# Does Artificial Intelligence Go beyond the Limits of Religious Authority? An Ethical Review on IslamGPT

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#### Abstract

The rapid advancements in artificial intelligence (AI) have begun challenging the traditional boundaries of religious authority, historically upheld by scholars and clerics. This study examines IslamGPT, an AI platform designed to provide answers on Islamic teachings, and explores its ethical implications within the context of religious authority. While AI, like IslamGPT, offers convenience in accessing religious knowledge, it raises concerns about accuracy, credibility, and the potential erosion of established religious guidance. This article analyzes the ethical dimensions of utilizing AI for religious purposes, emphasizing the need for guidelines to navigate this emerging landscape. The study finds that reliance on AI for religious advice may blur the lines of legitimate authority, highlighting the necessity of direct verification with religious experts to maintain doctrinal integrity. The paper concludes that while AI can support religious education, its use in delivering authoritative religious decisions must be approached with caution, incorporating human oversight to preserve the sanctity of religious teachings.

Keywords: Artificial intelligence, religious authority, IslamGPT, ethics.

#### Introduction

The emergence of artificial intelligence (AI) technology simultaneously creates a significant revolution in human life (Harari, 2017), including in religious life. AI not only makes work more convenient in many fields, such as automating tasks, analyzing data for diagnosis, designing a work plan, improving decision-making, and many others (Ransbotham et al., 2021; Amedior, 2023). In Kyoto, Japan, an old Kodai-ji temple has stood for over 400 years and has an AI priest in the form of a robot named Mindar. The robot is made to resemble a Buddhist goddess known as the goddess of mercy. Like priests, the robot can give spiritual advice, answer religious questions, and perform religious rituals (Jackson & Yam, 2023). In Christianity, AI has been taken seriously. Indeed, the church has shown an open but cautious attitude towards AI and has also been active in formulating ethical guidelines for AI (Pugeda, 2021). In Indonesia, there is a debate about AI-producing fatwas. Nahdlatul Ulama, Indonesia's most prominent Islamic organization, forbids asking AI for fatwas (Prabowo & Mantalean, 2023). However, in Middle Eastern countries, the development of AI is very rapid. Countries such as Saudi Arabia, Qatar, and the United Arab Emirates are investing heavily in technology; even the United Arab Emirates is developing a Virtual Mufti for religious purposes (Masrur, 2019). In short, it has become a transformative force in human life. However, it raises significant new problems, namely ethical issues (Boddington, 2017).

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As AI technology is integrated into religious contexts, researchers have extensively studied the role of AI in the dissemination of religious knowledge (Andriansyah, 2023; Popova, 2024), religious learning (Sarinda et al., 2023), radical ideology (Khoirunisa et al., 2023), religious authority (Abror et al., 2024; Cheong, 2021b), and the legitimacy of Islamic fatwas (Hakim & Azizi, 2023). However, they have not discussed it from an ethical perspective; instead, the moral view is only a suggestion from the research. Khoirunisa et al. (2023) discuss that AI can help religious authorities meet the needs of Muslims but also poses threats such as misuse to encourage apostasy or radicalization. They suggest that ethical and moral principles should guide the development and implementation of AI in Islam. Likewise, Abror et al. (2024) suggested that Muslim communities and religious leaders should be critical when interacting with AI. The last two studies did not focus on examining the subject from an ethical perspective. Furthermore, Elmahjub (2023) recommended that countries in the Islamic World need to ensure that their development and implementation of AI technologies consider and respect local values and religious beliefs; Tsuria and Tsuria (2024) discussed AI in three religious traditions: Judaism, Islam, and Christianity, but their analysis was still general. Therefore, this paper aims to analyze the ethical implications of AI technology in the practice of Islamic teachings.

