Khazanah Journal of Religion and Technology
Universitas Islam Negeri Sunan Gunung Djati Bandung, Indonesia
https://journal.uinsgd.ac.id/kjrt
Online ISSN: 2987-6060
Volume 2 Issue 2 (2024)
DOI: https://doi.org/10.15575/kjrt.v2i2.900

Leveraging Artificial Intelligence Technologies in the Service of the Holy Quran and Its Sciences

Basheer Adnan
Al-Imam Al-Adham University Collage
Baghdad, Iraq
basheeradnan4@imamaladham.edu.iq

Received: September 17, 2024; Revised: October 5, 2024; Published: January 4, 2025

Abstract— The research addresses the growing role of artificial intelligence in serving the Holy Quran and its sciences, reviewing the enormous potential that this field provides in improving the understanding, teaching, and learning of the Holy Quran. The research also aimed to demonstrate the importance of employing artificial intelligence technologies in serving the Holy Quran and its sciences, by presenting the importance of artificial intelligence technology and investing it in Islamic sciences, Islamic applications, serving the Noble Prophetic Hadith and its sciences, serving the objective interpretation of the Holy Quran, memorizing the Holy Quran and reciting it, in addition to issuing fatwas and spreading religious awareness. The research relied on a mixed research methodology, which included a qualitative analysis of the data, and the theoretical framework was prepared by referring to the literature that addressed the topic, including academic studies, websites, and electronic applications. By reviewing the applications of artificial intelligence and its importance to the topic under study, the results of the study showed great potential for using artificial intelligence in serving the Holy Quran and its sciences. These technologies are capable of facilitating the process of learning and teaching the Holy Quran and improving the understanding of meanings and interpretations .Based on these results, the study recommends intensifying research efforts in this field with a focus on areas such as analyzing Quranic narratives and understanding rhetorical meanings, encouraging cooperation between religious scholars and artificial intelligence experts to develop integrated applications that meet the needs of students and researchers, as well as encouraging religious and educational institutions to adopt these technologies and provide the necessary support for their development and application.

Keywords- Artificial Intelligence, Holy Qur'an, Islamic Sciences.

I. INTRODUCTION

The world today is heading towards an accelerated trend in digitization. This is done by digitizing all areas of human life. Contemporary artificial intelligence is one of the most important modern technological technologies that has had a comprehensive impact. In all areas of life, where artificial intelligence has become very similar to human intelligence. Humanity, through its various types and techniques, uses intelligent agent systems, expert systems, neural networks, and developmental algorithms [1], [2]. Artificial intelligence refers to the ability of software and computer applications to simulate humans in finding solutions in different areas of life, whether in health, economics, education, or other areas (industry, commerce, media, medicine, education, and administration). It is also an advanced stage in which the data and equations necessary to find solutions are given without human intervention, reaching solutions that are close to what humans produce and close to its results according to accurate scientific data. Technical connection is currently witnessing a massive technological revolution that is bringing about radical changes in various fields, including the service of the Holy Quran and its sciences.

Artificial intelligence is one of the most important tools of this revolution, as it offers tremendous potential to enhance understanding and contemplation of the Holy Book of Allah. In the thick of its evolution technology accelerated, prominent artificial intelligence as a tool able to events revolution in various areas. In context service, the Quran is generous and its sciences, where it represents artificial intelligence horizontally new and promising proven

applications current his ability to facilitate save the Quran, correct recitations, and provide sources scientific miscellaneous, which contributes in to publish the Quran and its education in a way wider and more effectiveness. and continuation evolution in this field. Despite this development, the use of artificial intelligence in Islamic sciences is still very low when compared to the amazing developments. This has been reached by experts in artificial intelligence systems, which requires scholars and researchers in Islamic sciences to make efforts to meet the challenge of technology and benefit from it in a disciplined framework, through the development of application projects, and design of technical programs in various fields of Islamic sciences. To achieve a balance between the past and the present, and to support the principle of openness of Islamic knowledge on various sciences and experiences[1].

The Holy Quran has received great care over the years and has been accompanied by various new technologies and techniques at present, and many valuable computer projects have been recorded, whether in the field of publishing the Holy Quran, teaching it, translating it, or memorizing it. Despite the decline in the integration of the Arabic language with new technology, Quranic studies have been able to achieve very advanced accomplishments in terms of the automated processing of the Quranic text and its sciences, the digital storage of the content of the Quran, and its sciences, and making them available in the form of computer programs and applications. In addition, many applications have succeeded in the automatic analysis of the Qur'anic text, developing automatic dialogue programs, programs to represent Qur'anic knowledge and grammatical addressing, and understanding discourse relations, which is a major challenge for computer science and artificial intelligence, through which researchers seek to establish computer models for the automatic processing of the language of the Holy Qur'an at the level of vocabulary, style, grammar, morphology, and semantics [3], [4].

