Aleem) and having a record of everything^{33,34}. The Quran mentions "Al-Lauh Al-Mahfuz" or the "Preserved Tablet,"³⁵ which contains a record of all decrees^{36,37}. Cloud computing, which stores vast amounts of data that can be accessed and retrieved from anywhere, is a technological representation of infinite storage^{38,39}.

Cloud computing reflects humanity's aspiration for limitless knowledge and accessibility and mirrors on a material level what many religions conceptualize spiritually.

4. IoT and The Day of Judgment

Across various religious traditions, there are beliefs about how the divine will assess human actions in the afterlife⁴⁰. Many faiths share the notion that every deed, word, and even thought will be scrutinized, with the ultimate judgment determining the fate of souls⁴¹.

In the context of Islam, this idea is vividly illustrated by the belief that on the Day of Judgment, people's limbs will themselves bear witness to their deeds. This concept can metaphorically resemble the Internet of Things (IoT), where every object can "communicate" or relay information about its usage. "On the day when their tongues and their hands and their feet testify against them as to what they used to do^{42,43}."

While the comparison between divine judgment and technological monitoring is symbolic, it underscores a fascinating intersection of religious beliefs and technological capabilities. Just as religious teachings often emphasize the interconnectedness of all beings and their actions within the divine gaze, IoT embodies a form of technological interconnectedness⁴⁴, where devices are aware of each other's states and can trigger actions or responses accordingly. This could be likened to the idea that all actions are observed and recorded in the cosmic ledger, with consequences that unfold in the interconnected web of life, mirroring the same way IoT devices create a responsive⁴⁵, interactive environment based on the data they collect and share.

5. Blockchain and Chain of Narration (Isnad)

Throughout history and across cultures, the challenge of preserving the authenticity and integrity of information has led to the development of various methods to ensure trustworthiness and verification. These methods, whether ancient or modern, share a fundamental commitment to meticulous verification and transparency, ensuring that each piece of information, be it a digital record or a sacred text, maintains its integrity through an unalterable chain of custody. This principle of safeguarding truth and authenticity reflects a universal quest across different eras and cultures. This also illustrates humanity's enduring effort to preserve the purity of knowledge and information.

Blockchain ensures the authenticity of a piece of information (like a transaction) by linking it to a chain of preceding records, providing transparency and accountability⁴⁶. In Islamic tradition, the Isnad (chain of narrators) serves a similar purpose⁴⁷. It ensures the authenticity of a hadith (saying or action of Prophet Muhammad) by providing a chain of credible narrators back to the source^{48,49}. There is a whole science of narration derived to ensure the authenticity of the hadith. This requires thorough investigation about each and every individual narrating this particular hadith. This is functional principle of ensuring authenticity and trustworthiness can find parallels in modern technological solutions such as blockchain.

6. Encryption and Ta'weez (Amulets)

The practice of encryption serves as a critical tool in the modern landscape. It transforms information into a secure code and guards against unauthorized access. This technique is fundamental to digital security and ensures that the private data remains confidential and accessible only through a specific key^{50,51}. Parallel to this, various cultures and traditions have their own methods of protection. They often involve symbols or objects and are believed to offer safeguarding effects. Though these methods vary, with one being technical and the others grounded in spiritual or cultural beliefs, they share the goal of protecting what is considered valuable. This common goal highlights a universal trait where people go to great lengths to protect their most valued possessions, both tangible and intangible.

Encryption is the practice of converting information into code to prevent unauthorized access. Some Muslims use Ta'weez, or amulets, with Quranic verses or supplications written on them⁵²⁻⁵⁴. It is believed that they offer protection. Ultimately, both methods are centered on the protection of what is deemed precious.

7. Quantum Computing and Qadr (Divine Decree)

Quantum computing represents a groundbreaking advance in the field of technology, harnessing the principles of quantum mechanics to achieve unprecedented computational power. At the heart of this innovation is the quantum bit, or qubit, which, unlike traditional bits, can exist in multiple states simultaneously. This capability allows quantum computers to process complex data and solve problems at speeds unattainable by conventional computing methods. As a result, quantum computing holds the potential to revolutionize various industries by enabling more efficient data analysis, improving encryption methods, and facilitating the development of new materials and medicines^{55,56}.

