The Role of ChatGPT as an AI-Assisted Learning Tool in Teaching Arabic to Students at Higher Education Institution Malang

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Abstract
This study explores students perceptions of the role, obstacles, and impact of ChatGPT in Arabic language learning at three religious universities in Malang City. The method used is quantitative descriptive, involving 152 seventh-semester students from the Arabic Language Education program who have been using ChatGPT for at least six months. Data were obtained through a questionnaire with a 1-5 Likert scale and analyzed statistically using a descriptive approach. The research findings show that ChatGPT is very useful for receptive skills with achievements such as simplifying reading (75%), translating writing (66.5%), and expanding vocabulary (61.8%). However, its effectiveness was lacking in productive skills such as corrected writing (32.2%) and speaking practice (42.7%). The main obstacles encountered included inaccuracies in Arabic grammar (63.8%), limitations in audio and visual features (63.2%), and confusion about plagiarism (60.6%). In addition, difficulties in designing effective prompts (40.7%) and concerns about accusations of cheating (55.3%) are also significant obstacles. The impact of ChatGPT shows that this tool is considered useful (58.6%) and can accelerate understanding (50%), although its effect on overall understanding is moderate (39.5%). This study concludes that ChatGPT has great potential if supported by ethical policies, digital literacy training, and humanistic blended learning models.

Keywords:
AI in Education; Arabic Language Learning; ChatGPT; Digital Literacy; Islamic Religious Colleges

A. INTRODUCTION

Arabic language education in Islamic Higher Education Institutions (PTKI) faces various major challenges in the era of the 4.0 industrial revolution (Latifah & Fatimatul, 2024). The importance of mastering Arabic in Islamic tradition is emphasized in Surah Yusuf verse 2 of the Qur'an, which emphasizes its role as a tool for understanding revelation and developing thought. However, many PTKI still use traditional teaching methods that are not in line with the characteristics of the digital generation, creating a paradox where institutions that should preserve Islamic knowledge are lagging behind in utilizing technological innovations (Syarif, 2024).

The 4.0 digital revolution has brought ChatGPT as a generative artificial intelligence model that offers a personalized, interactive, and contextual Arabic language learning experience.

Its potential is significant for language learning, which requires a lot of practice and immediate feedback (Rajagukguk & Weisdiyanti, 2023). Several recent studies support the findings of an initial survey in Malang, namely that although students' knowledge of ChatGPT is quite high, its active use for Arabic language learning is still low. Initial data from researchers at PTKI Kota Malang shows that students' interest in using AI technology in Arabic language learning is quite high, but the use of ChatGPT for Arabic language learning is still limited as an instant tool. Its use is also not yet optimal for more in-depth functions. This greater potential for utilization is actually reflected in the latest research data. A study at UIN Sultan Aji Muhammad Idris Samarinda, for example, shows a high level of interest in line with this potential, where 77.4% of students use ChatGPT for translation, 75.5% for writing, and 72.5% for reading comprehension (Rahman et al., 2025).

A study at UIN North Sumatra found that students have not been able to maximize ChatGPT in Arabic language learning because ChatGPT's responses in Arabic are often considered inaccurate or even incorrect, so it is used more for general learning than specifically for Arabic (Salida et al., 2024). Another study on Arabic language and literature students also shows that ChatGPT is more often used for tasks such as writing papers, searching for literary theories, creative ideas, and translations, but has not been optimally utilized to strengthen Arabic language skills themselves (Robbani et al., 2023). This phenomenon indicates both opportunities and challenges in adopting ChatGPT in Arabic language learning environments (Sakti et al., 2024).

This challenge becomes even more complicated when it comes to the diverse nature of Arabic language learning. Arabic language learning not only covers basic skills (listening, speaking, reading, writing), but also supporting sciences such as nahwu and sharf, which require a different approach, where the main challenge is the complexity of Arabic morphology and grammar, encouraging the development of technologies such as Natural Language Processing (NLP) and AI-based voice recognition to support more adaptive and personalized learning (Hadi & Qohar, 2025). Recent studies confirm that AI can improve the effectiveness of Arabic language learning, both in terms of basic skills and supporting sciences, by providing an adaptive, interactive, and personalized learning experience (AlAfnan, 2024), and has been used for learning mufradat (vocabulary), qowaid (grammar), tarjamah (translation), and Arabic language learning assessment (Asfar et al., 2024). However, some studies only highlight certain aspects, such as the application of AI for translation and interpretation (Novita Kurniasih, Rio Kurniawan, 2025), or AI trends in education without reviewing its specific implementation in Arabic language classes in Indonesia (Salam et al., 2024). Other studies focus more on students' interest and perceptions of AI use, but have not comprehensively explored its impact on learning outcomes (Hadi & Qohar, 2025).

