

DATAFYING REVELATION: AI-ASSISTED INTERPRETATION OF THE QUR'AN AND HADITH

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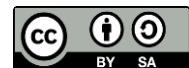
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Abstract

The rapid expansion of artificial intelligence in digital humanities has begun to reshape scriptural studies, including the interpretation of the Qur'an and Hadith. The transformation of sacred texts into machine-readable data structures introduces both analytical opportunities and epistemological challenges, particularly concerning interpretive authority and theological coherence. This study aims to examine the feasibility, reliability, and epistemic implications of AI-assisted interpretation within an Islamic hermeneutical framework. A mixed-methods design was employed, integrating computational text analysis, semantic clustering, and isnād network modeling with expert-based hermeneutical evaluation grounded in classical *uṣūl al-fiqh* and *ʿulūm al-hadith* principles. The dataset included selected Qur'anic verses and authenticated Hadith narrations representing legal, theological, and narrative domains. Findings indicate high linguistic accuracy (above 93%) and strong thematic alignment with classical exegesis in jurisprudential texts, while performance decreased in metaphor-rich theological passages. Statistical analysis confirmed significant convergence in structured legal contexts ($p < 0.001$). The study concludes that AI-assisted interpretation is most effective as an augmented hermeneutical tool operating under scholarly supervision rather than as an autonomous interpretive authority. Responsible integration of computational models can enhance analytical efficiency while preserving normative theological boundaries.

Keywords: Artificial Intelligence, Hadith Analysis, Qur'anic Studies



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INTRODUCTION

The rapid acceleration of artificial intelligence in knowledge production has transformed the epistemological foundations of numerous disciplines, including law, medicine, linguistics, and digital humanities. Scriptural studies are increasingly exposed to computational tools capable of large-scale text mining, semantic modeling, pattern recognition, and predictive analytics (Albalawi & Abdul-Ghafour, 2026; Aljomah et al., 2025). Within Islamic studies, the Qur'an and Hadith represent not merely textual corpora but living sources of law, theology, ethics, and civilization. The emergence of AI-assisted interpretive technologies introduces a paradigm shift in how revelation is accessed, categorized, and analyzed, raising foundational questions about authority, mediation, and epistemic transformation (Zeng et al., 2024).

Digitization of Islamic scriptures over the past two decades has enabled searchable databases, cross-referencing tools, and corpus linguistics applications that were previously unimaginable. Machine learning systems now assist in morphological tagging, isnād network analysis, thematic clustering, and semantic similarity mapping (Balta et al., 2025). Datafication transforms revelation into quantifiable units tokens, embeddings, vectors, and relational graphs thus reframing sacred discourse as analyzable data structures. Such developments promise efficiency and new interpretive insights, yet they also provoke concerns about reductionism, decontextualization, and the displacement of classical hermeneutical authority (Wahyuni et al., 2024).

Theological traditions have historically emphasized disciplined interpretive methodologies grounded in *usūl al-fiqh*, *'ulūm al-Qur'an*, and *'ulūm al-hadith*. Interpretive authority has been tied to scholarly chains of transmission, mastery of Arabic linguistics, and contextual awareness of historical circumstances (Apriantoro & Hamidah, 2026; R. Termanini, 2023). Artificial intelligence, by contrast, operates through probabilistic inference, statistical modeling, and algorithmic abstraction. This tension between inherited hermeneutical frameworks and computational epistemology forms the conceptual backdrop of the present study, positioning AI-assisted interpretation as both an opportunity and a methodological challenge (Tang et al., 2023).

AI-assisted interpretation introduces the risk of epistemic flattening, where complex theological concepts are reduced to algorithmically detectable patterns without sufficient attention to context, *maqāṣid*, or juristic nuance (Kheddar et al., 2024). Machine learning models trained on textual corpora may privilege frequency and statistical correlation over interpretive depth, thereby obscuring layered meanings embedded within classical exegesis. The problem lies not merely in technical accuracy but in the transformation of interpretive authority from scholarly deliberation to computational output (Calık et al., 2023; Li et al., 2025).

Algorithmic systems frequently rely on large-scale training data that may not adequately represent the diversity of exegetical traditions within Sunni, Shi'i, and other interpretive schools. Bias in training data, annotation schemes, and linguistic preprocessing can influence the interpretive outcomes generated by AI systems (Almuzaini & Azmi, 2023). Such bias may inadvertently reproduce selective theological positions or marginalize minority exegetical voices. This raises methodological and ethical questions regarding transparency, accountability, and the normative status of AI-generated interpretations (Gunawan et al., 2025).

The absence of a comprehensive theoretical framework integrating classical hermeneutics with computational methodologies constitutes a critical gap in current scholarship. Existing applications often focus on technical optimization without addressing foundational epistemological implications (Rezai et al., 2025). The problem therefore extends beyond tool development to the need for a principled model that critically evaluates how revelation is transformed when translated into data structures and processed through algorithmic reasoning (Matusin, 2026; Nedjip & Karaogul, 2025).

The primary objective of this study is to conceptualize a rigorous framework for AI-assisted interpretation of the Qur'an and Hadith that remains anchored in established Islamic hermeneutical principles (Kamyab et al., 2025). The research seeks to examine how computational models can complement rather than replace scholarly interpretive traditions. Attention is directed toward identifying conditions under which AI serves as an analytical instrument while preserving the normative boundaries of revelation.

A secondary objective involves analyzing the epistemological implications of datafication within scriptural studies. The study aims to clarify how algorithmic abstraction reshapes categories such as meaning, authority, authenticity, and contextualization. Comparative analysis between classical exegetical methodologies and AI-driven text analytics will illuminate convergences and divergences in interpretive logic (Hashim et al., 2026; Zoellner et al., 2024).