Perhaps the challenge facing scholars of Sharia and those working in Sharia sciences is to employ artificial intelligence in the service of the Holy Qur'an. Sharia sciences and their branches, as artificial intelligence can be used in all scientific rules in a field of Sharia fields to facilitate these sciences. From a theoretical or practical aspect, there are the use of artificial intelligence in Islamic sciences requires a theoretical framework, practical applications, and extensive and in-depth experiments to prove the effectiveness of this use of artificial intelligence, to prove its usefulness. The applications and uses of artificial intelligence technology have multiplied in Quran memorization and recitation programs, and these programs have been very successful, but they still need further development. Artificial intelligence applications have also become famous in the Noble Prophetic Hadith and its sciences in the automatic graduation of hadiths. The use of artificial intelligence technology is still modest in the field of Islamic jurisprudence and its principles, and the comparison between different topics.

The study aimed to demonstrate the role of artificial intelligence technologies and their investment in serving the Holy Quran and its sciences, by stating the following: (1) The importance of artificial intelligence technology and its investment in Islamic sciences and Islamic applications; (2) Using artificial intelligence in the service of the Noble Prophetic Hadith and its sciences; (3) Using artificial intelligence in the service of objective interpretation of the Holy Quran; (4) Using artificial intelligence in memorizing the Holy Quran; (5) Using artificial intelligence in reciting the Holy Quran; (6) Using artificial intelligence in fatwa; and (7) Using artificial intelligence to spread religious awareness.

The importance of the study comes from the importance of the Qur'an. It is the source of the first legislation in Islam, understanding and managing it necessary for Muslims. As represented, artificial intelligence's development evolved tremendously, opening new horizons to serve the Quran and its sciences. Intelligence techniques can help publish the Quran the generous and his education and understand it in innovative and effective ways. The expected that contribute result of the study in enhance the use of artificial intelligence in service of the Quran and its sciences, and it may be useful for Muslims all around the world in their quest to understand the Quran and manage it. The importance of the study also lies in the scarcity of studies that have addressed this topic and dragged the study comprehensively around the role of artificial intelligence techniques in service of the Quran the generous, and its sciences. this study will contribute in dam this is amazing gap cognitive from during the presentation analysis of comprehensive possibilities and benefits of using artificial intelligence in this field.

II. RELATED WORKS

The integration of artificial intelligence (AI) into the study and dissemination of the Holy Quran and its sciences has garnered significant scholarly attention. Notable works in this domain include:

- "Artificial Intelligence and Quranic Studies" discusses how AI can enhance understanding, access, and retention of Quranic teachings, emphasizing the need for human guidance and ethical considerations in AI integration [5].
- "Artificial Intelligence in Islamic Studies: Exploring Opportunities and Addressing Challenges" examines AI's role in Islamic scholarship and education, highlighting its potential in text analysis, personalized learning, and digital preservation, while addressing challenges related to religious authenticity and cultural sensitivity [1].
- "The Application of Artificial Intelligence in Islamic Law Discovery" explores AI's use in discovering Islamic law, demonstrating its analytical capabilities in identifying legal trends and differences between schools of thought [6].
- "Mispronunciation Detection of Basic Quranic Recitation Rules using Deep Learning" presents a deep learning approach to detect mispronunciations in Quranic recitation, aiding learners in adhering to Tajweed rules [7].

- "Quranic Conversations: Developing a Semantic Search Tool for the Quran using Arabic NLP Techniques" introduces a semantic search tool that employs natural language processing to facilitate finding relevant Quranic verses based on user inquiries [8].
- "The Algorithm of Islamic Jurisprudence (Fiqh) with Validation of an Entscheidungsproblem" designs a generic algorithm for deciding Fiqh rulings, leveraging formal logic to enhance transparency and accountability in Islamic law [9].
- "Quranic Arabic Corpus" is an annotated linguistic resource providing morphological and syntactic analyses of Quranic Arabic, supporting computational research in Quranic studies [10].

These works collectively illustrate the diverse applications of AI in enhancing the study, interpretation, and dissemination of the Holy Quran and its sciences.

III. RESEARCH METHODS

The research was based on qualitative methods [11], [12], [13], the theoretical framework was prepared by referring to the literature that dealt with the subject, from that studies academy, sites electronic, and electronic applications. The theoretical data contains the current era of major technological developments, which have led to the emergence of what is known as artificial intelligence. Islamic scholars have tried to benefit from technology in the service of Islamic sciences with different programs and applications varied in this regard [14].