Of the many research studies, AI analysis is more focused on AI engines in general, such as ChatGPT, Gemini, and others. However, many AI engines focus on one particular topic and religion, such as IslamGPT, which has different algorithms. For this reason, research on IslamGPT will undoubtedly be more crucial. Based on the contemporary social phenomena in this era of rapid technological advancement, questions about the boundaries of religion and the implications of artificial intelligence (AI) are becoming increasingly relevant. The emergence of IslamGPT, which can specifically answer religious questions, challenges established religious authorities. Machines like IslamGPT become a new alternative authority that can answer religious questions. For this reason, this paper attempts to answer how artificial intelligence, with its growing capabilities and potential, debates the concept of authority and religious ethics; how should Islam respond to the development of artificial intelligence that is beginning to take a role in providing religious guidance, and to what extent can AI such as IslamGPT be relied upon in providing fatwas or legitimate religious views?

This paper discusses the use of AI from an ethical perspective to consider the ethical values underlying religious practices and the potential impact of using AI technologies in religious contexts. It emphasizes the importance of dialogue between ethical thinkers, theologians, religious practitioners, and technologists in navigating the ethical implications of AI integration in religious life. The study's purpose is to explore how AI may influence people's perception of valid religious guidance and to understand the ethical and theological boundaries that may arise in using AI as a source of religious reference.

## **Literature Review**

The term "artificial intelligence" was introduced in 1956 by an American scientist, John McCarthy (Wooldridge, 2023). Over time, artificial intelligence (AI) has been defined as the ability of a system to interpret external data, learn from that data, and use that knowledge to achieve specific goals through an adaptive process (Haenlein & Kaplan, 2019). At the beginning of the 2000 millennium, AI overgrew was driven by advances in computer technology that enabled the use of enormous computing power, the collection of extensive data called big data, and advances in data analysis that included descriptive, predictive, and even prescriptive (Kaynak, 2021). Chat-GPT from OpenAI, released in 2022 for the public, makes AI increasingly in demand by the public. AI technologies such as natural language processing and machine learning algorithms can be leveraged to analyze large amounts of data on religious texts, beliefs, and practices. It can identify patterns, trends, and relationships in religious data that were previously difficult to discover using conventional methods.

As is well known, classical Islamic texts are dominated by Arabic sources, which poses challenges, in contrast to English-language Latin texts, whose modeling has developed rapidly (Alharbi et al., 2021). Moreover, AI assumes that it can assist in understanding religious texts and Islamic teachings. However, analyzing large-scale religious text corpora through the application of natural language processing and machine learning algorithms represents a significant advance in the study of religious texts (Adel et al., 2022; Iordan et al., 2022). For example, in hadith by building language models such as Word2Vec or BERT, it is possible to create vector representations for words in the hadith traditions of the Prophet Muhammad. Thus, it can help in extracting meanings and relationships between words in religious contexts.

Religious digital applications provide online religious services powered by AI. They enable apps and platforms that use artificial intelligence technology to deliver religious content, facilitate virtual religious gatherings, offer personalized religious guidance, provide automated responses to religious queries, and more. Religious applications utilize machine learning algorithms and a Neuro-Linguistic Program (NLP) to provide many features and functionalities to increase participation and engagement in religious activities (Alkhouri, 2024). Some platforms have even provided online religious knowledge powered by AI technology. Therefore, they suppose relying on humans for decision-making is unnecessary and are more receptive to AI-based recommendations (Karataş & Cutright, 2023).

Moreover, the relationship between new media and religious authority shows similarities with the AI revolution projected today. Initially, the internet was characterized by polemics that disturbed religious authority. The democratization of information in new media is associated with the belief that anyone can claim religious authority (Turner, 2007). AI experiences it as a new technology that continues to develop. So, the problem of religious authority reappears with different causal actors. The problem arises when AI robot priests are created that can provide religious instruction. Not

only in Japan in recent years, a robot monk was also developed at Longquan Monastery on the outskirts of Beijing (Sherwood, 2016). Although religion and science are often perceived as opposites in secular terms, many religious leaders and communities strategically build and manage the latest technological innovations to advance moral and technological growth in tandem (Cheong, 2020a).