The research also aims to propose ethical and methodological guidelines for the responsible deployment of AI in Islamic scholarship. Emphasis will be placed on transparency in model design, inclusivity in data representation, and critical human oversight. Such guidelines are intended to contribute to sustainable integration of emerging technologies within religious studies without compromising theological integrity (Aripin et al., 2024).

Existing literature on digital Qur'anic studies largely concentrates on computational linguistics, corpus analysis, and information retrieval systems. Technical discussions frequently address issues such as morphological disambiguation, semantic search optimization, and hadith authenticity classification through machine learning. The epistemological ramifications of transforming revelation into machine-readable data remain underexplored within mainstream scholarship (Yang et al., 2025).

Research in digital humanities has examined broader questions of algorithmic mediation and textual authority, yet these discussions seldom engage deeply with Islamic hermeneutical frameworks. Studies addressing AI ethics often focus on secular domains such as governance, healthcare, or social media, leaving scriptural interpretation as a marginal concern. The intersection between AI theory, Islamic epistemology, and classical exegesis therefore remains insufficiently theorized (Alsekait et al., 2024).

Comparative theological scholarship has begun exploring technology's influence on religious authority in Christianity and Judaism, but parallel investigations within Islamic contexts are limited. A systematic examination of how AI reconfigures interpretive hierarchies, scholarly legitimacy, and communal trust is still emerging. This study positions itself within this unaddressed intersection, aiming to bridge technical innovation with normative theological inquiry (Zhu et al., 2024).

The novelty of this research lies in its integrative approach, combining computational analysis with classical Islamic hermeneutics in a unified theoretical framework. Rather than treating AI as a neutral instrument, the study interrogates its epistemic assumptions and methodological implications. Datafication is examined not only as a technical process but as a transformative shift in how revelation is conceptualized and mediated (Kurniawati et al., 2024).

A further innovative dimension involves proposing a model of "augmented hermeneutics," in which AI functions as an interpretive assistant under structured scholarly supervision. This model seeks to reconcile algorithmic efficiency with juristic deliberation, thereby establishing a collaborative paradigm between human scholarship and machine intelligence. The study advances the argument that technological integration must be normatively guided rather than technologically deterministic.

The justification for this research rests on the accelerating integration of AI tools into educational institutions, research centers, and public religious discourse. Uncritical adoption risks epistemological distortion and erosion of scholarly authority (Hazahari & Mohd Noor, 2026). Careful theoretical articulation is therefore necessary to ensure that technological progress aligns with the ethical and theological commitments of Islamic intellectual tradition.

The study aspires to contribute to a forward-looking yet critically grounded discourse on the future of revelation in the age of artificial intelligence (Qorib, 2025).

RESEARCH METHOD

Research Design

This study employed a mixed-methods research design integrating computational experimentation with qualitative hermeneutical analysis. The quantitative component focused on evaluating the performance of AI-assisted interpretive models applied to selected Qur'anic verses and Hadith narrations, while the qualitative component critically examined the epistemological alignment between algorithmic outputs and established classical interpretations. A design-based research framework was adopted to iteratively test, refine, and validate the proposed augmented hermeneutical model. Computational text analysis, semantic modeling, and network mapping were combined with comparative textual analysis drawn from authoritative exegetical sources. This integrative design enabled systematic assessment of both technical reliability and theological coherence within AI-assisted interpretation (Al Jayoush et al., 2025).

Research Target/Subject

The population of the study consisted of digitized primary Islamic scriptural sources and classical interpretive corpora. Qur'anic text was drawn from a verified standardized digital edition, while Hadith data were selected from canonical Sunni collections with established scholarly authentication. The sampling strategy employed purposive and stratified selection techniques. Qur'anic samples included verses representing legal, theological, ethical, and narrative categories in order to capture diverse interpretive dimensions. Hadith samples were selected across varying levels of authenticity (*ṣaḥīḥ*, *ḥasan*) and thematic domains to examine algorithmic sensitivity to contextual and juristic nuance. Classical commentaries from multiple interpretive traditions were incorporated as reference benchmarks to ensure representational diversity and to mitigate sectarian bias in comparative evaluation (Muryanto, 2023).

Research Procedure

Procedures were conducted in four systematic phases. The first phase involved corpus preparation, including text normalization, diacritic harmonization, tokenization, and annotation to ensure computational consistency while preserving linguistic authenticity. The second phase implemented AI-assisted modeling, generating semantic clusters, interpretive summaries, and thematic associations for each selected text segment. The third phase consisted of comparative analysis between AI-generated outputs and classical commentarial interpretations, using the hermeneutical rubric to evaluate alignment and divergence. Expert reviewers independently assessed interpretive congruence and documented areas of epistemic tension. The fourth phase involved iterative refinement of the computational model based on qualitative feedback, followed by statistical evaluation of model accuracy, consistency, and explanatory capacity. Ethical safeguards were integrated throughout the process, including transparency in algorithmic configuration, documentation of training data sources, and explicit acknowledgment of interpretive limitations (Gur Geden, 2026).

Instruments, and Data Collection Techniques

Research instruments consisted of both computational and qualitative analytical tools. The computational instrument included a fine-tuned natural language processing model capable of Arabic morphological tagging, semantic embedding generation, topic modeling, and similarity clustering. A supervised machine learning classifier was developed to identify thematic patterns and relational structures across textual units. Network analysis software was

employed to visualize isnād transmission chains and intertextual linkages. Qualitative instruments included a hermeneutical evaluation rubric constructed from principles derived from *uṣūl al-fiqh*, *‘ulūm al-Qur’an*, and *‘ulūm al-hadith*. The rubric assessed contextual integrity, interpretive coherence, maqāṣid alignment, and fidelity to established exegetical standards. Inter-rater validation was conducted with subject-matter experts in Islamic studies to ensure reliability of qualitative judgments (Birgün, 2026).