This framework reflects the significant technological advancements of the modern era, particularly the rapid development of artificial intelligence, which has revolutionized numerous fields. Recognizing this potential, Islamic scholars have increasingly sought to harness these innovations to serve Islamic sciences. Their efforts have resulted in a diverse array of programs and applications designed to address various aspects of Islamic knowledge, such as Quranic studies, Hadith preservation, jurisprudence, and religious education. These technological tools not only enhance accessibility and engagement but also open new pathways for teaching, learning, and interpretation in ways that were previously unimaginable.

IV. RESULT AND DISCUSSION

A. The importance of artificial intelligence in serving the Holy Quran

The Holy Quran is The first source of legislation in Islam, and its reading, contemplation, and understanding of its meanings and implications are one of the most honorable and proud sciences. Muslims appreciate this matter well and seek to improve the technologies and services of the Holy Quran and its people since the dawn of Islam. In this context, the Technical Transformation Company and the Maknoon Association conducted a study reflecting the commitment of all sectors in the Kingdom of Saudi Arabia to enhance and support innovation and technological development to improve the quality of life and services provided in various fields. The study included the reality and future of modern technologies in the service of the Holy Quran. The current systems used in the service of the Holy Quran were examined, compared with the available modern technologies, and the possibility of their application in This field. The study showed that there are many emerging technologies available that can be used in the service of the Holy Quran, including artificial intelligence technologies, data analysis and machine learning technologies, virtual reality, augmented reality, and other technologies. The study showed that the use of these technologies will help improve the quality of services provided to Muslims around the world. This qualitative study is an important step towards understanding the ways in which Holy Quran services using emerging technologies [15]. This is a descriptive study measuring the reality of Quranic applications and opportunities for investing in emerging technologies in the field of the Holy Quran.

Artificial intelligence can be used to serve the Qur'an, by generating ideas; starting from the need, by identifying needs, challenges, goals, and requirements, exploring possible solutions, and evaluating the choice ideas, prototyping development, testing ideas. Artificial intelligence can also be used to serve the Qur'an by generating ideas starting from technology. There are many ideas for using artificial intelligence to serve the Qur'an, including a personal assistant, for example, reading Surat Al-Baqarah from verse 1 to verse 25 in the voice of Al-Hudhaifi, tracking the finger on the Qur'an and reading automatically, using a personal smart reminder, networking between the Qur'an and interpretation, correcting recitation and searching by meaning, and teaching Non-Arabic speakers [16], [17].

- **Artificial intelligence information**

There are many words in the Quranic text that are not diacritical and have more than one possibility when diacritical. Artificial intelligence can find out which formation is meant [18]. Quranic words have different meanings, but they are written similarly, such as

- ابن (a noun from sonship) and (an imperative verb from building).
- أسرى (verb from the word "Isra") - (plural of "Asyr")
- البر (one of the beautiful names) - (opposite the sea)

- **Reconciling opposites by fuzzy logic**

Using fuzzy logic, AI can suggest compromises to reconcile opposites or similar meanings.

- **Faces and counterparts in the Holy Quran / The Quranic word and its sisters**

Handling the subtle meanings between similar words or phrases is something that non-specialists cannot do, so Artificial intelligence, if provided with sufficient data, can help accurately determine meanings, for example:

- أرسل :سلَّط - بعث - فتح - أخرج - وجَّه - أطلق – أنزل
- ألقى :وسوس - خلق - وضع - أنزل - أقرع - كسا - أدخل - رمى كلَّم – أجلس
- استوى :قصد - استقرَّ - ركب - قوي وعلا - أشبه - قهر واقتدر

B. Using artificial intelligence in the service of objective interpretation of the Holy Quran

It is considered to use artificial intelligence in the explanation the Quran field newly the possibilities tremendous, where progress is amazing new technologies to understand the Quran in a way deeper and wider, including:

- Linking between texts: can use techniques to treat the language naturally to connect verses Quranic some of them, and also connect it in context historical and cultural. It helps to understand the meaning of verses in a better way and specify the relationships between them.
- Analysis meaning: can use artificial intelligence to understand the meaning of Arabic words and analyze it, from that meaning. It helps the Quranic explanation more accurately and clearly, there is much that can be done in the service of objective interpretation, as the connection between the verses can be explored through objective analysis, for example in Surah an-Nasr:
  1(إِذَا جَاءَ نَصْرُ اللهِ وَالْفَتْحُ
  2(وَرَأَيْتَ النَّاسَ يَدْخُلُوْنَ فِيْ دِيْنِ اللهِ اَفْوَاجًا
  3(فَسَبِّحْ بِحَمْدِ رَبِّكَ وَاسْتَغْفِرْهُ إِنَّهُ كَانَ تَوَّابًا
  (meaning: present to them the example of the life of this world, it is like water which we send down from the sky).