Traditional religious authorities see the advancement of AI technologies as an opportunity to support and strengthen their spiritual authority. They use AI technologies to increase the effectiveness and reach of their religious messages and demonstrate that the existence and use of AI align with their religious values. In this way, they believe that the development and improvement of AI is an essential aspect of religious duties, and such technologies should be directed toward humanity's spiritual and moral benefit (Cheong, 2020a). Therefore, religious actors can contribute significantly to understanding and directing the development of AI. Their experience can help build strong partnerships between themselves and others involved in AI development (Trotta et al., 2024).

The emergence of AI systems that can defeat human intelligence raises debates in the religious world. In addition to providing significant benefits to religious practice, AI can also have adverse consequences. When AIs are publicly accessible and provide fatwas on religion, trust in AIs increases in society because they are considered objective. Traditional authority, in this case, the role of religious leaders, is slowly eroded. Instantaneous urban society may, in the future, ask AI when there are spiritual problems. However, artificial intelligence technology must be used without disturbing religious principles. Therefore, it must consider ethical, moral, and religious aspects in integrating AI in a religious context.

#### Method

The research focuses on the IslamGPT, which can provide users with religious insight or other Islamic teaching references. IslamGPT is a web-based AI tool developed to answer questions about Islamic law and other Islam-related disciplines (IslamGPT, n.d). Because this AI-powered IslamGPT can analyze and answer questions about religious issues based on religious texts, this instant convenience can shift authoritative legitimacy to those who do not have a human intermediary with religious knowledge. This phenomenon challenges conventional religious authority beyond the limited access to religious knowledge. It is critical because this shift not only creates political conflicts of religious authority but also ethically can reduce religious understanding and shallow interpretations, which ultimately trigger religious behavior contrary to these religious values.

The study examines IslamGPT using a descriptive-analytical method to discuss the topic of knowledge authority sourced from IslamGPT (beta) powered by AI. Therefore, this method can thoroughly examine the literature and analyze relevant findings to identify the topic. Combining descriptive aspects allows the data to be

analyzed and summarized analytically, then interpreted and critically assessed (Bloor & Wood, 2016). Descriptive-analytical analysis based on a literature review involves systematic identification and selection of relevant sources, followed by a thorough examination to describe the core ideas and findings presented in each source (Aveyard, 2014). Through this approach, the study can thus provide an informed overview of the subject matter, revealing insights based on an ethical perspective (Jesson et al., 2011). In addition, this method can help formulate theories, identify research gaps, and propose directions for future studies (Creswell, 2018).

#### **Result and Discussion**

# IslamGPT: Providing and Assisting in More Accessible Religious Knowledge the Problem of Islamic Authority

IslamGPT is powered by a sophisticated AI tool developed by OpenAI that can respond to various data. The disclaimer of this AI tool's site owner and developer states that they are not responsible for any consequences arising from using the information provided and advises users to assess and interpret the responses provided wisely before making any decisions or taking any action. This statement aligns with the site owner's and developer's goal, namely to improve and perfect the AI response, which is beta versions. The developer warns on the site that while efforts have been made to provide accurate and reliable information, any responses generated by the tool should not be taken as absolute truth or definitive fact. The responses are based on training the model on various data, including shared knowledge and information available up to September 2021 (IslamGPT, n.d.). However, apart from that, this AI tool can quickly assist users in finding information and references about Islamic teachings.

Furthermore, IslamGPT can answer questions about Islam by providing interpretation sources from the Quran based on AI's understanding. For every question about fatwa or law, this tool states that its answer refers to Islamic religious texts such as the Quran and hadith.



Figure 1. IslamGPT's Answer to What Is Islam

Source: Islamgpt.info (March 28, 2024)

As stated in Figure 1, the IslamGPT defines Islam normatively by referring to only one verse in the Qur'an:

Indeed, the religion in the sight of Allah is Islam. And those who were given the Scripture did not differ except after knowledge had come to them - out of jealous animosity between themselves. And whoever disbelieves in the verses of Allah, then indeed, Allah is swift in [taking] account (QS. Ali Imran [3]: 19).

