



Has AI Fully Humanized Arabic-English Language translation, yet?

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ABSTRACT

This article is a compilation of an earlier one by the same author that previewed the future of Arabic-English machine translation and published in 2024. This article therefore keeps tracking the progress after the Modern Large Language Models (LLMs) have been furthered with artificial intelligence (AI). In doing so, the article poses the question of to whether or not AI has fully succeeded in humanizing Arabic-English language pair in this 2-year window. The urge that prompted this short-time tracking of progress in these last two years, 2024-2025, is how accurate has AI Arabic-English translation become that astonished people. The level of accuracy is to extent that one needs apply no further or little editing to the translated document produced by Gemini, Mutarjim, Grammarly or GPT multi tools. The article concludes with pinpointing the areas where Arabic-English AI translation has witnessed substantial progress as well as where it is behind and likely to remain lagging in the future.

Keywords: Modern Large Language Models (LLMs), Arabic-English language pair, Artificial Intelligence, Idiomatic and Cultural Nuances.

INTRODUCTION

Background

Anyone who has sourced Google Translate or Gemini recently for translating a text from English to Arabic or vice versa must have noticed how accurate this tools have become. Compared to the earlier machine translation (MT) tools of pre-2017 the level of accuracy is really astonishing to the extent that the produced document barley needs a further editing. This transition is possible because now are living the peak of the artifice intelligence (AI) technology. Unlike for laypersons, for researchers like myself though, this progress in MT and AI translation is not surprising rather than predictable and it requires constant tracking.

Statement of the problem

Authoring what was supposed to be a “future preview” based article, then authoring its “previewed reality” in just one year timeframe is indeed an uncommon thing to do. I, Dr. Nagla Ahmed of Jazan University, happened to be the author of the article, “Previewing the Future of Arabic-English Machine Translation,” published in 2025 as well as of this article. My justification for this ostensible anomaly is, yes indeed a progress has taken place in the field of English-Arabic language pair translation and in such short period of time. Technically speaking, the progress was driven by regional foundation models, open-source fine-tuning, and specialized architectures (Zahran & Al-Jarf, 2024). However and from a pure linguistic

perspective away from this technical one, just about any Arabic speaking layperson can tell how smart and accurate Google search bar has become, let alone Gemini or Grammarly. This reality begs the question as to whether AI has or about to out excel humans in English-Arabic translation.

Objective of the article

The main objective of this article is to track the progress of AI technology in humanizing Arabic-English translation since the recent 2024-2026 time period has witnessed a significant development on this regard. This objective as well takes the investigation one year earlier, i.e., 2025 as a platform for furthering the prediction into the following year 2026. The article assumes this narrow pace tracking is necessary knowing whether machine translation (MT) has or about to tackle the persistent challenges that pertain to Arabic rather than to English language.

Questions of the article

- Has AI fully succeeded in humanizing any language pair at all?
- What capabilities has the recent breakthrough in AI added to MT in general?
- How far has Arabic-English Language pair AI translation progressed?
- Is there any variance in the AI accuracy when Arabic or English is the source or target language?

METHOD

This exploratory article is based on an earlier previewed scenario, a method known as the situational judgment test (SJT). The article seeks to update an earlier previewed impact of Artificial Intelligence (AI) on Arabic-English translation with the current status quo. The data of interest therefore is mainly the level of accuracy/humanization that AI technology has advanced the Modern Large Language Models (LLMs) with. While the earlier previewed scenario was based on tracking the 2020 to 2024 data, the current status quo comprises the updates of 2025 and 2026.

LITERATURE REVIEW

Researchers of different languages have dedicated studies that look into how AI has improved their translation to and from English language. The article by Kocmi & Bawden (2022) points out Advanced AI models have dramatically improved bidirectional translation between English and Japanese as a language categorized as a complex one. The article cites the earlier low rated accuracy of the English-Japanese by the Accuracy Evaluation Metric (ACT) until as recent as 2000. The low rated accuracy of translation embattled several other major global tongues including Spanish, French and Mandarin Chinese according to Shorman (2025). The common challenge these languages share with English as the reference language include the cultural context, idioms, and natural sentence structures. Whereas, the case of the languages that share much with English such as the German, Dutch and Swedish that issue is much about the Natural Language Processing (NLP) construct (Tbakhli & Hammouri, 2024). The NLP has snarled AI systems to understand and generate human language with unprecedented accuracy, yet not uniformly in all the contexts and socio-linguistic domains. the desired high precision.as moving past rigid literal conversions to capture

How AI builds database in L1-L2 translation is obviously a complex matter, but a background is necessary here. How AI builds translation databases is technical referred to as “translation memories” (Kocmi & Bawden, 2022). To begin, it is the process of converting paired native (L1) and target (L2) text segments into mathematical vector embedding. Then in later stages, these semantic clusters map meaning rather than rigid word matches for both L1 and L2. This action allows the MT system to automatically store, retrieve, and refine contextual phrasing through continuous feedback loops. A further explanation put forth by Abdulmughni & Alrefae (2025) is that as to whether or not the limited accuracy of Arabic-English translation

has to do with the limited database. This is since the translation is partly due to a limited database or resource scarcity for certain types of Arabic content. However the matter has as well to do with major structural differences between the two languages as it is with Arabic and English. Another area of deficiency is added by Naser (2025) as the Fewer Digital Resources. This is since the Modern AI and translation tools rely on massive text databases known as “corpora” which is much of creating a parallel Wikipedia. Now, compared to European languages, there needs to be a digital training data for specific Arabic content taking place. This process accounts for Arabic regional dialects, informal social media posts, and specialized technical or legal texts where it is relatively scarce