Theoretically, the use of ChatGPT in Arabic language learning is supported by Vygotsky's constructivism theory, connectivism, Cognitive Load Theory, and Krashen's input hypothesis, which affirm a shift towards a more adaptive, personalized, and student-centered approach (Yasmar & Amalia, 2024). Based on the research gap analysis, three important gaps were found. First, a methodological gap regarding the direct application of ChatGPT in Islamic higher education institutions. Second, a focus gap that only looks at interest without evaluating its impact on overall Arabic language proficiency. Third, a contextual gap because there has been no in-depth research at the Islamic Higher Education Institution in Malang as a leading center of Islamic education.

The uniqueness of this study lies in its holistic approach, which views ChatGPT not only as a tool but also as a crucial means of independent learning in Islamic higher education institutions, which often lack resources. The findings of this study are expected to contribute to the development of Arabic language learning methods that are relevant to the digital age, while respecting the basic values of Arabic language proficiency, and providing practical recommendations for PTKI administrators in formulating AI usage policies that are in line with Islamic scientific principles (Latifah & Fatimatul, 2024). More broadly, this research is expected to help improve the quality of Arabic language teaching in Indonesia, which has been considered unsuccessful in producing graduates who are able to communicate actively in Arabic

B. METHODS

This study uses a descriptive quantitative method in the form of a survey to systematically observe and explain perceptions, obstacles, and the impact of ChatGPT use in language learning (Waruwu et al., 2025). The research was conducted at three Islamic Higher Education Institutions (PTKI) in Malang City, namely UIN Maulana Malik Ibrahim Malang, Universitas Islam Malang (UNISMA), and Universitas Muhammadiyah Malang (UMM). The research subjects or participants consisted of 152 active students in the 7th semester of the Arabic Language Education Study Program who had used ChatGPT to learn Arabic for at least 6 months, selected using purposive sampling.

The sample consisted of 105 students from UIN Malang, 41 students from UNISMA, and 6 students from UMM. The sample distribution in this study shows a fairly clear imbalance, with 69.1% coming from UIN Malang, 27.0% from UNISMA, and 3.9% from UMM. This imbalance arises from several reasons that need to be explained to maintain transparency in the research. First, there is a difference in the number of 7th-semester students from the Arabic Language Education Study Program at the three universities, where UIN Malang has a significantly higher number of students compared to UNISMA and UMM. Second, despite various efforts to distribute the questionnaire, the response rate from UMM respondents tends to be lower. Third, the strict application of inclusion criteria, namely students who have used ChatGPT for at least 6 months to learn Arabic, resulted in a very small number of qualified respondents from UMM. Researchers recognized that this limitation might impact the representativeness of the results, particularly in depicting the situation of ChatGPT usage at UMM. Nevertheless, the information obtained from the three institutions still provides a general overview of the views, challenges, and impacts of using ChatGPT in Arabic language learning at PTKI in Malang City, with the caveat that the research findings more accurately reflect the conditions at UIN Malang, the institution with the largest sample size.

The main research instrument was an online structured questionnaire divided into four sections, namely respondent identity, perceptions of the role of ChatGPT (8 questions), barriers to use (8 questions), and the impact on material comprehension (4 questions). This instrument used a 1-5 Likert scale (Strongly Disagree to Strongly Agree) to measure the variables. In addition to the questionnaire, brief interviews were also conducted to obtain additional explanations, and secondary data from journals and supporting documents were used (Assayakurrohim et al., 2023). The data analysis technique used was descriptive statistics to calculate the frequency, percentage, mean, and standard deviation of each question item, with the help of the SPSS program to ensure the accuracy and validity of the results (Sugiyono, 2020). The data collection procedure was carried out by distributing online questionnaires to respondents who met the criteria, thus ensuring efficiency and ease of access.