IslamGPT Fasting, or "sawm" in Arabic, is one of the pillars of Islam and is prescribed to Muslims as an act of worship. It involves abstaining from food, drink, and other physical needs from dawn until sunset during the month of Ramadan, which is the ninth month of the Islamic lunar calendar. The primary purpose of fasting is to develop taqwa, which can be translated as piety, consciousness, or mindfulness of Allah. By refraining from physical desires and focusing on spiritual reflection, fasting helps Muslims to strengthen their relationship with Allah, increase their self-discipline, and purify their hearts and souls. Fasting is not only about abstaining from food and drink but also encompasses controlling one's thoughts, actions, and speech. It encourages Muslims to practice patience, gratitude, and empathy towards others, especially those who are less fortunate. It is a time for self-reflection, increased devotion, and seeking forgiveness fortunate. It is a time for self-reflection, increased devotion, and seeking forgiveness for past sins. Fasting during Ramadan is obligatory for adult Muslims who are physically and mentally capable. However, there are exceptions for those who are ill, traveling, pregnant, breastfeeding, menstruating, or experiencing other valid reasons that prevent them from fasting. In such cases, they may make up the missed fasts at a later time or provide food for the needy as an alternative. The guidance for fasting is derived from the Quran, specifically in Surah Al-Baqarah (2:183-185), where Allah prescribes fasting as a means to attain piety and emphasizes the importance of completing the prescribed number of fasting days. It is important to note that the specific details and rulings related to fasting may vary based on different schools of Islamic jurisprudence and the interpretations of qualified scholars. Therefore, it is advisable to consult with a knowledgeable scholar or local Islamic authority for any specific questions or concerns regarding fasting.

Figure 2. IslamGPT Answers about Understanding Fasting

Source: Islamgpt.info (March 28, 2024)

Likewise, with other Islamic religious questions. In Figure 2, for example, when the author asks about fasting, this tool answers in detail and quotes surah al-Baqarah [2] verses 183-185; but in every answer, this tool always emphasizes confirming the answer again and consulting with religious experts.

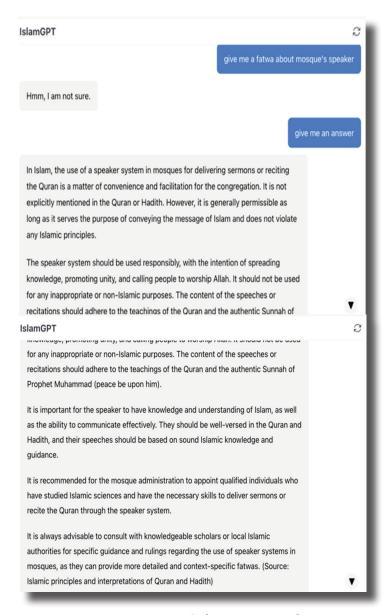


Figure 3. IslamGPT Answers about Mosque Speaker

Source: Islamgpt.info (March 28, 2024).

When asked for a fatwa on the use of mosque speakers (Figure 3), the tool provided a detailed answer on the use of mosque speakers from an Islamic perspective. The tool can analyze and answer the question by considering several social impacts and religious texts. However, in the development of AI that can accessed in general to date, there are three findings: AI has difficulty representing complex religious issues, AI emphasizes diversity of opinion, and AI encourages readers to engage with sensitivities related to religious issues (Tsuria & Tsuria, 2024).

Nevertheless, the website's creators also advise that for issues related to Islam, it is advisable to seek guidance and consultation from Islamic scholars or trusted sources within the Islamic community. They are more likely to have the knowledge and exper-

tise needed to provide comprehensive and accurate information about Islamic teachings, beliefs, and practices. The website owner and developer of this AI tool affirm that they are not liable for any consequences that may arise from using the information provided by this tool. Users are urged to use their judgment when interpreting and applying the responses generated by this tool. It is also emphasized that they should verify and cross-check the information obtained through this tool with reliable sources before deciding based on such information. Also, site owners and developers may analyze conversations made through these AI tools to improve and refine AI responses. However, users should note that their privacy will be safeguarded, and no personal information will be stored or shared. Therefore, users are expected not to disclose personal or sensitive information when using this AI tool (IslamGPT, n.d).