In Islamic theology, there is a concept of Qadr which means that every conceivable outcome and path within the universe is known to God and this idea reflects an infinite landscape of possibilities and eventualities^{57,58}. This mirrors the quantum realm, where a qubit holds the potential for numerous states simultaneously, and its true form is only revealed when observed. It is symbol of complex interplay between possibility and determinacy in both the divine and subatomic worlds.

8. Neural Networks and Fitrah (Innate Nature)

Neural networks, a cornerstone of artificial intelligence, are engineered to identify patterns and adapt their functions through iterative learning. They mimic different aspects of human brain architecture. These systems improve their performance by continuously analyzing data, making connections, and adjusting their approach based on the feedback received. This process allows neural networks to evolve over time and enhance their ability to make predictions, recognize

complex patterns, and solve problems with increasing accuracy. Through this dynamic learning capability, neural networks exemplify the fusion of computation and adaptation, embodying the principle of learning from experience at a computational level^{59,60}.

Neural networks are designed to recognize patterns and "learn" over time. The concept of "Fitrah"⁶¹ in Islam suggests that every human is born with an innate understanding of God and morality. Just as neural networks refine their understanding with more data, humans refine their comprehension of faith and ethics through life experiences.

"Fitrah" refers to the natural disposition or innate inclination that humans are born with, towards understanding and accepting the concept of goodness⁶². The idea is that every human is born with a natural inclination towards Tawhid (the oneness of God) and virtue. On one hand, the essential understanding of fitrah as an innate, God-given nature suggests that it is a constant, intrinsic aspect of being human. It is the foundation upon which one's belief in God and moral compass are built. From this perspective, fitrah does not change because it is seen as the original, unaltered state of a human being's spiritual and moral orientation. On the other hand, the expression of fitrah in an individual's life can be influenced by external factors such as environment, education, society, and personal experiences like training of neural networks.

Conclusion

This paper explores the intricate dynamics at the intersection of emerging technologies and Islamic theological principles, delving into how technological advancements interact with religious concepts. Through the lens of metaphorical parallels, we have tried to demonstrate that technologies need not stand in opposition to religion and traditions but can, in fact, resonate with and enhance the understanding of its profound teachings. The exploration of analogies between angels and AI, divine communication and 5G technology, the Preserved Tablet and cloud computing, among others, can not only provide a novel perspective on the integration of technology within a religious framework but also highlight the potential for such integration to foster a deeper engagement with and appreciation of both domains.

This study draws metaphorical parallels that support a harmonious relationship between technology's advancement and the preservation of religious values. It advocates for an inclusive approach. This approach respects religious beliefs' sanctity while recognizing technology's transformative potential. Through such engagements, both the religious community and the scientific community can forge a shared path that honors the legacy of religion, culture and traditions while navigating the challenges and opportunities presented by the digital age.

Our analysis reaffirms the notion that the dialogue between religion and technology is not only necessary but fruitful. It offers a pathway to reconcile perceived disparities and embrace complementarities. By illuminating the similarities and potential synergies between religious teachings and modern technological advancements, this paper is a humble contribution to a broader

discourse that seeks to transcend traditional boundaries and foster a holistic understanding of the role of technology in enhancing religious observance and ethical consideration.

Credit Authorship Contribution Statement

This paper has been a collaborative effort, which emerged from joint discussions. Both authors took part in discussing the paper's contents and structure. A.Y. conceived of the notion of conceptual adaptation; Y.Z. contrasted it with conceptual amelioration. A.Y. has done the writing and editing of the final manuscript.

Declaration of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Availability of data and material (data transparency)

We did not analyze or generate any datasets, because our work proceeds within a theoretical and philosophical approach. One can obtain the relevant materials from the references below.

Declaration of generative AI in scientific writing

During the preparation of this work, the authors used ChatGPT in order to improve the readability and language of the work. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

References

1. Geraci, R. M. Spiritual robots: Religion and our scientific view of the natural world. *Theology and Science* **4**, 229–246 (2006).
2. Glass, D. H. Conjunctive Explanations: How Science and Religion Can Work Together. in *Conjunctive Explanations in Science and Religion* (Routledge, 2023).
3. Green, B. P. Ethical Reflections on Artificial Intelligence. *Scientia et Fides* **6**, 9–31 (2018).