C. Quranic words that are the same in pronunciation but different in meaning

Distinguishing between words with similar meanings that differ rhetorically. For example:
﴿يُحِبُّ الْمُتَطَهِّرِيْنَ﴾ [البقرة: 222].
﴿يُحِبُّ الْمُطَّهِّرِيْنَ﴾ [التوبة: 108].
﴿مَنْ يَرْتَدَّ مِنْكُمْ عَنْ دِيْنِهِ﴾ [المائدة: 54].
﴿وَمَنْ يَرْتَدِدْ مِنْكُمْ عَنْ دِيْنِهِ﴾ [البقرة: 217].
﴿كَرِهُوْا مَا نَزَّلَ اللهُ﴾ [محمد: 26].
﴿كَرِهُوْا مَا أَنْزَلَ اللهُ﴾ [محمد: 9].

D. Quranic words that are the same in pronunciation but different in meaning

Artificial intelligence and speech recognition technologies offer promising opportunities to help Quran learners improve recitation and master the correct pronunciation. There is a global trend to invest in the field of virtual reality and augmented reality, whether for entertainment purposes learning, or travel and tourism, which reflects on the experience of the end beneficiary and provides them with new benefits that were not possible before. It is necessary to consider the possibility of using such techniques to enhance the individual's relationship with the Holy Quran. The use of artificial intelligence technologies to serve the Qur'an and its sciences came through the development of interactive educational systems that help in teaching and reciting it, and creating smart programs that help in memorizing and consolidating it, as well as providing smart translation tools that help in understanding the meanings of its verses. Artificial intelligence is revolutionizing the field of memorizing the Holy Quran, as it offers promising capabilities to facilitate and accelerate the memorization process and provide a distinctive educational experience that suits all groups.

AI can customize appropriate memorization plans for each memorizer, by analyzing the memorization speed, learning style, strengths, and weaknesses. AI also enables the creation of an interactive learning environment that attracts the memorizer's attention and motivates him to continue memorizing and reviewing. AI applications also provide smart tools to monitor the memorizer's progress and identify his weaknesses, which helps him improve his performance. AI can correct pronunciation and intonation errors immediately and accurately, which helps the memorizer master the recitation of the Holy Quran. AI applications also provide rewards to the memorizer for his achievements, motivating him to continue the memorization journey. AI tools help the memorizer organize his time and invest it in a useful way, allowing him to memorize the Holy Quran in a shorter time.

AI tools also contribute to ensuring the accuracy of the information provided to the memorizer to better understand the meanings of the verses of the Holy Quran. Quran memorization applications and programs can be easily accessed through smart devices, which allows the memorization of the Holy Quran at any time and from anywhere. Artificial intelligence applications also allow the memorizer to communicate with qualified memorizers to obtain guidance and advice. It can facilitate the process of memorizing the Holy Quran remotely, and benefit from qualified memorizers, regardless of their location[1]. Artificial intelligence also offers promising potential to enhance understanding and reflection and provide a distinctive educational experience that suits all groups. Here are some of the positive effects of artificial intelligence on teaching the Holy Quran [19], [20]:

- Customization: AI can customize learning plans for each student, by analyzing their strengths, weaknesses, and learning style.
- Interactive: Artificial intelligence enables the creation of an interactive learning environment that captures the student's attention and motivates them to learn and participate.
- Understanding and contemplation: Artificial intelligence helps students understand the meanings of the verses of the Holy Quran more deeply, by providing simplified interpretations and explaining the terms of the Holy Quran.
- Save and install: Artificial intelligence provides smart tools that help students memorize the Holy Quran and fix it in their memory.
- Ease of access: Religious information can be easily accessed through smart applications and programs,