### Artificial Intelligence and the Ethical Problem of Religious Authority

Ethics are humans' moral principles, which direct life in every decision they make. It is the inner regulator of right and wrong that all people share (Mitov, 2021). According to utilitarian ethics, an action or policy can be considered ethical even if it violates individual rights as long as the outcome is positive. It also states that it is difficult to accurately measure the gains and losses of an action or policy, and it is difficult to determine winners and losers in a given situation. In addition, utilitarian ethics faces difficulties in achieving an optimal goal that serves the greatest good and the most significant number of people simultaneously because sometimes the good for one group may conflict with the good for another group (McGee, 2024). Therefore, assuming that AI violates religious ethics will harm science and technology developers. On the other hand, if we assume that AI does not conflict with ethics and is free to use, it will affect religious authorities.

Research institutes and government organizations have created regulations and guidelines on how artificial intelligence (AI) should be used ethically. While everyone agrees that AI should be used ethically, there is still debate about what constitutes "ethical AI" and what needs to be done to make it happen. To determine if everyone agrees, researchers have examined and analyzed all the existing rules and guidelines on ethical AI. The results show some global agreement on five fundamental ethical principles that AI should adhere to. They are transparency, fairness, causing no harm, responsibility, and privacy (Jobin et al., 2019).

The development of a website like IslamGPT powered by artificial intelligence (AI) to answer questions about Islam raises several ethical considerations. It is especially so given its influence on religious authority and social impact. First of all, concerns are related to the accuracy and authority of the knowledge delivered by AI. In a religious context, the veracity and authority of teachings are paramount. A site like this must ensure that the answers provided by the AI are not only factually correct but also under the authentic teachings of Islam.

Inaccuracies or misinterpretations can undermine a person's religious understanding and practice, affecting their spiritual beliefs and identity. In addition, there are concerns about the role of humans in the validation and oversight of information delivered by AI. Site developers should ensure that there are rigorous monitoring processes and mechanisms in place to correct or amend incorrect information. Human involvement in verifying answers provided by AI is essential to maintain the integrity and authority of religious knowledge. Another aspect to consider is the diversity in religious interpretation. Islam has a variety of schools and views, and there are often differences of opinion among religious scholars (ulama).

Sites like IslamGPT should encompass this diversity in the answers provided without favoring one school. It requires care in curating resources and training AIs to understand and respond to multiple perspectives. Furthermore, consideration needs to be given to the social impact of using this site. While it can be a source of knowledge for individuals seeking an understanding of Islam, it can also influence how society views religion. It is also essential to avoid conveying information that could trigger conflict or tension between groups. In developing and operating a site like IslamGPT, developers and operators should prioritize ethical principles, including truthfulness, inclusiveness, accuracy, and accountability. Only by paying careful attention to these aspects can the site become a helpful tool in facilitating understanding and dialogue between individuals with information needs about Islam without compromising religious integrity and authority.

In using artificial intelligence to explore questions and issues in any field of study, it is best to use more than one chatbot, as it provides a broader, richer, and more complete perspective than can be gained by using a single artificial intelligence tool alone. Additionally, if the goal is to seek the truth rather than seek support for pre-existing ideas, then it is essential to use a chatbot that does not censor content. Because censorship is inherently anti-intellectual, any solution reached using a chatbot that censors content will likely be suboptimal.

The ethical response of Islamic authorities towards using AI as a religious reference has been mixed. On the one hand, many scholars and prominent Islamic organizations, such as Nahdlatul Ulama in Indonesia, have expressed strong opposition to using AI for fatwa issuance, citing concerns over the erosion of traditional religious authority and the risk of misinterpretation (Prabowo & Mantalean, 2023). They argue that AI cannot grasp the nuanced meanings of complex religious texts and the historical and social contexts that underlie them. Additionally, AI tends to provide literal answers, often disregarding the diversity of interpretations among Islamic schools of thought, potentially leading to misguided decisions (Abror et al., 2024).