C. RESULT & DISCUSSION

RESULT

This section presents research findings that describe how students of the Arabic Language Education Study Program at three Islamic Higher Education Institutions in Malang utilize ChatGPT as a learning aid. The research results cover three main focuses, namely students' perceptions of the role of ChatGPT, the obstacles encountered in its use, and its impact on understanding Arabic language material. All results were obtained through descriptive analysis using SPSS software and presented in tables and graphs to facilitate the reading of data patterns and respondent trends.

The results of the study show that the majority of students responded positively to the role of ChatGPT in Arabic language learning. In terms of simplifying reading, 75% of students agreed or strongly agreed that ChatGPT helped them understand complex texts. The translation function also received a high response rate of 66.5%, while vocabulary enrichment received 61.8%. Conversely, ChatGPT's effectiveness in correcting Arabic writing (Insya') is still low (32.2%) due to its limitations in recognizing complex grammatical errors.

Generally, students view ChatGPT as a helpful tool that simplifies understanding of material, especially in receptive skills like reading and vocabulary enrichment. However, its effectiveness in productive skills like writing and speaking is still limited. This is evident from the relatively high percentage of neutral responses (around 45.4%) regarding ChatGPT's ability as a conversation partner.
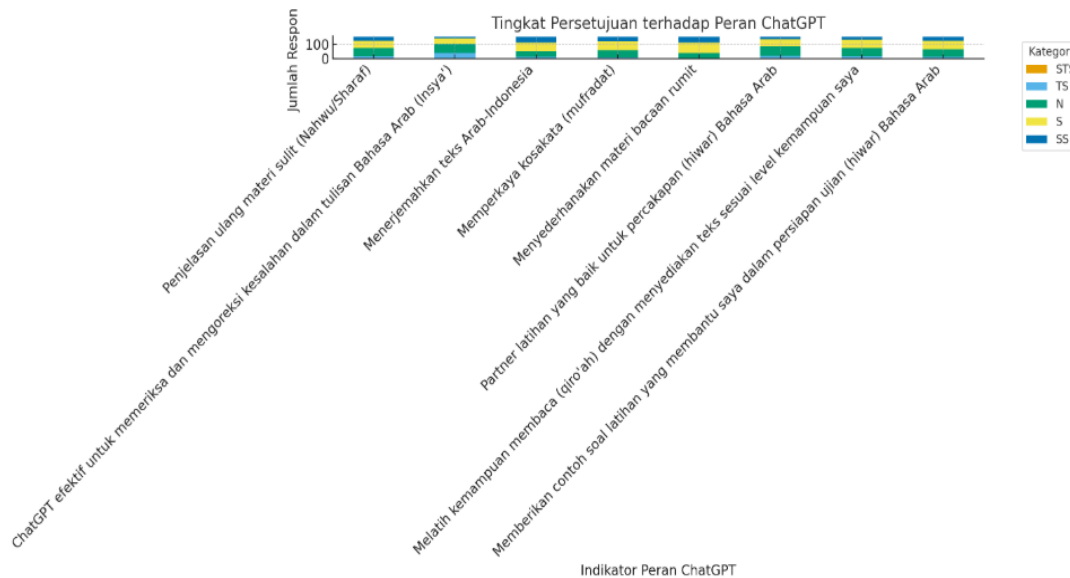

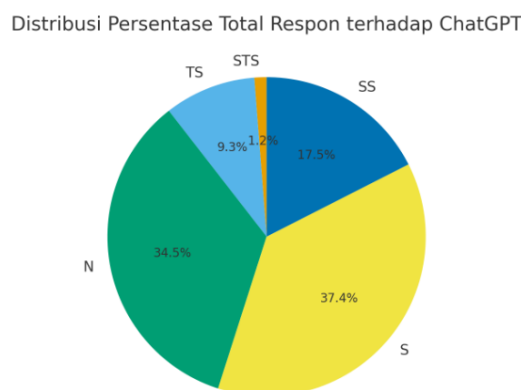**Figure 1.** Student Approval Rate for the Role of ChatGPT