4. Herzfeld, N. A new member of the family? The continuum of being, artificial intelligence, and the image of God. *Theology and Science* **5**, 235–247 (2007).
5. Cheong, P. H. Robots, religion and communication: Rethinking piety, practices and pedagogy in the era of artificial intelligence. in *Religion in the Age of Digitalization* (Routledge, 2020).
6. Cheong, P. H. Bounded Religious Automation at Work: Communicating Human Authority in Artificial Intelligence Networks. *Journal of Communication Inquiry* **45**, 5–23 (2021).
7. Geraci, R. M. Apocalyptic AI: Religion and the Promise of Artificial Intelligence. *Journal of the American Academy of Religion* **76**, 138–166 (2008).
8. Ho, S. S., Ou, M. & Vijayan, A. V. Halal or not? Exploring Muslim perceptions of cultured meat in Singapore. *Front. Sustain. Food Syst.* **7**, (2023).
9. Singler, B. An Introduction to Artificial Intelligence and Religion For the Religious Studies Scholar. *Implicit Religion* **20**, 215–231 (2017).
10. Малышкин, А. В. Интегрирование искусственного интеллекта в общественную жизнь: некоторые этические и правовые проблемы. *Вестник Санкт-Петербургского университета. Право* **10**, 444–460 (2019).
11. Bozorgmehr, N. ‘Robots can help issue a fatwa’: Iran’s clerics look to harness AI. *Financial Times* (2023).
12. Molhoek, B. The scope of human creative action: Created co-creators, imago Dei and artificial general intelligence. *HTS Teologiese Studies / Theological Studies* **78**, 7 (2022).
13. Singer, J. Fatwas from Islamweb.Net on Robotics and Artificial Intelligence. in *Artificial Intelligence in the Gulf: Challenges and Opportunities* (eds. Azar, E. & Haddad, A. N.) 279–301 (Springer, Singapore, 2021). doi:10.1007/978-981-16-0771-4_12.

14. Tsourlaki, S. Artificial Intelligence on Sunni Islams Fatwa Issuance in Dubai and Egypt. *IS* (2022) doi:10.22034/is.2022.339182.1082.
15. Vinichenko, M. V., Frolova, E. V., Nikiporets-Takigawa, G. Y. & Karácsony, P. INTERPRETATION OF THE VIEWS OF EAST EUROPEAN CATHOLICS ON THE IMPACT OF ARTIFICIAL INTELLIGENCE ON THE SOCIAL ENVIRONMENT. *European Journal of Science and Theology* (2021).
16. Vinichenko, M. V., Rybakova, M. V., Chulanova, O. L. & Nikiporets-Takigawa, G. Y. INTERPRETATION OF MUSLIM VIEWS ON ARTIFICIAL INTELLIGENCE DURING THE COVID-19 PANDEMIC. *European Journal of Science and Theology* (2021).
17. Kimura, T. Robotics and AI in the sociology of religion: A human in imago roboticae. *Social Compass* **64**, 6–22 (2017).
18. Munshi, A. A. *et al.* Automated Islamic Jurisprudential Legal Opinions Generation Using Artificial Intelligence. *JST* **30**, 1135–1156 (2022).
19. Rossano, M. J. Artificial Intelligence, Religion, and Community Concern. *Zygon*® **36**, 57–75 (2001).
20. Çelik, Y. Answering Divine Love: Human Distinctiveness in the Light of Islam and Artificial Superintelligence. *SOPHIA* **62**, 679–696 (2023).
21. Geraci, R. M. Robots and the Sacred in Science and Science Fiction: Theological Implications of Artificial Intelligence. *Zygon*® **42**, 961–980 (2007).
22. Reed, R. The theology of GPT-2: Religion and artificial intelligence. *Religion Compass* **15**, e12422 (2021).
23. Reed, R. A.I. in Religion, A.I. for Religion, A.I. and Religion: Towards a Theory of Religious Studies and Artificial Intelligence. *Religions* **12**, 401 (2021).