With Arabic language and English as the reference, the complexity goes beyond the above AI Natural Language Generation (GenAI) related ones. Much of the complexity according to ElSherif (2025) are of Arabic-Arabic origins. Above the multi Arabic dialects, there is the issue of formal versus literal phrasing, the low commonality of non-Arabic translated terms as well as the slow growth of Arabic-English database. On this regard the article by Mubarak, (2026) notes that in addition to AI expansion with aggregate database growth, the emphasis is as much on the multi-discipline build up. The article refers to Arabic-English translation conventions such as the 7th Conference on Machine Translation (WMT22) the last version of which emphasized expanding the database. However, rather than creating a pan-Arab database building, the Arab world has long relied on Google Neural Machine Translation (GNMT) open source (Al-Heeti & Farhan, 2026). The difference is that AI translation progress evolves much faster with a rule-based system that involves statistical models, neural networks, and updated large language models. The solution in more technical term is in adopting the Preferred Reporting Items of AI inputs for Systematic Review, then conducting Meta-Analysis that focuses on evaluating and developing Arabic-English metadata and supporting software (Naser, 2025).

DISCUSSION

In this discussion section of the article, each posed question is going to be addressed in the context of Arabic-English language pair. The discussion is going to be supported with findings from the reviewed literature and with citation where necessary, whereas the extracted findings will entail the corresponding paragraph.

The first question posed as to whether AI has fully succeeded in humanizing any language pair at all, is of a great relevance to the subject of this article. Initially the answer is “no” even with sister languages like the Italian-Spanish pair and the **Arabic-Hebrew pair**. **The reason as** Kocmi & Bawden (2022) explain revolves around three points of limitations: **Context Loss, Document Errors and Resource Gaps**. These two languages are at odd in every sense as it is widely known. It is a difference between a Semitic and a Germanic language as well as the eastern and the western cultures (Salem, 2025). Additionally, why hasn’t AI fully succeeded in humanizing any language pair also has to do with the AI shortcoming of achieving statistical “human parity” on isolated sentences in high-resource language pairs where deep emotional nuance, cultural context, and document-level consistency are required (Naser, 2025). **Accordingly, it is expected to be even farfetched with the Arabic-English language pair. The gap between Arabic and English languages is just too wide especially at the “context loss” mainly because of Arabic diglossia where the multi variations results in additional complexity.**

The second question posed as to how far has Arabic-English Language pair AI translation progressed, would bring the discussion closer to the premise. First and as noted earlier by Muhammad & Abdumughni (2025) just of last year 2024 the AI open-source has been scaled with more advanced specialized architectures. As a result of AI powering the recent Modern Large Language Models (LLMs) the post-2020 accuracy is times higher than in the preceding stages of MT. As emphasized by Zahran & Al-Jarf, (2024) there are fields where the AI Arabic-English translation is more accurate than others according to the consistency of the sentence structure and the recurring lexicon. In conduction to this, the accuracy factors are stated by Qassem & Zalloum, (2024) to be: predictable vocabulary, formal sentence structures. These facts explain why Arabic-English AI translation is more accurate in some fields more than others and the more consistent the language of the field –particularly in Arabic, the more likely the yielded translation to be accurate. This explanation as well answers the question of whether there is variance in the AI accuracy when Arabic or English is the source

or target language. It is evident that all the challenges are on the side of Arabic language whether it is the source or the target in the translation process.

Lastly, predicting the future of how likely AI will fully humanize Arabic-English translation including the in the persisting fields, is still vague to do. On one hand, the AI keeps expanding its impact translation-specific models, optimizing its mixture-of-experts systems for complex Arabic morphology as well as in expanding data base (Kocmi & Bawden, 2022). However, how deeply these three dimensions of AI capabilities can impact the accuracy of the translation, requires a technological insight to tell. The brief technological background provided in the literature review section of this article is indeed insufficient for predicting AI's next frontier. It may sound practical therefore to assume or else recommend dedicating a paper for addressing this query.

CONCLUSION

The answer to the main question of this article as to whether or not AI has fully succeeded in humanizing Arabic-English language pair translation, is not yet but the accuracy has significantly increased. The accuracy of Arabic-English translation in this 2-year window of 2024 to 2026 has revealed both substantial progress and persistent challenges. The substantial progress in AI Arabic-English translation is still confined to certain structured fields such as economy, empirical sciences, politics, business reports and the like. Whereas, the persistent challenges remain being the stumble stone on the side of Arabic language in particularly where its idiomatic, cultural and morphological are at odd with those of English. Additionally, Arabic-English machine interpretation or text-to-speech level of accuracy is still hindered by Arabic diacritics based phonological system. Pushing the prediction yet further into the future of in AI Arabic-English translation therefore, is less likely to yield the level of humanization in these fields that currently constitute persistent challenges.

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