Figure 2. Response to the Role of ChatGPT

Barriers to using ChatGPT can be grouped into two categories: internal barriers (related to user skills and ethics) and external barriers (related to the technical aspects and quality of the system). Based on the questionnaire results, the most frequently cited obstacles by students were the inaccuracy of ChatGPT's answers in Arabic (63.8%), followed by the limitations of audio-visual features (63.2%), and confusion regarding the boundary between AI assistance and plagiarism (60.6%).
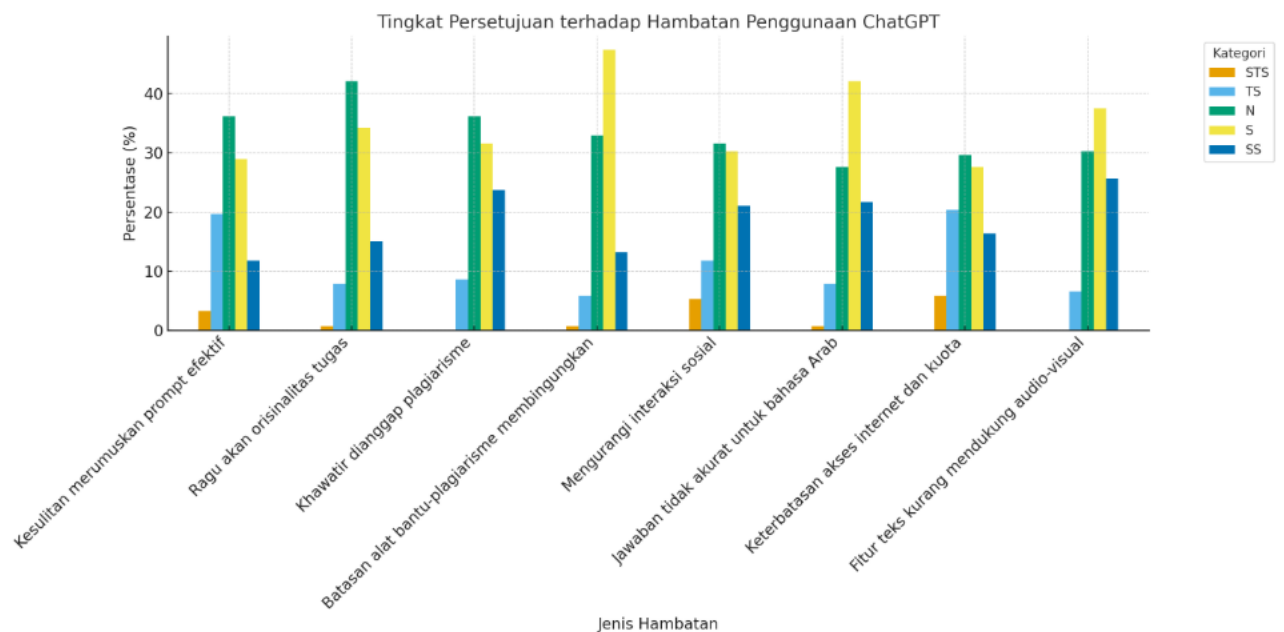
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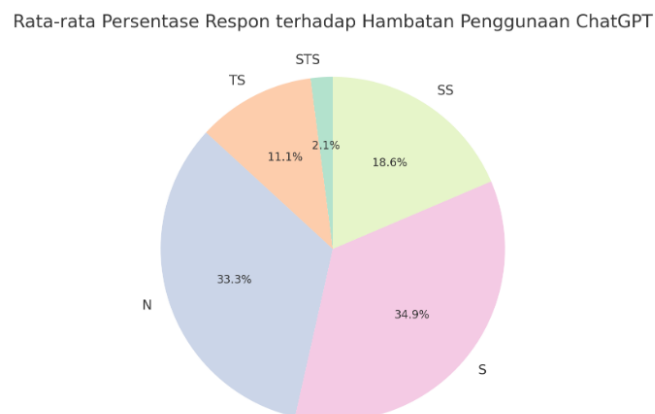**Figure 3.** Approval Rate for Barriers to ChatGPT Usage

