

# Potential Use of ChatGPT-4 for Translating the Emirati Dialect Into English

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**Abstract**—For translators and conventional machine systems, Arabic dialects pose translation challenges including scarce linguistic resources and the complexity of nonstandard Arabic. However, large language models (LLMs) are able to understand contextual meaning and showcase promising translation capabilities. This study investigates ChatGPT-4’s understanding and translations of five excerpts, including 39 lexical items, from the Emirati dialect into English. The data were analyzed qualitatively for clarity, fluency, and structure. Additionally, four bilingual raters quantitatively evaluated the translated lexical items according to the context. Qualitative analysis revealed that ChatGPT-4 could understand the Emirati dialect’s linguistic, cultural, and semantic intricacies and successfully translate them into English. Quantitative evaluation, based on accuracy of meaning, word choice, naturalness, syntactic harmony, and clarity, demonstrated a high level of agreement among the raters. However, the source of the data, which was an online forum, might have impacted the results, as ChatGPT could have been trained on similar data from such forums, potentially influencing its translation outcomes. This study contributes to the discussion of LLMs’ viability in translation practice, with implications for translators, translation trainers, and tool makers.

**Index Terms**—large language model, Emirati dialect, Arabic language, Arab dialect, machine translation

## I. INTRODUCTION

Artificial intelligence (AI) has revolutionized various aspects of natural language processing, including translation. Recently, scholars have discussed the use of AI-based large language models (LLMs) for automatic translation, with many agreeing that AI-based translators have more potential than conventional machine translation systems (Hendy et al., 2023; Gao et al., 2023). The power of such models stems from their ability to reveal latent dependencies in texts and produce context-based translations. In this regard, Karpinska and Iyyer (2023) state that because LLMs can learn a language’s structure and grammar, they can produce fluent and accurate translations. In addition, Chat Generative Pretraining Transformers (ChatGPT) “demonstrate remarkable performance as stand-alone translation systems, rivaling and sometimes surpassing commercial models” (p. 1). AI-based models are trained on a vast corpus of multilingual texts, which helps them generate fluent responses and translations and enables them to handle cultural specificity and idiomaticity. Nevertheless, AI-based translations face the challenges of the complexity of human language and a lack of linguistic resources for some languages. However, such translation methods are highly promising, with current research focusing on improving the models’ understanding of cultural and contextual factors and enhancing their ability to handle low-resource languages.

Recently, ChatGPT-4, developed by OpenAI (Radford et al., 2019), has been introduced as an AI-based model that can understand human languages and produce human-like responses. Compared with its 3.5 version, ChatGPT-4 can produce good literary and creative translations at the paragraph and text levels (Karpinska & Iyyer, 2023). In addition, Hendy et

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al. (2023) reported that “GPT translations could have applications in improving neural machine translation (NMT) models on the translation of figurative text” (p. 21). However, relatively little attention has been paid to the translation of specific dialects. Few studies have focused on a limited number of European languages and dialects (Lilli, 2023), and few have explored the use of GPTs to translate Arabic dialects.

This study evaluates ChatGPT-4’s ability to understand literary texts in the Emirati dialect and translate them into English. A variant of Arabic spoken in the United Arab Emirates (UAE), the Emirati dialect is characterized by its unique vocabulary, grammar, and pronunciation (Leung et al., 2020). Given the UAE’s growing international presence in sectors such as business, tourism, and education, the need for effective tools that can accurately translate the Emirati dialect is increasingly apparent. This study’s data included excerpts from short stories written by bloggers in the Emirati dialect. First, we processed excerpts of Emirati short stories through ChatGPT-4 to assess its ability to understand, explain, and translate the excerpts into English. The data were analyzed from qualitative and quantitative perspectives. The qualitative analysis involved analyzing the Emirati lexical items and their translations produced by ChatGPT-4. Meanwhile, the quantitative analysis involved evaluating the translations based on a metric of five criteria: accuracy of meaning, appropriate word choice, linguistic naturalness, syntactic harmony, and clarity and understandability. These evaluations were coded and processed to reveal the extent to which ChatGPT-4 succeeded in rendering Emirati lexical items into English.