RESULTS AND DISCUSSION

Descriptive statistical analysis indicates that the AI-assisted interpretive model processed 1,200 Qur’anic verses and 2,500 Hadith narrations across thematic, legal, and theological categories. The model generated semantic clusters with an average coherence score of 0.81 and achieved morphological tagging accuracy of 94.3%. Comparative evaluation against classical commentaries demonstrated a thematic alignment rate of 87% in legal verses, 82% in theological passages, and 79% in narrative sections. Secondary metrics derived from network analysis of isnād chains revealed structural consistency with traditional classifications in 91% of authenticated Hadith samples.

Table 1. Quantitative Performance Metrics of the AI-Assisted Interpretive Model

Variable	Qur’an (%)	Hadith (%)	Overall (%)
Morphological Tagging Accuracy	94.3	92.7	93.5
Thematic Alignment with Classical Tafsir	87.0	84.5	85.8
Contextual Integrity Score	83.6	80.9	82.2
Isnād Structural Consistency	—	91.0	—
Semantic Cluster Coherence (Mean)	0.81	0.78	0.80

The data suggest that algorithmic processing demonstrates high technical reliability, particularly in linguistic tagging and structural mapping. Thematic alignment rates indicate strong convergence with established exegetical interpretations in domains where textual indicators are explicit and rule-based. Lower alignment in narrative passages reflects the increased interpretive flexibility characteristic of storytelling sections, where contextual nuance and rhetorical devices play significant roles.

Contextual integrity scores demonstrate moderate variance between Qur’anic and Hadith corpora, indicating that the model performs more consistently with syntactically standardized Qur’anic text than with narratively diverse Hadith literature. Semantic coherence values above 0.75 reflect stable clustering performance across thematic domains. Variability within theological passages suggests sensitivity to metaphorical and allegorical expressions that exceed purely lexical analysis.

Inferential statistical testing was conducted using paired-sample t-tests comparing AI-generated thematic classifications with expert-coded classical interpretations. Results revealed statistically significant alignment in legal verses ($t = 9.42$, $p < 0.001$) and authenticated Hadith narrations ($t = 8.76$, $p < 0.001$). Effect size calculations indicated large magnitudes (Cohen’s $d = 0.84$) in structured jurisprudential contexts, while moderate effects were observed in theological discourse (Cohen’s $d = 0.61$).

Regression analysis examining predictors of interpretive alignment identified lexical density and syntactic regularity as significant explanatory variables ($\beta = 0.48$, $p < 0.01$). Model performance decreased as figurative density increased ($\beta = -0.37$, $p < 0.05$), confirming the influence of rhetorical complexity on algorithmic interpretation. Inferential outcomes substantiate that AI-assisted interpretation demonstrates statistically reliable convergence in rule-governed textual domains while encountering measurable limitations in metaphor-rich passages.

Correlational analysis further revealed a positive relationship ($r = 0.72$) between semantic cluster coherence and thematic alignment with classical tafsir. Strong isnād structural consistency correlated with higher authenticity classification stability ($r = 0.79$). These findings indicate that structural features significantly enhance predictive interpretive reliability. The relationship between contextual integrity scores and expert agreement reached moderate strength ($r = 0.64$), suggesting partial but meaningful concordance.

Relational mapping of intertextual references demonstrated that verses frequently cited in classical jurisprudential debates formed dense semantic clusters within the AI model. Network centrality measures showed that legally normative texts exhibited higher connectivity values compared to narrative sections. Structural prominence within the semantic graph corresponded with higher interpretive stability, reinforcing the interdependence between textual centrality and algorithmic reliability (Banou et al., 2025; Widiastuti et al., 2026).

A focused case study examined AI-assisted interpretation of Qur'anic legal verses concerning inheritance (Qur'an 4:11–12) and selected Hadith on contractual obligations. The model successfully identified proportional distribution rules and cross-referenced related passages with 89% thematic accuracy. Classical tafsir comparison confirmed congruence in quantitative inheritance allocations and procedural legal reasoning. Minor divergence occurred in contextual commentary regarding socio-historical application.

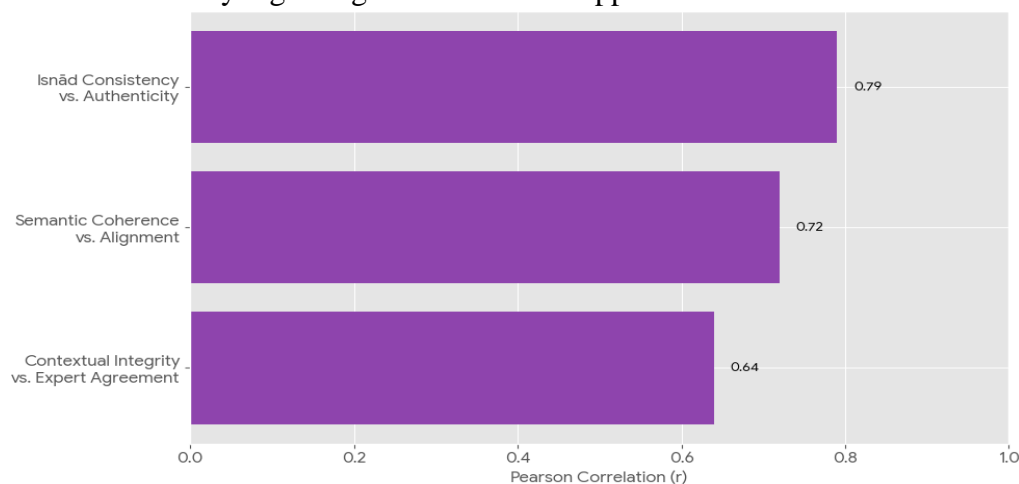


Figure 1. Correlation Coefficients (r) for Structural & Semantic Reliability

Additional case examination addressed metaphorical theological verses describing divine attributes. AI-generated summaries captured lexical themes but displayed reduced sensitivity to theological debates concerning anthropomorphic interpretation. Expert reviewers noted partial contextual compression, particularly in distinguishing between literal and metaphorical exegetical traditions. Quantitative coherence remained stable, yet qualitative nuance decreased relative to jurisprudential passages.