[1] https://quran.com/ar/apps

which allow learning the Holy Quran anytime and anywhere.
- Save time and effort: AI tools help teachers get their work done more efficiently, freeing up more time to care for students.
- Accuracy of information: Artificial intelligence tools help ensure the accuracy of religious information provided to students.
- Spreading awareness: Artificial intelligence can be used to spread correct Islamic awareness and combat extremist ideas.
- Linking the present and the past: Artificial intelligence can link verses of the Holy Quran to the historical context in which they were revealed, which helps to understand them better.
- Promote values: AI can promote Islamic values in students, such as honesty, integrity, and respect.
- Analysis of Quranic texts:
    - Extracting meanings and connotations from Quranic texts: Artificial intelligence can analyze Quranic texts and extract meanings and connotations from them with high accuracy and efficiency, helping researchers better understand the Quranic text.
    - Linking Quranic verses to each other: Artificial intelligence can link Quranic verses to each other, discover the relationships between them, and then understand the general context of the Quranic text.
    - Classification of Quranic verses: Artificial intelligence can classify Quranic verses according to their topic, style, or any other criteria, and help researchers find the information they are looking for easily.
- Study of the Arabic language:
    - Arabic grammar analysis: Artificial intelligence can analyze Arabic grammar and understand its nuances, helping researchers better understand the meanings of Arabic words.
    - Translation of Quranic texts: Artificial intelligence can translate Quranic texts into various languages with high accuracy and thus spread the understanding of the Holy Quran throughout the world.
    - Studying Arabic dialects: Artificial intelligence can study different Arabic dialects and understand their characteristics, which helps researchers understand linguistic diversity in the Islamic world.
- Study of Islamic history:
    - Analysis of historical texts: Artificial intelligence can analyze historical texts and understand their context, and thus better study Islamic history.
    - Linking Quranic texts to Islamic history: Artificial intelligence can link Quranic texts to Islamic history, in order to understand the historical context of the revelation of the Holy Quran.
    - Studying Islamic personalities: Artificial intelligence can study Islamic personalities and understand their behavior and motives.
- Study of the sciences of the Holy Quran:
    - Analysis of the science of interpretation: Artificial intelligence can analyze the science of interpretation and understand the different interpretations of the Quranic verses.
    - Studying the science of hadith: Artificial intelligence can study the science of hadith and understand the different narrations of the noble hadith.
    - Studying jurisprudence: Artificial intelligence can study jurisprudence and understand the different schools of jurisprudence, and better understand the legal rulings.

E. Benefits of using artificial intelligence in the service of the Holy Quran

The most important benefits of using artificial intelligence technologies is **the ease of access to information**. Religious information can be easily accessed through smart applications and programs. Also, **customization**: smart applications and programs provide a customized educational experience that suits the needs of each individual. In addition to **interactivity**: Smart applications and programs provide an interactive educational experience that encourages learning and participation. And **accuracy**: Artificial intelligence tools help to understand the meanings of the verses of the Holy Quran accurately. As well as **speed**: Artificial intelligence tools help to access information quickly and easily.

Artificial intelligence techniques in the service of the Holy Quran include interpreting the meanings of verses to understand the meanings of Arabic words and their interpretation, linking them to their Quranic context, facilitating the search for any word or verse in the Holy Quran, displaying it with its context and various interpretations, answering Muslims' questions about the Holy Quran in an accurate scientific manner, linking the verses of the Holy Quran to contemporary life issues, and extracting lessons and morals from them. In addition to publishing the Holy Quran electronically and providing copies of it on various electronic platforms, with the ability to search and play, and providing smart programs to translate it into different languages while maintaining the accuracy of the meaning, as well as developing applications for smartphones that provide rich Quranic content, such as Quranic verses, interpretations, supplications, and stories of the prophets, in addition to preserving recordings of famous reciters of the Holy Quran, facilitating access to them, and developing interactive electronic Qurans, with the ability to listen to different recitations, search for verses, save notes, and smart programs that help memorize the Holy Quran, follow the memorizer's progress and correct his mistakes. May also be used to answer Muslims' questions about Islamic rulings based on reliable Islamic sources, provide religious and psychological advice to Muslims, guide them towards correct

behavior, and develop new educational tools that help teach the Holy Qur'an and spread Islamic culture.

F. How can artificial intelligence help serve the Holy Quran?

Applications and technologies have many advantages that can be used to serve the Holy Qur'an. It is a fertile field for many future efforts, as artificial intelligence means must be applied wisely and the results evaluated with human effort and with full cooperation between specialists in sciences. The Holy Quran, the Arabic language, and IT specialists, and for any effort to apply artificial intelligence in the service of the Holy Quran to succeed. It is necessary to provide databases derived from the efforts of the scholars of the nation during the past fourteen centuries. It is necessary to properly classify the data of the Holy Qur'an and provide the necessary software for its proper management.

It cannot serve the Holy Quran except by providing it with sufficient data that is well-arranged so that artificial intelligence software can deal with it and benefit from it. This can be done through a group of Quran databases. Generous, like:

- Writing databases
- Waqf and Ibtida databases
- Grammar and morphology databases
- association databases
- Quranic sentence databases
- Databases of meanings and connotations .

Perhaps one of the ways to obtain results through the use of artificial intelligence is to conduct training operations. It is important to build shared databases or focus on working in an open-source way Developers should exchange experiences and expertise, and work should be collaborative, starting from where others left off. To unify efforts and initiatives, and employ emerging technologies to raise the quality of services provided. For both developers and end users.