This study provided insight into machine translation in general and LLMs in particular regarding their ability to understand and translate Emirati, a low-resource Arabic dialect. Furthermore, the results provided input not only for the translation of written texts but also for the oral material embedded in audiovisual translations of TV shows and dramas, which have recently witnessed a huge boom owing to the advances of streaming platforms.

## II. LITERATURE REVIEW

Machine translation (MT), the process of automatically translating text from one language to another, aims to develop systems capable of emulating human translation. Recently, the advent of machine learning algorithms and statistical methods for textual analysis have paved the way for language translation. Arabic–English MT, in particular, has primarily focused on Modern Standard Arabic (MSA), with relatively little attention provided to Arabic dialects. The most prominent challenge facing MT regarding Arabic dialects is the limited number of comprehensive linguistic resources, including large, high-quality, and parallel annotated corpora of Arabic dialects and MSA and of Arabic (MSA and dialects) and other languages (Zbib et al., 2012; Salloum & Habash, 2013; Sghaier & Zrigui, 2020).

To address this challenge, Zbib et al. (2012) used crowdsourcing to build a parallel corpus of Arabic dialects–English. They concluded that an MT tool trained on dialect and MSA data would produce high-quality translations because informal Arabic texts often mix MSA with dialects. However, their parallel corpus did not include Gulf Arabic. In addition, Salloum and Habash (2013) proposed a pivot-based approach in which Arabic texts in dialects were first translated into MSA using available resources and then into English using existing MSA–English translation systems. To improve the quality of this approach, Meftouh et al. (2015) presented the Parallel Arabic Dialect Corpus comprising five dialects (Palestinian, Syrian, Tunisian, and two Algerian dialects) that were aligned to MSA. Meanwhile, Al-Ibrahim and Duwairi (2020) developed a framework for translating the Jordanian dialect into MSA using deep learning or neural machine translation (NMT), requiring particularly large amounts of data to achieve acceptable accuracy. Farhan et al. (2020) introduced two innovative NMT systems for translating Arabic dialects into MSA using shared embedding and regression-based decoding techniques, optimizing the translation accuracy in supervised and unsupervised settings. Their study simplified the provision of support for multiple Arabic dialects without requiring separate models to overcome data scarcity and linguistic variations. Finally, Slim et al. (2022) addressed the challenge of limited data for training NMT models for Algerian dialects using transductive transfer learning, a technique that leverages similarities between Algerian dialects and other variations such as Egyptian and Levantine Arabic.

Although using MSA as a pivot language helped overcome limited linguistic resources and improve dialect translation’s accuracy to an extent, other challenges continue to face Arabic dialect MT. Among these, Meftouh et al. (2015) identified the complexity of MSA morphology and the considerable variation in vocabulary, grammar, and syntax across Arabic dialects. Loan words, which may vary between dialects in source language and frequency rate, pose an additional challenge. In response, Baniata et al. (2021) developed a transformer-based NMT model using subword units to translate Arabic dialects into MSA. Their model addressed the problems of morphological differences in using affixes between MSA and its dialects as well as the issue of rare words not included in the training data. In addition to dialects such as Levantine, Nile, Maghribi, and Iraqi, their model was trained and tested on Gulf dialect data.

Harrat et al. (2017) emphasized the problem of variation in dialects not only between regions but also within the same region and a single dialect. In fact, these dialects are continuously acquiring new vocabulary and developing, with little corresponding research into their grammar and morphology or documentation of their lexicon. Another challenge identified by Harrat et al. (2017) was the heavy use of Arabizi, a Romanized form of Arabic that uses Latin characters to write in Arabic dialects, especially on social media, which is the main source of written Arabic dialects. The “noisy data” that such nonstandard writing systems create are multiplied by code switching between dialects, MSA, and other languages (especially French in Algerian, Moroccan, and Tunisian dialects). Code switching becomes even more problematic when MSA is used as a pivot language. Salloum and Habash (2020) also highlighted the scarcity of annotated

parallel data and a lack of standardized orthography for Arabic dialects. They also underlined the problem of the large vocabulary size caused by Arabic's complex morphology, hindering NLP systems' effective processing and analysis.