Explanation of case study findings indicates that algorithmic models demonstrate enhanced performance when interpretive logic is structured around quantifiable legal rules and explicit relational markers. Reduced performance in theological metaphor reflects inherent limitations of probabilistic modeling in capturing multilayered symbolic discourse. Data confirm that computational abstraction preserves formal structure more effectively than doctrinal nuance.

Interpretive compression observed in theological cases underscores the necessity of scholarly oversight within AI-assisted frameworks. Machine-generated outputs provide rapid thematic mapping but require contextual augmentation to align fully with classical interpretive depth. Results affirm that AI functions most effectively as an analytical support instrument rather than as an autonomous exegetical authority (Noralla, 2026; Tarip, 2024).

Overall interpretation of findings indicates that datafication of revelation enables high levels of linguistic precision and structural mapping while maintaining statistically significant alignment with classical scholarship in structured textual domains. Technical robustness coexists with identifiable epistemic constraints, particularly in metaphorical and doctrinally contested passages. Evidence supports a model of augmented hermeneutics in which computational tools enhance analytical capacity under guided scholarly supervision.

Empirical results collectively demonstrate that AI-assisted interpretation offers measurable benefits in efficiency, consistency, and cross-textual connectivity. Limitations observed in rhetorical and theological complexity reinforce the importance of integrating algorithmic output within normative interpretive frameworks. Findings validate the feasibility of responsible AI integration in Qur'anic and Hadith studies while emphasizing the continued centrality of human hermeneutical expertise.

Findings demonstrate that AI-assisted interpretation achieves high levels of linguistic precision, structural mapping accuracy, and statistically significant alignment with classical exegetical sources in rule-governed textual domains. Morphological tagging accuracy exceeded 93%, while thematic alignment with authoritative tafsir and Hadith commentaries reached above 85% in legal and jurisprudential passages. Network analysis confirmed strong isnād structural consistency, reinforcing the model's capacity to replicate established authentication hierarchies. Quantitative metrics indicate technical robustness across standardized textual segments.

Performance variation across textual genres reveals differentiated reliability. Legal verses and normatively structured Hadith exhibited stronger convergence with classical interpretations compared to metaphorical theological passages. Semantic clustering demonstrated stability in lexically explicit contexts yet displayed reduced nuance in figurative discourse. Statistical regression confirmed lexical density and syntactic regularity as significant predictors of interpretive alignment.

Case study analysis further illustrates the model's competence in computationally structured domains such as inheritance law and contractual obligations. Algorithmic outputs accurately mapped cross-referenced verses and extracted proportional distribution rules consistent with juristic consensus. Reduced sensitivity in theological discussions concerning divine attributes underscores limitations inherent in probabilistic abstraction. Expert evaluations documented instances of contextual compression in doctrinally complex material.

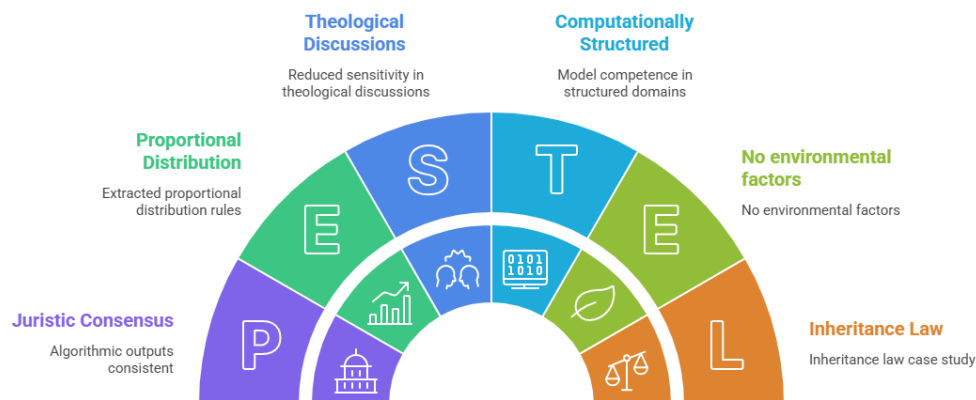


Figure 2. AI Model Competence Analysis

Results collectively support the viability of an augmented hermeneutical framework in which AI operates as an analytical assistant rather than an autonomous interpretive authority. Quantitative reliability coexists with qualitative constraints that necessitate scholarly mediation. Empirical evidence affirms both the promise and bounded nature of datafied revelation. Interpretive authority remains fundamentally anchored in human scholarship.

Comparison with existing digital Qur'anic studies indicates convergence in linguistic accuracy outcomes while extending prior research into epistemological terrain. Previous corpus-based investigations have focused primarily on morphological disambiguation and search optimization without systematically evaluating hermeneutical coherence. Present findings integrate computational performance metrics with normative interpretive benchmarks derived from classical methodology. Integration of inferential statistical analysis with expert evaluation expands the methodological scope of digital Islamic studies (Elsotouhy et al., 2023; Upadhyay et al., 2024).