Conversely, some religious authorities recognize the potential benefits of AI in supporting religious education and research, provided it is used with strict oversight from qualified scholars (Elmahjub, 2023). They believe that AI can provide broader access to religious literature, aid in reference searches, and expedite the analysis of religious

texts. However, they emphasize that AI should only play a supportive role and not replace direct consultation with religious experts who possess a deeper understanding of Islamic values and teachings (Cheong, 2021). Ethical guidelines are necessary to ensure the integrity and authority of religious knowledge while leveraging AI technology responsibly.

IslamGPT powered by AI can analyze and respond to questions on religious issues based on religious texts. Of course, this offers convenience for people who want instant answers without going through human intermediaries. A shift in traditional authority occurs, where there is a more accessible and more practical medium for religious consultation. With AI, the boundaries of access to religious knowledge become freer, which also challenges conventional religious authority. Weizenbaum (1976) argued that human-machine interaction in religion could blur the distinction between mechanical answers and human experience-based authority. It is a dilemma that needs further consideration. The long-term impact of AI on religious life involves changes in perceptions of authority and sources of religious law. If AI is increasingly perceived as credible, there may be a shift from religious humans to digital authority regarding religious fatwas and guidance. It could have an impact on the way people understand ethical values, morality, and religious law.

#### Conclusion

The application of artificial intelligence (AI) in the Islamic world has provided many significant benefits. AI has facilitated religious research and study in unprecedented ways. With advanced natural language processing algorithms, AI can perform in-depth text analysis on religious textual sources such as the Qur'an, hadith, and other Islamic literature, allowing scholars to explore and understand more profound aspects of Islamic teachings. AI has also supported the creation of innovative Islamic educational apps and platforms, giving Muslims wider access to religious knowledge. However, developing engines such as IslamGPT to answer questions about Islam presents complex ethical considerations. The site should adhere to ethical principles to safeguard the integrity and authority of Islamic knowledge. These include accuracy of information, human involvement in verification and oversight, recognition of the diversity of religious interpretations, promotion of inclusive understanding, and avoidance of misrepresentation. Following these principles, IslamGPT can be a reliable source of Islamic knowledge while preserving religious integrity. However, such a site should not be the sole reference for religious practice. It needs further confirmation and verification with Islamic authorities (ulama), as stated by its developers. Computers, although only running algorithms, can gain users' trust due to their speed and accuracy, potentially blurring the line between human and mechanical authority. the ethical use of AI in religious matters is debatable. But beyond that, technological development is inevitable. Adapting AI ethically is still a work in progress.

This study is limited to discussing the use of Islamic GPT in a specific religious context, thus not discussing the diverse views of Islam on the use of AI in a specific

religious context. This study relies mainly on descriptive-analytical methods, thus limiting its ability to validate claims about the impact of AI on religious authority contextually. Therefore, future research should involve empirical studies, such as surveys or interviews with religious scholars, to assess AI's acceptance and perceived reliability in providing religious guidance. Comparative analysis of various AI-based religious tools and an interdisciplinary approach involving ethics, theology, and technology could yield a more comprehensive understanding. Longitudinal studies are also recommended to examine the long-term effects of AI on public perceptions of religious authority, thus addressing the gaps and enhancing the discourse on ethical AI implementation in religious practices.

#### Statement of Interest

The author declares no conflicts of interest regarding this paper.