24. Sarif, S., Ali, N. A. & Kamri, N. ‘Azzah. Zakat for generating sustainable income: an emerging mechanism of productive distribution. *Cogent Business & Management* **11**, 2312598 (2024).
25. Ijma | Definition & Facts | Britannica. <https://www.britannica.com/topic/ijma>.
26. Arif, A., Hussain, M. & Subbe, C. P. Blockchain: What is the use case for physicians in 2024? A rapid review of the literature. *Future Healthcare Journal* **11**, 100005 (2024).
27. Abid, O. & Miakhil, S. A HISTORICAL OVERVIEW OF WAQF. *International Journal of Sukuk and Waqf Research* **5**, 1–8 (2024).
28. Abaido, G. M. & Attaweya, P. G. GUARDIANS OF HUMANITY: HOW ANGELS ARE PORTRAYED IN ISLAM. (2021).
29. Feller, R. F. *Angels: Heralds of God*. (WestBow Press, 2024).
30. Promta, S. & Einar Himma, K. Artificial intelligence in Buddhist perspective. *Journal of Information, Communication and Ethics in Society* **6**, 172–187 (2008).
31. Holy Quranic Manuscripts: Examining Historical Variants and Transmission Methods | al-Afkar, Journal For Islamic Studies. https://www.al-afkar.com/index.php/Afkar_Journal/article/view/793.
32. The Noble Quran. *Quran.com* <https://quran.com>.
33. Zulkarnaen, Z., Adenan, A., Marhaban, M. & Muammar, A. Building Religious Moderation through Theophany Concept with Philosophy and Religion Approaches. *Millati: Journal of Islamic Studies and Humanities* **8**, 37–48 (2023).
34. Hammoudi Abdelhak. Multiple Intelligences Theory And The 99 Names Of God In Islam (asma Allah Al Husna): A Brain-based Perspective. *Mieyar* **25**, 1025–1041 (2021).

35. The Effect of Theme on Conceptual Metaphor Use in Al-Ghazali's *Iḥyā' 'Ulūm Al-Dīn* and *Al-iqtisād fī Al-i'tiqād* a Discourse Analysis Study - ProQuest.
<https://www.proquest.com/openview/c4ae01a983b904d9e599da0c885f521d/1?pq-origsite=gscholar&cbl=18750&diss=y>.
36. Memon, N. A., Alhashmi, M. & Abdalla, M. *Curriculum Renewal for Islamic Education: Critical Perspectives on Teaching Islam in Primary and Secondary Schools*. (Routledge, 2021).
37. El-Awaisi, K. The Understandings Of Barakah From The Qur'an: A Study Of Five Of Its Categories. *AL-TURATH JOURNAL OF AL-QURAN AND AL-SUNNAH* 7, 1–10 (2022).
38. Cloud Technology | 17 | Smart and Sustainable Operations and Supply Ch.
<https://www.taylorfrancis.com/chapters/edit/10.1201/9781003180302-17/cloud-technology-sercan-demir-turan-paksoy>.
39. Sehgal, N. K., Bhatt, P. C. P. & Acken, J. M. Foundations of Cloud Computing and Information Security. in *Cloud Computing with Security: Concepts and Practices* (eds. Sehgal, N. K., Bhatt, P. C. P. & Acken, J. M.) 13–48 (Springer International Publishing, Cham, 2020). doi:10.1007/978-3-030-24612-9_2.
40. Willard, A. K., Baimel, A., Turpin, H., Jong, J. & Whitehouse, H. Rewarding the good and punishing the bad: The role of karma and afterlife beliefs in shaping moral norms. *Evolution and Human Behavior* 41, 385–396 (2020).
41. Basava, K., Zhang, H. & Mace, R. A phylogenetic analysis of revolution and afterlife beliefs. *Nat Hum Behav* 5, 604–611 (2021).
42. Holy Quran - Maulana Muhammad Ali - Google Books.
<https://books.google.co.jp/books?hl=en&lr=&id=Po2BO->

TsMosC&oi=fnd&pg=PT9&dq=full+Quran&ots=CEp-
EMeYoC&sig=yxKhCmYWvf3bgoLGGKTLhPt5lBI&redir_esc=y#v=onepage&q=full%20
Quran&f=false.