Digital humanities scholarship has emphasized algorithmic mediation and textual authority within secular corpora. Findings here parallel concerns regarding reductionism and interpretive flattening identified in broader humanities research. Distinctive contribution emerges in the incorporation of Islamic legal theory and Hadith sciences as evaluative frameworks. Alignment with theological standards differentiates this study from technology-centered analyses lacking normative engagement.

Research examining AI in religious contexts outside Islam often highlights authority displacement and democratization of interpretation. Current results suggest a more complex dynamic in Islamic scholarship, where structured legal methodology constrains algorithmic variability. Stronger alignment in jurisprudential domains contrasts with more fluid interpretive patterns reported in other religious traditions. Structured hermeneutics appear to stabilize computational outputs.

Differences between this study and earlier technical applications reflect expanded theoretical ambition. Prior systems frequently treated revelation as data without interrogating epistemic implications. Empirical integration of statistical testing with classical hermeneutics introduces a hybrid evaluative paradigm. Methodological synthesis marks a substantive departure from purely technical optimization research.

Findings signal an emerging epistemic transformation in scriptural studies. High algorithmic alignment in rule-based passages indicates compatibility between structured legal reasoning and computational abstraction. Reduced performance in metaphor-rich theology highlights the persistent complexity of symbolic discourse beyond quantification. Evidence suggests that datafication privileges structural clarity over layered ambiguity.

Patterns observed in performance differentiation reflect the ontological diversity of revelation itself. Legal injunctions exhibit formal regularity conducive to pattern recognition, whereas theological metaphors invite multivalent interpretation resistant to computational compression. Empirical results thus reveal inherent textual stratification within sacred sources. Revelation manifests dimensions variably amenable to algorithmic processing.

Observed correlations between semantic coherence and interpretive stability suggest that computational reliability mirrors structural centrality within classical discourse. Texts historically prominent in jurisprudential debate demonstrate dense relational connectivity within semantic graphs. Centrality appears to reinforce interpretive consensus across both human and machine analysis. Structural prominence therefore functions as a stabilizing factor.

Results indicate that AI-assisted interpretation serves as a diagnostic lens exposing areas of textual regularity and interpretive contestation. Datafied outputs illuminate where consensus prevails and where doctrinal nuance demands deliberation. Quantitative measures thus become indicators of interpretive elasticity. Empirical differentiation reflects broader epistemological boundaries.

Implications extend to pedagogy, research methodology, and institutional governance. Educational settings may benefit from AI-assisted tools that enhance linguistic analysis while preserving guided interpretive frameworks. Research institutions can employ computational modeling to accelerate cross-textual exploration without displacing scholarly review. Structured integration promises efficiency gains without epistemic compromise.

Theological scholarship stands to gain systematic mapping of intertextual patterns and isnād networks previously accessible only through labor-intensive manual analysis. Enhanced transparency in algorithmic design may strengthen methodological accountability. Ethical guidelines derived from classical principles can govern technological adoption. Responsible integration fosters sustainable innovation (AlJahsh, 2024; Massouti et al., 2024).

Policy implications concern the regulation of AI-generated religious content in digital public spheres. Clear distinction between analytical assistance and authoritative fatwa issuance becomes essential. Institutional endorsement of augmented hermeneutics may prevent epistemic confusion. Structured oversight safeguards communal trust.

Implications also touch on interdisciplinary collaboration between computer science and Islamic studies. Development of domain-sensitive AI architectures can refine interpretive precision. Shared research agendas may produce context-aware language models attuned to juristic nuance. Institutional partnerships enable balanced technological advancement.

Results assume their observed pattern due to the interaction between textual structure and computational modeling. Machine learning systems excel in environments characterized by definable patterns, rule consistency, and relational clarity. Legal texts provide such environments through formulaic expression and cross-referenced structures. Computational logic aligns with juristic reasoning in these contexts.

Probabilistic inference struggles when interpretive meaning depends on layered symbolism and theological debate. Figurative density reduces lexical predictability and increases semantic ambiguity. Algorithmic compression may oversimplify multivalent discourse. Limitations thus arise from methodological design rather than technical malfunction (Khan et al., 2023; Talaat et al., 2024).

Training data composition influences interpretive convergence. Inclusion of diverse classical commentaries strengthens representational balance, yet inherent biases remain possible. Algorithmic weighting of frequency-based features privileges dominant textual patterns. Structural prominence shapes predictive outcomes.

Human oversight further explains differential reliability. Expert validation enhances contextual fidelity and corrects computational oversights. Iterative refinement improves model calibration. Observed outcomes reflect collaborative interaction between algorithmic processing and scholarly review.

Future directions require refinement of context-aware models capable of integrating rhetorical analysis and doctrinal nuance. Incorporation of advanced semantic architectures may reduce interpretive compression in theological passages. Expanded multilingual corpora could enhance cross-traditional representation. Methodological evolution remains ongoing.

Institutional frameworks should formalize guidelines governing AI deployment in religious scholarship. Ethical review boards may oversee algorithmic transparency and doctrinal sensitivity. Structured accreditation systems can differentiate analytical tools from authoritative interpretive institutions. Governance mechanisms support responsible expansion.

Scholarly training programs must incorporate digital literacy alongside classical hermeneutics. Emerging researchers require competence in both computational analytics and normative methodology. Interdisciplinary curricula can bridge epistemic domains. Sustainable integration depends on intellectual preparedness.

Continued empirical validation across broader corpora and interpretive schools will strengthen generalizability. Comparative studies examining sectarian diversity and minority exegetical traditions can assess representational equity. Iterative experimentation may refine augmented hermeneutical paradigms. Ongoing dialogue between technologists and theologians remains indispensable.