Figure 4. Percentage of Responses to Barriers to ChatGPT Use

From an impact perspective, the results show that the majority of students acknowledge the benefits of ChatGPT in accelerating material understanding (50%) and boosting confidence (43.4%). Additionally, 58.6% of students rate ChatGPT as having a significant role as a learning aid. However, overall improvement in understanding was only felt by 39.5% of respondents, while almost half (49.3%) remained neutral.
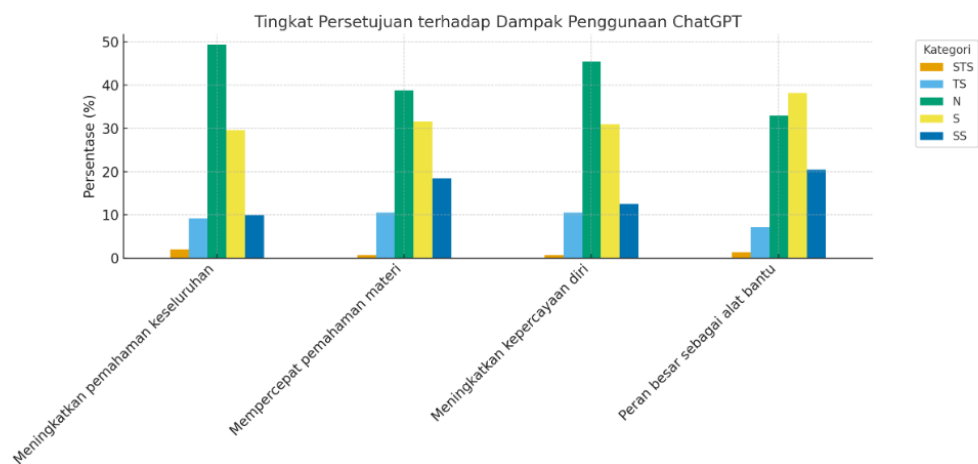
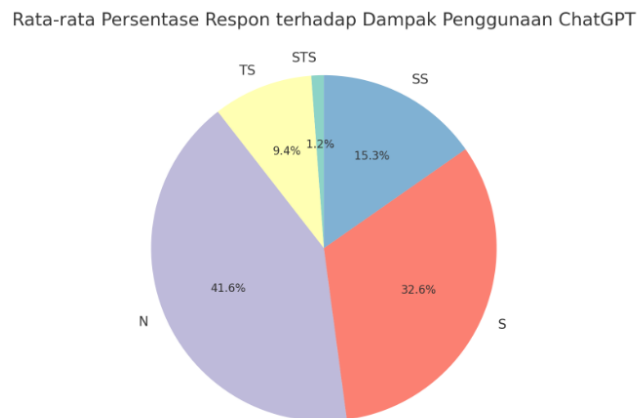**Figure 5.** Approval Rate for the Impact of ChatGPT Usage

Figure 6. Average Percentage of Responses to the Impact of ChatGPT Usage

DISCUSSION

The results of this study indicate that ChatGPT plays a significant role in supporting the receptive skills of Arabic language students, particularly in text comprehension and vocabulary expansion. Most students stated that ChatGPT helped them simplify difficult reading materials and accelerate their understanding of complex grammatical concepts. This finding aligns with Algraini's (2024) view, which asserts that using ChatGPT can enrich vocabulary through adaptive and interactive learning contexts. Within the framework of Vygotsky's social constructivist theory, these results indicate that ChatGPT can function as a scaffolding tool—a supportive aid that helps students reach their zone of proximal development (ZPD) through contextual and personalised digital guidance.

Nevertheless, the effectiveness of ChatGPT on productive skills such as writing (insya') and speaking (hiwar) is still relatively low. This is due to the system's limitations in understanding the cultural context and the complex syntactic structure of the Arabic language. Students feel that conversations with ChatGPT have not yet been able to replace the authentic interaction that usually occurs between teachers and learners. This result aligns with the research by Hediyansah and Sya (2025), which confirms that pronunciation and intonation in language learning cannot be fully replicated by text-based systems. Therefore, the use of ChatGPT should be directed towards strengthening receptive skills and conceptual understanding, while productive skills continue to be developed through direct interaction in a social learning context.

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From the perspective of obstacles, the research results show that the inaccuracy of ChatGPT's answers when used in the context of the Arabic language is a major challenge, with 63.8% of respondents agreeing or strongly agreeing. This aligns with the findings of (Ji et al., 2023), which explain the phenomenon of hallucination in large language models when processing languages with high complexity and limited training data, such as Arabic. Additionally, the limitations of audio-visual features are also a significant obstacle (63.2%), as learning Arabic requires accurate phonetic and articulation skills. This condition reinforces the research findings (Hadi & Qohar, 2025) that AI-based learning still does not fully support interactive and auditory aspects in language learning.