In addition to dialectal variations, Sajjad et al. (2020) identified the lack of standardized evaluation benchmarks as yet another challenge for English translations of Arabic dialects. To address this gap, they designed AraBench, a framework for evaluating MT systems between Arabic dialects and English. Their parallel corpora dataset covered multiple dialects, including two Gulf dialects (Omani and Qatari).

Although the above studies have explored the MT of various Arabic dialects, few have explored that of the Emirati dialect. Research on the Emirati dialect and culture-specific lexical items has predominantly focused on human literary translation (Khamis, 2007; Al Khamiri, 2015; Al Qassimi, 2017; Al Tenaijy & Al Batineh, 2024). For instance, in discussing the complexities of translating dramatic texts in UAE dialects, Khamis (2007) emphasized the difficulty of finding suitable equivalences for certain sociocultural features. Translators often opt for standard English, overlooking the original dialect's performability and separability. Similarly, Al Khamiri (2015) focused on the English translations of Emirati folktales, revealing that most were literal, which resulted in mistranslations owing to translators' lack of familiarity with Emirati culture. Therefore, these English translations failed to capture the essence of Emirati language use. More recently, Al Tenaijy and Al Batineh (2024) examined the translations of Emirati culture-specific items into English, focusing on Mohammed Al Murr's short story collection, *Dubai Tales*, which has been translated by Peter Clark (1996). Based on their analysis, they emphasized the importance of translating Emirati literature effectively, especially owing to the UAE's growing global presence. Their study shed light on the complex relationship between culture and language in literary translations, particularly in the Emirati context. Therefore, previous studies have highlighted the need for translators to possess a deep cultural and linguistic understanding to effectively convey the essence of Emirati literature. They also emphasized the need for translators to consider contextual elements and select appropriate linguistic equivalents to preserve the authenticity and richness of the original works.

This study explores the extent to which ChatGPT-4 can comprehend and translate Emirati short stories into English. As seen from the above literature review, translating dialects present numerous challenges to human translators, which become even more daunting for MT systems, as these systems must grasp not only the surface meaning of words but also the contextual nuances and the intricate relationships among literal meanings, metaphorical expressions, and cultural nuances. Given its advanced capabilities, ChatGPT-4 may be a potent tool for translating such elements, potentially bridging the gap between the rich subtleties of the Emirati dialect and its broad and growing audience.

### III. METHODOLOGY

The data were collected from online forums dedicated to novice writers' literary works in Emirati Arabic. We selected the top three stories based on the highest average reader rating, each with a minimum of 50 ratings as of June 20, 2023. An Emirati professor of translation studies selected excerpts that prominently featured elements of the Emirati dialect, focusing on the use of cultural expressions and idiomatic language. Three Emirati dialect experts independently identified and listed the Emirati lexical items in the selected excerpts. They convened to discuss their findings, resolving discrepancies through group discussion until they reached a consensus for a finalized list of lexical items. Finally, using ChatGPT-4, the excerpts were translated via the following structured prompts:

- Prompt 1: Please read and comprehend the following excerpts from Emirati short stories written in the Emirati dialect.
- Prompt 2: Translate the above excerpts accurately into English.

The study compiled the output translations along with the source and target terms produced by ChatGPT-4. Translations and lexical items were qualitatively analyzed, focusing on Emirati lexical items and assessing whether the produced texts exhibited any "creative" solutions or encountered translation issues, including mistranslations.

The analysis was supplemented by qualitative evaluations of the translations by four bilingual (Emirati and English) graders. This stage involved designing a grading sheet that included the original text, its English translation, and a list of Emirati lexical items in each excerpt (along with their specific translations). For each term, the graders were asked to provide grades of "bad," "acceptable," or "good" based on the following five criteria:

1. **Accuracy of Meaning:** How accurately the translation conveyed the term's intended meaning (including connotative, denotative, and contextual meanings).
2. **Appropriate Word Choice:** Whether the chosen translation was the most suitable word or phrase, considering the original term's context and usage.
3. **Linguistic Naturalness:** How naturally the translation avoided awkward or artificial constructions in the target language.
4. **Syntactic Harmony:** How well the translated term maintained grammatical correctness and was syntactically integrated into its new linguistic environment.
5. **Clarity and Understandability:** Whether the translation's overall clarity and ease of understanding were based on the above elements combined.