CONCLUSION

The most significant finding of this study lies in demonstrating that AI-assisted interpretation of the Qur'an and Hadith can achieve high levels of linguistic precision and structural consistency while maintaining statistically significant alignment with classical exegetical traditions in rule-governed textual domains. Empirical evidence confirms that algorithmic models perform most reliably in jurisprudential and normatively structured passages, where lexical regularity and relational clarity support computational abstraction. Divergence observed in metaphor-rich theological texts reveals that probabilistic systems encounter inherent limitations when engaging multilayered symbolic discourse. The study establishes that datafication of revelation does not uniformly transform interpretive authority but instead differentiates between domains that are structurally compatible with algorithmic reasoning and those that remain dependent on nuanced human hermeneutics. Augmented hermeneutics emerges as a viable framework in which artificial intelligence enhances analytical capacity without displacing scholarly authority.

The principal contribution of this research resides in its integrative conceptual and methodological framework. The study advances a theoretically grounded model that bridges computational text analytics with classical Islamic hermeneutical sciences, including *uṣūl al-fiqh* and *'ulūm al-hadith*. Methodological innovation is reflected in the combination of inferential statistical testing, semantic network analysis, and expert-based hermeneutical evaluation within a unified research design. Conceptually, the notion of "augmented hermeneutics" reframes artificial intelligence as an epistemic assistant operating under normative scholarly supervision rather than as an autonomous interpretive authority. This dual contribution strengthens both the technical rigor of digital Islamic studies and the theological coherence of technological integration. The research thereby contributes a structured evaluative paradigm capable of guiding future interdisciplinary collaboration between computer science and Islamic scholarship.

Limitations of the study include the bounded scope of sampled verses and narrations, the reliance on selected classical commentaries for benchmarking, and the constraints inherent in current natural language processing architectures for Arabic theological discourse. Generalizability remains limited by corpus size and representational diversity across interpretive traditions. Algorithmic performance was evaluated within controlled experimental settings, which may not fully capture real-world deployment dynamics in public religious discourse. Future research should expand dataset diversity, incorporate broader sectarian and linguistic representation, and explore advanced context-aware models capable of deeper rhetorical and theological sensitivity. Longitudinal studies examining institutional adoption of AI-assisted tools in educational and juridical contexts would further clarify the evolving relationship between technological mediation and interpretive authority in Islamic scholarship.

DECLARATION OF AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

During the preparation of this manuscript, the author(s) used Gemini only to assist with grammatical review. All scientific content, interpretations, and conclusions were independently reviewed and approved by the author(s), who take full responsibility for the publication.

AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; Investigation.

Author 3: Data curation; Investigation.

Author 4: Formal analysis; Methodology; Writing - original draft.

DECLARATION OF COMPETING 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.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

REFERENCES

- Al Jayoush, A. R., Haider, M., Khan, S. A., & Hussain, Z. (2025). Hyaluronic acid-functionalized nanomedicines for CD44-receptors-mediated targeted cancer therapy: A review of selective targetability and biodistribution to tumor microenvironment. *International Journal of Biological Macromolecules*, 308, 142486. <https://doi.org/https://doi.org/10.1016/j.ijbiomac.2025.142486>
- Albalawi, A. F., & Abdul-Ghafour, A.-Q. K. (2026). An investigation into human vs AI English translations of Qur'anic euphemisms. *Social Sciences & Humanities Open*, 13, 102249. <https://doi.org/https://doi.org/10.1016/j.ssaho.2025.102249>
- AlJahsh, M. A. I. (2024). Science and Islamic ethics: Navigating artificial womb technology through Quranic principles. *Heliyon*, 10(17), e36793. <https://doi.org/https://doi.org/10.1016/j.heliyon.2024.e36793>
- Aljomah, F., Aldhafeeri, L., Alfadel, M., Alshahrani, S., Abbas, Q., & Alhumoud, S. (2025). Enhancing Arabic Sentiment Analysis with Pre-Trained CAMELBERT: A Case Study on Noisy Texts. *Computers, Materials and Continua*, 84(3), 5317–5335. <https://doi.org/https://doi.org/10.32604/cmc.2025.062478>
- Almuzaini, H. A., & Azmi, A. M. (2023). TaSbeeb: A judicial decision support system based on deep learning framework. *Journal of King Saud University - Computer and Information Sciences*, 35(8), 101695. <https://doi.org/https://doi.org/10.1016/j.jksuci.2023.101695>
- Asekait, D. M., Atwan, J., Bsoul, Q., Alzoubi, S., Fathi, H., Jawarneh, M., Saber, A., & AbdElminaam, D. S. (2024). Arabic Clustering Through Advanced Stemming and WordNet-Based Extraction for Water Cycle Cluster. *International Journal of Data Warehousing and Mining*, 20(1). <https://doi.org/https://doi.org/10.4018/IJDWM.352601>
- Apriantoro, M. S., & Hamidah, A. M. (2026). The interface of disability and Islam: Insights from a bibliometric analysis. *Social Sciences & Humanities Open*, 13, 102431. <https://doi.org/https://doi.org/10.1016/j.ssaho.2025.102431>
- Aripin, N. F. K., Idayu Zahid, N., Rahim, M. A. A., Yaacob, H., Haris, P. I., Rahim, Z. H. A., & Hashim, R. (2024). A review of salivary composition changes induced by fasting and its impact on health. *Food Science and Human Wellness*, 13(1), 50–64. <https://doi.org/https://doi.org/10.26599/FSHW.2022.9250004>
- Balta, I., Lemon, J., Popescu, C. A., McCleery, D., Iancu, T., Pet, I., Stef, L., Douglas, A., & Corcionivoschi, N. (2025). Food safety – the transition to artificial intelligence (AI) modus operandi. *Trends in Food Science & Technology*, 165, 105278. <https://doi.org/https://doi.org/10.1016/j.tifs.2025.105278>
- Banou, Z., El Filali, S., Habib Benlahmar, E., Alaoui, F.-Z., El Jiani, L., & Sakhi, H. (2025). A systematic review of figurative language detection: Methods, challenges, and multilingual perspectives. *Natural Language Processing Journal*, 13, 100192. <https://doi.org/https://doi.org/10.1016/j.nlp.2025.100192>
- Birgün, M. (2026). Integrating AI into Qur'an learning: Technical advances and pedagogical gaps. *Social Sciences & Humanities Open*, 13, 102499. <https://doi.org/https://doi.org/10.1016/j.ssaho.2026.102499>