G. Using Artificial Intelligence in the Service of Islamic Sciences

- **Using artificial intelligence techniques in scientific research**
  - Analyzing the Qur'anic texts to accurately understand their connotations and meanings, linking the verses of the Holy Qur'an to each other, discovering the relationships between them, and extracting knowledge and sciences from the Holy Qur'an [21].
- **Using artificial intelligence techniques in fatwa production**
  - Artificial intelligence technologies help develop smart systems that help muftis extract legal rulings from the Holy Qur'an and the Sunnah of the Prophet, and provide search tools that help Muslims find legal rulings related to their life issues.
- **The importance of artificial intelligence in Islamic sciences**
  - Artificial intelligence is a modern issue that has drawn the attention of scholars and clerics in the field of Islamic advocacy due to its importance in serving the humanities. There is no wonder in that, as artificial intelligence technologies in all areas of life have broken through time, brought the distant closer, and made things easy. Therefore, Islamic sciences are not independent of this technology, but rather they are in dire need of it, especially in our current era, the era of the information revolution, and the era of international variables that are renewed at all times and places. The idea of interest in attracting the largest possible number of audiences to program them according to the beliefs and ideas studied by pioneers of various means of communication, which depend on artificial intelligence technology [21], [22].
  - The applications of artificial intelligence vary according to the field. There are applications in the field of Islamic sciences and the sciences that serve them, which include the sciences of the Holy Qur'an, the Noble Hadith, the sciences of the Arabic language, Islamic banking and others [23].
  - Given the importance of artificial intelligence, it has become necessary to benefit from its services in the field of calling to God. Given that to its many advantages that serve Its purposes and objectives, based on a set of controls that would protect this technology from being used outside the scope of advocacy. It is determined by legislative, legal and methodological controls that are closely related to the science of advocacy and its applications, which necessitates that the preacher keep pace with this technical development by developing his competencies in using this technology according to specific controls, and the necessity of exploiting it in call service, and its new advantages, such as saving time and effort, reducing pressures, and the ability to reach all parts of the world with the call.
- **The importance of artificial intelligence in Islamic manuscripts**
  - Researchers face great challenges in the field of Islamic manuscripts in identifying the authors' handwriting and manuscripts, due to their diversity and differences between the Levantines and the Maghreb, and their development. Across time and space, or some of them are damaged or small in size. Artificial intelligence has achieved great service in various fields of scientific and practical life. Here we shed light on modern systems that can recognize Arabic fonts in their various forms, verify the fonts of Islamic authors, and analyze them with high accuracy despite the presence of errors in them [24], [25].

- **Using artificial intelligence techniques to spread religious awareness**
  - The use of artificial intelligence in the service of the Holy Quran and its sciences is an important step to enhance understanding and contemplation of the Holy Book of Allah. This technology also contributes to spreading correct Islamic awareness and spreading goodness throughout the world. Artificial intelligence technologies contribute to preaching and guidance by creating interactive religious content that suits all age groups, providing tools that help Muslims apply the teachings of Islam in their lives, as well as combating extremist and corrupt ideas by spreading true Islam, and enhancing dialogue between cultures and religions. Artificial intelligence offers tremendous potential to enhance the spread of religious awareness, by providing new tools and means for communication, education, and culture [26].
  - Publishing religious content:
    - Creating interactive religious content: AI can create interactive religious content, such as videos, websites, and apps, making it more attractive to audiences, especially young people.
    - Translating religious content into different languages: Artificial intelligence can translate religious content into different languages, making it available to a greater number of people around the world.
    - Publishing religious content on social media: Artificial intelligence can publish religious content on social media, such as Facebook, Twitter, and Instagram, which increases its spread and people's interaction with it.
  - Communication with the public:
    - Answering religious questions: AI can answer people's religious questions through chatbots, or virtual assistants, providing them with an easy way to get religious information.
    - Providing religious advice: AI can provide religious advice to people through chatbots, or virtual assistants, providing them with a confidential way to get support and guidance.
    - Connecting people with religious teachers: AI can connect people with religious teachers in their areas, making it easier for them to receive religious education.
  - Promoting religious education:
    - Developing interactive religious educational programs: Artificial intelligence can develop interactive religious educational programs that suit all age groups, making religious education more fun and effective.
    - Personalizing religious learning for each individual: AI can personalize religious learning for each individual based on their needs and level of understanding, making it more useful.
    - Providing religious educational opportunities for all: AI can provide religious educational opportunities for everyone, regardless of their location or circumstances.
  - Combating extremist ideas:
    - Analyzing extremist discourse: AI can analyze extremist discourse on social media and identify harmful content, helping to remove it and prevent its spread.
    - Spreading messages of peace and tolerance: AI can spread messages of peace and tolerance through moderate religious content, promoting peaceful coexistence between different cultures and religions.
    - Educating people about the dangers of extremism: Artificial intelligence can educate people about the dangers of extremism through religious content that shows the tolerant teachings of Islam.
- **Artificial intelligence and virtual reality**
  - Based on the principle of "خَيْرُكُم من تعلم القرآن وعلمهُ" The best among you is the one who learns the Qur'an and teaches it" [Bukhari Muslim], and as a contribution to understanding the societal needs of the Holy Qur'an and its sciences and facilitating the paths of knowledge, the idea of studying the future of Qur'an applications arose as a link between technology and those responsible for learning and teaching the Holy Qur'an in all its sciences. To lead them to find the best practices, experiences, solutions, and possible and proposed ideas in Qur'anic applications at the local and global levels, with the necessity of referring to specialists in the legal aspects before implementing them, and enhancing the role of modern technologies in solving the most prominent problems and challenges to improve the experience of beneficiaries, and paving the way by creating innovative opportunities with the latest technologies of the era.
  - The final stage of development in the Holy Quran applications is characterized by the integration of artificial intelligence and virtual reality technologies. The technology uses artificial intelligence to improve learners' recitation and automatic correction. Among the most prominent applications it is working on are the "Tarteel".
  - Examples of smart applications:
    - IoT devices such as wearables or smart speakers to create interactive language lessons.
    - An intelligent language assistant like Babbel or Duolingo to practice English grammar, vocabulary, and reading comprehension.