#### References

- Abror, R. H., Adawiah, R., & Sofia, N. (2024). AI threat and digital disruption: Examining Indonesian ulema in the context of digital culture. *Journal for the Study of Religions and Ideologies*, 23(76), 59–79. https://thenewjsri.ro/index.php/njsri/article/view/437.
- Adel, B., Meftah, M. C. E., Laouid, A., & Hammoudeh, M. (2022). Machine learning to classify religious communities and detect extremism on social networks: ML to CRCs and DE through text tweets on SNs. *International Journal of Organizational and Collective Intelligence*, 12 (1), 1-19. https://doi.org/10.4018/IJOCI.311093
- Alharbi, A., Taileb, M., & Kalkatawi, M. (2021). Deep learning in Arabic sentiment analysis: An overview. *Journal of Information Science*, 47(1), 129–140. https://doi.org/10.1177/0165551519865488
- Alkhouri, K. I. (2023). The role of artificial intelligence in the study of the psychology of religion. *Religions*, *15*(3), 290. https://doi.org/10.3390/rel15030290
- Amedior, N. C. (2022). Ethical implications of artificial intelligence in the healthcare sector. *Advances in Multidisciplinary and Scientific Research Journal Publication 36*, 1–12. https://doi.org/10.22624/AIMS/ACCRABESPOKE2023P1
- Andriansyah, Y. (2023). The current rise of artificial intelligence and religious studies: Some reflections based on ChatGPT. *Millah: Journal of Religious Studies*, 22(1), ix–xviii. https://doi.org/10.20885/millah.vol22.iss1.editorial
- Aveyard, H. (2014). *Doing a literature review in health and social care: A practical guide* (3<sup>rd</sup> ed.). McGraw-Hill Education.
- Bloor, M., & Wood, F. (2016). *Keywords in qualitative methods: A vocabulary of research concepts.* SAGE Publications.
- Boddington, P. (2017). *Towards a code of ethics for artificial intelligence*. Springer.

- Cheong, P. H. (2020a). Religion, robots, and rectitude: Communicative affordances for spiritual knowledge and community. *Applied Artificial Intelligence*, *34*(5), 412–431. https://doi.org/10.1080/08839514.2020.1723869
- Cheong, P. H. (2021b). Bounded religious automation at work: Communicating human authority in artificial intelligence networks. *Journal of Communication Inquiry*, 45(1), 5–23. https://doi.org/10.1177/0196859920977133
- Creswell, J. W. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5<sup>th</sup> ed.). SAGE Publications.
- Elmahjub, E. (2023). Artificial intelligence (AI) in Islamic ethics: Towards pluralist ethical benchmarking for AI. *Philosophy & Technology*, 36(4), 73. https://doi.org/10.1007/s13347-023-00668-x
- Haenlein, M., & Kaplan, A. (2019). A Brief history of artificial intelligence: On the past, present, and future of artificial intelligence. *California Management Review*, *61*(4), 5–14. https://doi.org/10.1177/0008125619864925
- Hakim, L., & Azizi, M. R. (2023). Otoritas fatwa keagamaan dalam konteks era kecerdasan buatan (Artificial Intelligence/AI). *Ar-Risalah Media Keislaman Pendidikan dan Hukum Islam*, 21(2),164-174. https://doi.org/10.69552/ar-risalah.v21i2.2101
- Harari, Y. N. (2017). Reboot for the AI revolution. *Nature* 550(7676), 324–327. https://doi.org/10.1038/550324a
- Iordan, M.C., Giallanza, T., Ellis, C. T., Beckage, N. M., & Cohen, J. D. (2022). Context matters: Recovering human semantic structure from machine learning analysis of large-scale text corpora. *Cognitive Science*, 46(2): e13085. https://doi.org/10.1111/ cogs.13085
- IslamGPT. (n.d.). Quran AI assistant. In *IslamGPT* (beta). Retrieved March 28, 2024, from https://islamgpt.info
- Jackson, J. C., & Yam, K. C. (July 25, 2023). The in-credible robot priest and the limits of robot workers. *Scientific American*. https://www.scientificamerican.com/article/the-in-credible-robot-priest-and-the-limits-of-robot-workers/
- Jesson, J. K., Matheson, L., & Lacey, F. M. (2011). Doing your literature review: Traditional and systematic techniques. SAGE Publications.
- Jobin, A., Ienca, M., & Vayena, E. (2019). The global landscape of AI ethics guidelines. *Nature Machine Intelligence*, 1(9), 389–399. https://doi.org/10.1038/s42256-019-0088-2
- Karataş, M., & Cutright, K. M. (2023). Thinking about God increases acceptance of artificial intelligence in decision-making." *PNAS Proceedings of the National Academy of Sciences of the United States of America*, 120(33), e2218961120. https://doi.org/10.1073/pnas.2218961120
- Kaynak, O. (2021). The golden age of artificial intelligence. *Discover Artificial Intelligence*, *1*(1). https://doi.org/10.1007/s44163-021-00009-x