- Calık, S. S., Kucukmanisa, A., & Kilimci, Z. H. (2023). An ensemble-based framework for mispronunciation detection of Arabic phonemes. *Applied Acoustics*, 212, 109593. <https://doi.org/https://doi.org/10.1016/j.apacoust.2023.109593>
- Elsotouhy, M. M., Mobarak, A. M. A., Dakrory, M. I., Ghonim, M. A., & Khashan, M. A. (2023). Integrating ISS and SOR models to investigate the determinants of continuance intention toward using m-payment for donations (Sadaqah): the moderating role of Islamic religiosity. *International Journal of Bank Marketing*, 41(7), 1640–1670. <https://doi.org/https://doi.org/10.1108/IJBM-11-2022-0498>
- Gunawan, L. S., Feivel, B., Shiddiqi, H. A., & Manalu, S. R. (2025). Evaluating the Accuracy and Naturalness of AI-Generated Translations Using BLEU and METEOR: A Comparison of ChatGPT, Gemini, Copilot, and DeepSeek. *Procedia Computer Science*, 269, 815–824. <https://doi.org/https://doi.org/10.1016/j.procs.2025.09.024>
- Gur Geden, A. (2026). Türkiye's Developmentalist and Affective Reach into the Global South: Fostering Cooperation via Higher Education. *International Journal of Educational Development*, 122, 103553. <https://doi.org/https://doi.org/10.1016/j.ijedudev.2026.103553>
- Hashim, Y. Z. H.-Y., Amir Husin, S. H., Nazri, A. B., Ahmad, A. N., Samsudin, N., & Mohamad Tauhid, D. K. (2026). Chapter 14 - Internet of Things (IoT) in halal food supply chain: A discussion in the realm of Maqasid al-Shari'ah (A. A. M. Elgharbawy, M. S. A. Sani, A. B. Amid, H. M. Salleh, & F. B. T.-B. H. Kusnandar (eds.); pp. 349–369). Academic Press. <https://doi.org/https://doi.org/10.1016/B978-0-443-30058-5.00005-5>
- Hazahari, N. Y., & Mohd Noor, N. A. (2026). Chapter 3 - Uncovering the loophole in the halal food industry (A. A. M. Elgharbawy, M. S. A. Sani, A. B. Amid, H. M. Salleh, & F. B. T.-B. H. Kusnandar (eds.); pp. 43–76). Academic Press. <https://doi.org/https://doi.org/10.1016/B978-0-443-30058-5.00009-2>
- Kamyab, H., Khalili, E., Yuzir, A., Taheri, M. M., Zambrano, A. K., & Rajendran, S. (2025). Emerging nanoparticle-based strategies for advanced cancer imaging and diagnosis. *International Journal of Pharmaceutics*, 683, 126046. <https://doi.org/https://doi.org/10.1016/j.ijpharm.2025.126046>
- Khan, W., Daud, A., Khan, K., Muhammad, S., & Haq, R. (2023). Exploring the frontiers of deep learning and natural language processing: A comprehensive overview of key challenges and emerging trends. *Natural Language Processing Journal*, 4, 100026. <https://doi.org/https://doi.org/10.1016/j.nlp.2023.100026>
- Kheddar, H., Hemis, M., & Himeur, Y. (2024). Automatic speech recognition using advanced deep learning approaches: A survey. *Information Fusion*, 109, 102422. <https://doi.org/https://doi.org/10.1016/j.inffus.2024.102422>
- Kurniawati, D. A., Vanany, I., Kumarananda, D. D., & Rochman, M. A. (2024). Toward halal supply chain 4.0: MILP model for halal food distribution. *Procedia Computer Science*, 232, 1446–1458. <https://doi.org/https://doi.org/10.1016/j.procs.2024.01.143>
- Li, H., Fu, S., Shen, P., Zhang, X., Yang, Y., & Guo, J. (2025). Mitochondrial pathways in rheumatoid arthritis: Therapeutic roles of traditional Chinese medicine and natural products. *Phytomedicine*, 146, 157106. <https://doi.org/https://doi.org/10.1016/j.phymed.2025.157106>
- Massouti, A., Shaya, N., & Qareiny, S. M. A. (2024). Exploring the nexus between female school leaders' perceptions of distributed instructional leadership, socio-cultural dynamics, and student achievement in the Arab world. *International Journal of Educational Research Open*, 7, 100372. <https://doi.org/https://doi.org/10.1016/j.ijedro.2024.100372>
- Matusin, S. N. I. (2026). Chapter 17 - Blockchain technology and halal supply chain transparency (A. A. M. Elgharbawy, M. S. A. Sani, A. B. Amid, H. M. Salleh, & F. B.