43. The Noble Quran : Surat 24.
https://www.iium.edu.my/deed/quran/nobelquran_arabic/nobae024.html.
44. The Internet of Everything: Smart things and their impact on business models -
ScienceDirect. <https://www.sciencedirect.com/science/article/pii/S014829631930801X>.
45. Torres Vega, M. *et al.* Immersive Interconnected Virtual and Augmented Reality: A 5G and
IoT Perspective. *J Netw Syst Manage* **28**, 796–826 (2020).
46. A survey on blockchain technology and its security - ScienceDirect.
<https://www.sciencedirect.com/science/article/pii/S2096720922000070>.
47. Multi-Isnadset Mids for Sahih Muslim Hadith with Chain of Narrators, Based on Multiple
Isnad by Aziz Mehmood Farooqi, Rauf Ahmed Shams Malick, Muhammad Shahzad Shaikh,
Adnan Akhuzada :: SSRN. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4726768.
48. A Novel Hadith Processing Approach Based on Genetic Algorithms | IEEE Journals &
Magazine | IEEE Xplore. <https://ieeexplore.ieee.org/abstract/document/8964379>.
49. Learning to Identify Narrators in Classical Arabic Texts - ScienceDirect.
<https://www.sciencedirect.com/science/article/pii/S1877050921012369>.
50. Priyadarshini, R., Quadir Md, A., Rajendran, N., Neelananarayanan, V. & Sabireen, H. An
enhanced encryption-based security framework in the CPS Cloud. *J Cloud Comp* **11**, 64
(2022).

51. Sangwan, D. Y. S., Lal, S., Bhambri, D. P., Kumar, A. & Dhanoa, D. I. S. Advancements In Social Data Security And Encryption: A Review. *NVEO - NATURAL VOLATILES & ESSENTIAL OILS Journal* | *NVEO* 15353–15362 (2021).
52. Akkerman, O. The Bohras as Neo-Fāṭimids: Documentary Remains of a Fāṭimid Past in Gujarat. *Journal of Material Cultures in the Muslim World* **1**, 291–313 (2021).
53. Ali, S. H. & Bhatti, A. G. Indigenous Healing Practices of Mental Illness in Southern Punjab. *IUB Journal of Social Sciences* **4**, 75–87 (2022).
54. A Comparison of Superstitious Beliefs and Rituals in Buddhism and Islam | Pastoral Psychology. <https://link.springer.com/article/10.1007/s11089-023-01057-z>.
55. Quantum Computing 40 Years Later | 7 | v2 | Feynman Lectures on Comput. <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003358817-7/quantum-computing-40-years-later-john-preskill>.
56. Commercial applications of quantum computing | EPJQT - EPJ Quantum Technology. https://epjqt.epj.org/articles/epjqt/abs/2021/01/40507_2021_Article_91/40507_2021_Article_91.html.
57. Free Will versus Belief in Qadr? The Response of Sa‘id Nursi and its Modern Relevance | Afkar: Jurnal Akidah & Pemikiran Islam. <https://jati.um.edu.my/index.php/afkar/article/view/30868>.
58. THE CONCEPT OF GOD’S ABILITY (QUDRATULLAH) IN ISLAMIC EDUCATION | Khambali | Ta dib Jurnal Pendidikan Islam. <https://ejournal.unisba.ac.id/index.php/tadib/article/view/10068>.

59. Diagnostics | Free Full-Text | What Is Machine Learning, Artificial Neural Networks and Deep Learning?—Examples of Practical Applications in Medicine.
<https://www.mdpi.com/2075-4418/13/15/2582>.
60. Yamazaki, K., Vo-Ho, V.-K., Bulsara, D. & Le, N. Spiking Neural Networks and Their Applications: A Review. *Brain Sciences* **12**, 863 (2022).
61. The Concept of Fitrah and the Implications of Islamic Education | Amandemen: Journal of Learning, Teaching and Educational Studies.
<https://amandemen.my.id/index.php/i/article/view/1>.
62. The Concept of Fitrah as a Paradigm of Islamic Education: Perspective of The Quran | Ghalib | IQRO: Journal of Islamic Education.
<http://ejournal.iainpalopo.ac.id/index.php/iqro/article/view/2880>.