Ethical aspects are also an important consideration in this research. Approximately 60.6% of students admitted to being confused about the difference between using ChatGPT as an academic aid and plagiarism, and 55.3% were concerned about being accused of cheating. This result indicates the need for clear institutional guidelines regarding the ethical boundaries of artificial intelligence use. This phenomenon aligns with the view of (Nur Faliza et al., 2025) which emphasises the importance of maintaining academic integrity and honesty (the values of truthfulness and trustworthiness) amidst the development of AI technology in the world of Islamic education. Additionally, students' difficulty in designing effective prompts (40.7%) underscores the need for digital literacy and prompt engineering training, as outlined by (Pangestu & Kovit, 2025), to make interactions with AI more relevant and productive.

The implications of this are that barriers stemming from external-technical factors are stronger than those from internal factors, clear institutional policies on AI use are needed, including acceptable situations, citation methods, plagiarism limitations, and consequences, the importance of training in digital literacy and prompt engineering, and the expansion of multimodal (audio-visual) use for a more immersive learning experience.

Overall, these findings indicate that while ChatGPT offers practical benefits in accelerating understanding (50%) and is recognised as a learning aid (58.6%), its impact on in-depth comprehension remains moderate (39.5%). The high number of neutral responses suggests that students view ChatGPT as a supplement, not a replacement, for traditional learning processes. This condition aligns with the theory of connectivism explained by (Lathifah, 2024), which states that the effectiveness of digital learning depends not only on the availability of information, but also on the ability of learners to build meaningful connections between human knowledge sources and technology.

Nevertheless, its impact on overall understanding was relatively moderate, at only 39.5%, and most respondents, 49.3%, remained neutral. Confidence increased by 43.4%, although another 45.4% remained neutral. The high number of neutral respondents indicates that students view ChatGPT as a useful supplementary tool but not one that significantly improves their understanding or confidence. To truly understand Arabic well, students still need regular study, intensive practice, and guidance from competent instructors.

Therefore, the integration of ChatGPT in Arabic language learning should be directed towards a blended learning model that combines the strengths of AI technology with human interaction characterised by humanism. In line with Krashen's input hypothesis theory, discussed by (Warseto et al., 2019), successful language learning is highly dependent on the availability of comprehensible input (i+1) and direct feedback from the teacher. Therefore, the use of ChatGPT in the environment of Islamic Religious Higher Education (PTKI) needs to be balanced with digital literacy, academic ethics, and the active role of lecturers in guiding the use of technology to align with Islamic values and character-building educational goals.

D. CONCLUSION

This study aims to analyse the perceptions of Arabic Language Education students regarding the role, obstacles, and impact of ChatGPT as an AI-Assisted Learning Tool at Islamic Higher Education Institutions in Malang City. Based on findings from 152 students, it can be argued that ChatGPT is effective for receptive skills (vocabulary 75%, translation 66.5%) but limited for productive skills (writing correction 32.2%, conversation 42.7%). The main obstacles include inaccuracies in the Arabic language (63.8%), audio-visual limitations (63.2%), and the ethical dilemma of plagiarism (60.6%). The impact shows that the increase in efficiency (50%) is more dominant than the effectiveness of in-depth understanding (39.5%), confirming that ChatGPT serves as a supplement, not a substitute, for conventional learning. This finding answers the problem statement by confirming that the implementation of AI in PTKI requires a balance between digital innovation and humanistic-Islamic values.

Theoretically, this research combines Vygotsky's constructivism, connectivism, and Cognitive Load Theory in AI-based Arabic language learning at PTKI. The findings regarding the different effectiveness of ChatGPT on receptive and productive skills clarify the limitations of AI in languages with complex morphology. Practically, it is recommended: (1) the development of AI ethics guidelines in PTKI; (2) the integration of digital literacy and prompt engineering into the curriculum; and (3) the implementation of blended learning based on halaqah. Further research is needed to examine the long-term impact on communicative competence and the development of adaptive AI for Arabic linguistics and Islamic studies.

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