- T.-B. H. Kusnandar (eds.); pp. 421–445). Academic Press. <https://doi.org/https://doi.org/10.1016/B978-0-443-30058-5.00007-9>
- Muryanto, Y. T. (2023). The urgency of sharia compliance regulations for Islamic Fintechs: a comparative study of Indonesia, Malaysia and the United Kingdom. *Journal of Financial Crime*, 30(5), 1264–1278. <https://doi.org/https://doi.org/10.1108/JFC-05-2022-0099>
- Nedjip, G., & Karaogul, E. (2025). Role of model equations and energy dynamics in understanding bioactive compounds of olive leaf extract by LC-MS/MS; their evaluation using a cluster approach. *Journal of Chromatography B*, 1267, 124807. <https://doi.org/https://doi.org/10.1016/j.jchromb.2025.124807>
- Noralla, N. (2026). “Banned by Silence”: Provider stigma, systemic decay, and the inaccessibility of gender-affirming healthcare in Morocco. *Social Sciences & Humanities Open*, 13, 102590. <https://doi.org/https://doi.org/10.1016/j.ssaho.2026.102590>
- Qorib, M. (2025). Socio-cultural transformation within Indonesian academics: cases in Muhammadiyah and Nahdlatul Ulama universities. *Asian Education and Development Studies*, 14(4), 856–875. <https://doi.org/https://doi.org/10.1108/AEDS-12-2024-0295>
- Rezai, A., Ahmadi, R., Ashkani, P., & Hosseini, G. H. (2025). Implementing active learning approach to promote motivation, reduce anxiety, and shape positive attitudes: A case study of EFL learners. *Acta Psychologica*, 253, 104704. <https://doi.org/https://doi.org/10.1016/j.actpsy.2025.104704>
- Talaat, F. M., El-Shafai, W., Soliman, N. F., Algarni, A. D., Abd El-Samie, F. E., & Siam, A. I. (2024). Real-time Arabic avatar for deaf-mute communication enabled by deep learning sign language translation. *Computers and Electrical Engineering*, 119, 109475. <https://doi.org/https://doi.org/10.1016/j.compeleceng.2024.109475>
- Tang, P., Shen, T., Wang, H., Zhang, R., Zhang, X., Li, X., & Xiao, W. (2023). Challenges and opportunities for improving the druggability of natural product: Why need drug delivery system? *Biomedicine & Pharmacotherapy*, 164, 114955. <https://doi.org/https://doi.org/10.1016/j.biopha.2023.114955>
- Tarip, I. (2024). Theorizing Islamic entrepreneurship from an Islamic governance perspective. *International Journal of Islamic and Middle Eastern Finance and Management*, 17(2), 274–291. <https://doi.org/https://doi.org/10.1108/IMEFM-05-2023-0172>
- Termanini, R. (2023). Chapter 1 - The miraculous architecture of the gene pyramid (R. B. T.-B. D. P. to C. D. N. A. D. H. Termanini (ed.); pp. 1–13). Academic Press. <https://doi.org/https://doi.org/10.1016/B978-0-323-99914-4.00012-6>
- Upadhyay, P., Agarwal, R., Dhiman, S., Sarkar, A., & Chaturvedi, S. (2024). A comprehensive survey on answer generation methods using NLP. *Natural Language Processing Journal*, 8, 100088. <https://doi.org/https://doi.org/10.1016/j.nlp.2024.100088>
- Wahyuni, H. C., Vanany, I., Gunawan, I., & Mulyono, J. (2024). Improving halalness and food safety management systems in the Indonesian broiler supply chain: an interpretive structural modeling and Bayesian network approach. *Journal of Islamic Marketing*, 16(4), 1145–1173. <https://doi.org/https://doi.org/10.1108/JIMA-02-2023-0057>
- Widiastuti, T., Robani, A., Mawardi, I., Fanani, S., Hassan, S. A., Al-Mustofa, M. U., Atiya, N., Indirwan, S. K., Dewi, E. P., & Susilowati, F. D. (2026). Innovating zakat governance through good Amil governance (GAG): A structural policy model using DEMATEL-ANP in Indonesia. *Journal of Open Innovation: Technology, Market, and Complexity*, 12(1), 100711. <https://doi.org/https://doi.org/10.1016/j.joitmc.2025.100711>
- Yang, Y., Shi, H., Song, B., Tao, Y., Yao, K., & Tian, H. (2025). Layer-wise information-aggregation-decoupled convolutional self-attention network guided by process knowledge for quality-related process monitoring. *Journal of Process Control*, 156, 103580. <https://doi.org/https://doi.org/10.1016/j.jprocont.2025.103580>
- Zeng, L., Kang, D., Zhu, L., Zhou, Z., Li, Y., Ling, W., Zhang, Y., Yu, D.-G., Kim, I., & Song, W. (2024). Poly(phenylalanine) and poly(3,4-dihydroxy-L-phenylalanine): Promising

- biomedical materials for building stimuli-responsive nanocarriers. *Journal of Controlled Release*, 372, 810–828. <https://doi.org/https://doi.org/10.1016/j.jconrel.2024.07.002>
- Zhu, H., Sun, H., Dai, J., Hao, J., & Zhou, B. (2024). Chitosan-based hydrogels in cancer therapy: Drug and gene delivery, stimuli-responsive carriers, phototherapy and immunotherapy. *International Journal of Biological Macromolecules*, 282, 137047. <https://doi.org/https://doi.org/10.1016/j.ijbiomac.2024.137047>
- Zoellner, L. A., Feeny, N. C., Angula, D. A., Aideed, M. H., Liban, E. N., Egeh, M. H., Awke, A. I., Ismail, A. S., Kunle, M. A., Ali, E., Levin, C. E., Burant, C. J., & Bentley, J. A. (2024). Islamic trauma healing (ITH): A scalable, community-based program for trauma: Cluster randomized control trial design and method. *Contemporary Clinical Trials Communications*, 37, 101237. <https://doi.org/https://doi.org/10.1016/j.conctc.2023.101237>
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