These apps use IoT technology to create personalized learning experiences based on an individual's learning style and progress.

- IoT-enabled language labs Some language schools and universities are using IoT-enabled language labs to enhance language learning. These labs use IoT devices such as smart boards. Wearable devices and virtual reality headsets to create immersive language learning experiences.
- Chatbots for Language Learning: You can use IoT-enabled chatbots to practice English conversation skills. These bots can simulate real conversations and provide instant feedback on grammar and pronunciation.
- Thing Speak is an IoT-based analytics platform that allows teachers and students to collect, analyze, and visualize data from IoT devices. Students can work with the data simultaneously with sensors and devices.
- Sphero smart, programmable balls and devices that use IOT technology, provide an interactive learning experience that teaches programming, robotics, and problem-solving skills to students.
- Arduino Education, Arduino offers educational kits that include hardware and software to create IOT-based projects, used to teach electronics, programming, and IOT concepts.

V. CONCLUSION

To merge Artificial Intelligence in the area of Quranic studies represents step quality about investigation interaction deeper and more comprehensive with Quranic text. So, who provides tools analytically advanced and rules data huge maybe for researchers and the student's exploration meanings of the Quran and its secrets in ways innovative and so contributes artificial intelligence in enriching dialogue around the Quran and enhancing our understanding. Finally, maybe saying that artificial intelligence opens horizons new to serve the Quran and its sciences. So, they provide innovative and effective tools, contribute to artificial intelligence in facilitating access to the Quran, deepen understanding of it, and save and publish it. We realize that artificial intelligence is a tool by hand man, and that turn lies in help and facilitation, and not in substitution of human mind and understanding of religion.

REFERENCES

[1] M. Mehmood, I. K. Keerio, and M. Husnain, "Artificial Intelligence in Islamic Studies: Exploring Opportunities and Addressing Challenges," *Al-Salihat (Journal of Women, Society, and Religion)*, vol. 3, no. 02, pp. 9–16, 2024.

[2] K. Umam and N. Jannah, "Intersection Of Artificial Intelligence and Islamic Studies: Challenges and Opportunities in The Digital Era," *Peace and Humanity Outlook*, vol. 1, no. 1, pp. 39–48, 2024.

[3] S. Chukhanov and N. Kairbekov, "The importance of a semantic approach in understanding the texts of the Holy Quran and Sunnah," 2024.

[4] H. Ameen and A. M. Khidhir, "AI model for Parsing the Text of Holy Quran Sentences," *Mesopotamian Journal of Quran Studies*, vol. 2024, pp. 16–23, Jul. 2024, doi: 10.58496/MJQS/2024/003.

[5] S. T. Ahmed, "Artificial Intelligence and Quranic Studies." Accessed: Jan. 04, 2025. [Online]. Available: https://islamicvoice.com/reflections/artificial-intelligence-and-quranic-studies/?utm_source=chatgpt.com

[6] S. S. Karimullah, "The Application of Artificial Intelligence in Islamic Law Discovery," *Mutawasith: Jurnal Hukum Islam*, vol. 6, no. 2, pp. 109–121, 2023.

[7] A. Al Harere and K. Al Jallad, "Mispronunciation Detection of Basic Quranic Recitation Rules using Deep Learning," May 2023.

[8] J. A. Davis, S. Huczynska, L. Johnson, and J. Polhill, "Denniston partial difference sets exist in the odd prime case," Nov. 2023.

[9] E. M. Abdelwahab, K. Daghbouche, and N. A. Shannan, "The Algorithm of Islamic Jurisprudence (Fiqh) with Validation of an Entscheidungsproblem," Mar. 2016.