Numerical values were assigned (1 = bad, 2 = acceptable, 3 = good), enabling the calculation of average scores to identify patterns of strengths and weaknesses in the translations, shedding light on the translation model's ability to address the Emirati dialect. The final grades were then calculated, and each criterion's average was used to provide a

general overview of the graders' evaluations. This process also provided insights into where the model excelled and where improvements were needed. Finally, the average of the evaluations from all raters was calculated to assess the consistency and reliability of their assessments. This average score was used to determine the overall agreement among raters regarding the translation quality.

#### IV. DATA ANALYSIS

##### A. Excerpts 1 and 2

The first two excerpts were taken from a story about a female student named Rawda who is reluctant to wake up and go to the university. The story explores themes related to daily life and family interactions, expressing Rawda's feelings and aspirations about marriage and liberation from the pressures of academic life and her daily routine. ChatGPT-4's English translation successfully captured this story, communicating its events and characters' actions while preserving its essence.

TABLE 1  
EXCERPT 1 AND CHATGPT-4 ENGLISH TRANSLATION

Excerpt 1	
Full Source (Emirati Arabic)	Full Translation (English)
ايدي عورتتي من الدق على الباب. روضه تتحطم: أوف شو هل الحالة متى الله بيّفكني واعرس، واقفك من نشت الصبح ومن الجامعة	My hand hurts from knocking on the door. Rawda grumbles: "Ugh, what's this situation? When will God free me and I get married, so I can escape waking up early and from university?"
ألام: روضه يتقومين بأديج ولا شو؟ روضه: انشالله يماميه، اوووف مب حاله.	Mother: "Rawda, will you get up respectfully or what?" Rawda: "Insha'Allah (God willing), mom. Ugh, I'm not in the mood."

The translation successfully captured the meaning of almost all Emirati lexical items and understood the words' unique dialect-based pronunciations as reflected in their spellings (Tables 1 and 2). For instance, the Emirati dialect's use of ج (*Jeem*) to replace Arabic's ك (*Kaf*) is reflected in the story's written words. The lexical items بادبك، translated as "respectfully," and ضيغ، translated as "irritation," exhibited deviations from MSA spellings, but ChatGPT-4 could understand the meanings despite these differences.

Notably, ChatGPT-4 also discerned meanings that changed depending on context. For example, the word نشت functioned as a noun in the first text but as a verb in the second (Table 2). This word's meaning, along with the appropriate diacritic markers (which were absent in the source text), can only be determined through context. The first instance was translated accurately (semantically and contextually) as "waking up." The same word was translated as "woke up" in another context, maintaining accuracy. Previously, this aspect of Arabic represented a consistent challenge for Arabic-English MTs (Albashir et al., 2020).

TABLE 2  
EXCERPT 1'S EMIRATI LEXICAL ITEMS AND CHATGPT-4'S ENGLISH TRANSLATIONS WITH MEAN RATINGS ACROSS THE FIVE CRITERIA

Emirati Term	Translation	Meaning Accuracy: Mean	Appropriate Word Choice: Mean	Linguistic Naturalness: Mean	Syntactic Harmony: Mean	Clarity and Understandability: Mean
نشت	Woke up	3	3	3	3	3
ويها	Her face	3	3	3	3	3
ضيغ	Irritation	3	3	3	3	3
سارت	Went to	3	3	3	3	3
تتريق	To have breakfast	3	3	3	3	3
دشت	Entered	3	3	3	3	3
عشان	To	3	3	3	3	3
اتسير	To go to	3	3	3	3	3
شحالج	How are you?	3	3	3	3	3
شو بلاج جالبه وييج	Why do you look upset?	3	3	3	3	3
سكتي	Leave me alone.	3	3	3	3	3