- Khoirunisa, A., Rohman, M. F., Azizah, H. A., Arianti, D., Maghfiroh, A. L., & Noor, A. M. (2023). Islam in the midst of AI (Artificial Intelligence) struggles: Between opportunities and threats. *Suhuf*, *35*(1), 26–30. https://doi.org/10.23917/suhuf. v35i1.22365
- Masrur, M. (2019, November 12). Uni Emirat Arab meluncurkan aplikasi mufti virtual. *Portal Islam Rahmatan lil Alamin, Bincang Syariah.* https://bincangsyariah.com/headline/uni-emirat-arab-meluncurkan-aplikasi-mufti-virtual/
- McGee, R. W. (2024). *A study in artificial intelligence* (Working paper). Fayetteville State University https://doi.org/10.13140/RG.2.2.26675.60969
- Mitov, A. (2021). *Ethical use of artificial intelligence through the utilitarianism perspective* (Publication No. 86726). [Bachelor Theses, University of Twente]. University of Twente Student Theses. https://essay.utwente.nl/86726/.
- Popova, S. S. (2024). Use of artificial intelligence in the activities of religious associations and control over them. *Journal of Digital Technologies and Law*, 2(1), 101–22. https://doi.org/10.21202/jdtl.2024.6
- Prabowo, D., & Mantalean, V. (Eds.). (2023, September 19). NU: Haram minta fatwa ke 'artificial intelligence.' *Kompas.com*. https://nasional.kompas.com/read/2023/09/19/15551621/nu-haram-minta-fatwa-ke-artificial-intelligence
- Pugeda, T. G. S. (2021). Artificial intelligence and ethical reflections from the Catholic church. *MST Review*, *23*(2), 52–93. https://archium.ateneo.edu/theology-faculty-pubs/50
- Ransbotham, S., Candelon, F., Kiron, D., LaFountain, B., & Khodabandeh, S (2021, November 2). The cultural benefits of artificial intelligence in the enterprise. *MIT Sloan Management Review*. https://sloanreview.mit.edu/projects/the-cultural-benefits-of-artificial-intelligence-in-the-enterprise/
- Sarinda, F., Martina, M., Noviani, D., & Hilmin, H. (2023). Pendidikan agama Islam berbasis teknologi (AI) Artificial Intelligence. *Jurnal Kajian Penelitian Pendidikan dan Kebudayaan*, *1*(4), 103–111. https://doi.org/10.59031/jkppk.v1i4.268
- Sherwood, H. (2016, April 26). Robot monk to spread Buddhist wisdom to the digital generation. *The Guardian*. https://www.theguardian.com/world/2016/apr/26/robot-monk-to-spread-buddhist-wisdom-to-the-digital-generation
- The Qur'an (Sahih International, Trans; English version). (2024). Quran.com. https://legacy.quran.com/3/19
- Trotta, S., Iannotti, D. S., & Rähme, B. (2024). Religious actors and artificial intelligence: Examples from the field and suggestions for further research." *Religion and Development, Advance Articles Issue*, 1–25. https://doi.org/10.30965/27507955-20230027

- Tsuria, R., & Tsuria, Y. (2024). Artificial intelligence's understanding of religion: Investigating the moralistic approaches presented by generative artificial intelligence tools. *Religions*, *15*(3), 375. https://doi.org/10.3390/rel15030375
- Turner, B. S. (2007) Religious authority and the new media. *Theory, Culture & Society,* 24(2), 117–134. https://doi.org/10.1177/0263276407075001
- Weizenbaum, J. (1976). Computer power and human reason: From judgment to calculation. W H Freeman & Co.
- Wooldridge, M. (2021). A brief history of artificial intelligence: What it is, where we are, and where we are going. Flatiron Books.