[10] M. L. Arifianto, "Utilizing the Quranic Arabic Corpus as a Supplementary Teaching and Learning Material for Arabic Syntax: An Overview of a Web-based Arabic Linguistics Corpus," *KnE Social Sciences*, Mar. 2021, doi: 10.18502/kss.v5i3.8563.

[11] J. P. Takona, "Research design: qualitative, quantitative, and mixed methods approaches / sixth edition," *Qual Quant*, vol. 58, no. 1, pp. 1011–1013, Feb. 2024, doi: 10.1007/s11135-023-01798-2.

[12] J. A. Maxwell and L. E. Reybold, "Qualitative Research," in *International Encyclopedia of the Social & Behavioral Sciences*, Elsevier, 2015, pp. 685–689. doi: 10.1016/B978-0-08-097086-8.10558-6.

[13] M. T. Bevan, "Advancing Qualitative Methods," *Advancing Qualitative Methods*, vol. 24, no. 1, pp. 136–144, 2014, doi: 10.1177/1049732313519710.

[14] Marlina and Yaza Azahra Ulya, "Communication Strategies in Islamic Da'wah Opportunities and Challenges in the Era of Artificial Intelligence," *Feedback International Journal of Communication*, vol. 1, no. 2, pp. 121–130, Jun. 2024, doi: 10.62569/fijc.v1i2.35.

[15] A. Q. Buzdar and M. Farooq, "Memorization of Quran through mobile application in the era of transformative marketing," *Pakistan Journal of Social Sciences*, vol. 40, no. 2, pp. 689–698, 2020.

[16] F. S. Utomo, N. Suryana, and M. S. Azmi, "Question Answering Systems on Holy Quran: A Review of Existing Frameworks, Approaches, Algorithms and Research Issues," *J Phys Conf Ser*, vol. 1501, no. 1, p. 012022, Mar. 2020, doi: 10.1088/1742-6596/1501/1/012022.

[17] M. Mahmoud and I. Hassan, "Artificial Intelligence Techniques for Extracting Individuals Recitation of the Holy Quran from Its Combinations," in *2013 Taibah University International Conference on Advances in Information Technology for the Holy Quran and Its Sciences*, IEEE, Dec. 2013, pp. 292–297. doi: 10.1109/NOORIC.2013.65.

[18] A. Hemmet, "Harmonizing Artificial Intelligence with Islamic Values-A Thoughtful Analysis of Religious, Social, and Economic Impacts of Technological Advancements," *American Journal of Smart Technology and Solutions*, vol. 2, no. 2, pp. 65–76, 2023.

[19] S. Sarfaraz, "The Impact of learning Quran n Sunnah through Artificial Intelligence in Children and the Prophetic Method of Teaching; A Comparative Analysis," *Al Manhal Research Journal*, vol. 4, no. 2, 2024.

[20] S. S. Abu-Naser and B. S. Abunasser, "The Miracle Of Deep Learning In The Holy Quran," *J Theor Appl Inf Technol*, vol. 101, p. 17, 2023.

[21] أ. ج. م. الدلابيح, "سبل استثمار تقنيات الذكاء الاصطناعي في خدمة القرآن الكريم وعلومه," *ijhss*, vol. 2, no. spc., Sep. 2024, doi: 10.61856/ijhss.v2ispc..186.

[22] ر. م. ص. ا. موسى, "مدى دقة الذكاء الاصطناعي في الإجابة عن الأسئلة المتعلقة بالثقافة الإسلامية والعلوم الشرعية: دراسة وصفية," *Arts*, vol. 12, no. 4, pp. 743–770, Nov. 2024, doi: 10.35696/arts.v12i4.2234. and خ. ب. أ. ب. ع. ا. الملا

[23] ع. ب. ص. الذوادي, "اتجاهات الطلاب في كلية الشريعة والدراسات الإسلامية بجامعة الملك فيصل نحو استخدام تطبيقات الذكاء الاصطناعي في تلاوة القرآن الكريم," , vol. 34, no. 4, pp. 231–244, Nov. 2024, doi: 10.21608/jealex.2024.393314.

[24] K. M. O. Nahar *et al.*, "Recognition of Arabic Air-Written Letters: Machine Learning, Convolutional Neural Networks, and Optical

Character Recognition (OCR) Techniques," *Sensors*, vol. 23, no. 23, p. 9475, Nov. 2023, doi: 10.3390/s23239475.

[25] H. M. Al-Barhamtoshy, K. M. Jambi, S. M. Abdou, and M. A. Rashwan, "Arabic Documents Information Retrieval for Printed, Handwritten, and Calligraphy Image," *IEEE Access*, vol. 9, pp. 51242–51257, 2021, doi: 10.1109/ACCESS.2021.3066477.

[26] E. Aslan and E. Yildiz, *Muslim Religiosity in the Digital Transformation: How Young People Deal with Images of Islam in the Media*. Springer Nature, 2024.