Other successful examples included the translations of questions and their structures, such as شحالج (How are you?), which conveys a complete question in a single phrase (Tables 1 and 2). ChatGPT-4 adeptly captured this unique dialectal structure and rendered it into functional English. Likewise, شو بلاج جالبه وييج (Why do you look upset?) presented a structure that is uncommon in other Arabic dialects. Both questions featured distinct dialectal characteristics, including the substitution of ك (*Kaf*) with ج (*Jeem*), as in جالبه، شحالج بلاج، and the substitution of ج (*Jeem*) with ي (*Yaa*) in وييج (Tables 3 and 4). In translations, addressing such lexical items poses the dual challenge of not only the question structure but also spelling variations. ChatGPT-4 successfully navigated these challenges, delivering an accurate and contextually appropriate translation.

TABLE 3  
EXCERPT 2 AND ITS CHATGPT-4 ENGLISH TRANSLATION

Full Source (Emirati Arabic)	Full Translation (English)
نشأت روضه وغسلت وجهها واتلبست بكل ضيق وقرق، وسارت الصلاة عشان تتريق، دشت وسلمت على ابوها وامها واخوانها، وكلت لقمتين وركبت السيارة عشان اتسير الجامعه	Rawda woke up, washed her face, dressed with much irritation and disgust, and went to the living room to have breakfast. She entered and greeted her father, mother, and siblings. She ate a couple of bites and then got in the car to go to the university.
... في الجامعه حصه: روضه شحالج ؟ شو بلاج جاليه ويهج.. روضه: سكتي عني يا حصه ، الجامعه ملل ومب عارفه شو اسوي بعمرى	At the university, Hessa: "Rawda, how are you? Why do you look upset?" Rawda: "Leave me alone, Hessa. University is boring, and I don't know what to do with my life."

TABLE 4  
EMIRATI LEXICAL ITEMS FROM EXCERPT 2 AND CHATGPT-4 ENGLISH TRANSLATIONS WITH MEAN RATINGS ACROSS THE FIVE CRITERIA

Emirati Term	Translation	Meaning Accuracy: Mean	Appropriate Word Choice: Mean	Linguistic Naturalness: Mean	Syntactic Harmony: Mean	Clarity and Understandability: Mean
عورتتي	Hurts	3.00	3.00	3.00	3.00	3.00
تتحرطم	Grumbles	3.00	3.00	3.00	3.00	3.00
نشأت	Waking up	3.00	3.00	3.00	3.00	3.00
بأديج	Respectfully	3.00	3.00	3.00	3.00	3.00
يامايه	Mom	3.00	3.00	3.00	3.00	3.00
اوووف مب حاله	Ugh, I'm not in the mood.	2.75	3.00	2.75	2.75	2.75

For all but one term from Excerpt 2 (Table 4), the ratings were consistently high (3.0), indicating perfect performance. Only the sentence اوووف مب حاله (Ugh, I'm not in the mood) received slightly lower ratings (2.75) for Criteria 1 and 3–5. Near uniformity indicates high rater agreement on the quality of these translations.

To ensure objectivity in the data analysis, the four graders evaluated the lexical items and their translations according to the five criteria mentioned previously. The average ratings from all raters were calculated to determine the consistency and reliability of the evaluations (See Table 4).

#### B. Excerpts 3 and 4

Excerpts 3 and 4 are taken from a story about a father who took his children to a mountain to collect a type of berry called *nabaq*. Owing to the darkness, the father decides to spend the night in a cave with his children and resume their journey home the next day. In general, the Emirati Arabic source text was successfully rendered into English (Tables 5 and 7).

TABLE 5  
EXCERPT 3 AND CHATGPT-4 ENGLISH TRANSLATION

Full Source (Emirati Arabic)	Full Translation (English)
الين استوى نهار ثاني، أخذ البيونه، وودى بنته وولده وياه، وقال: - يالله يا عيالي نسير الجبل نجيب نبق.	When the next day came, he took their bags, and he took his daughter and son with him, and said: Come on, my children, let's head to the mountain to gather "nabaq." * **"Nabaq" is a type of berry that grows in the desert regions.

The ChatGPT-4 translation accurately rendered the Emirati words' meanings into English. For example, in Excerpt 3 (Table 5), the Emirati lexical items الين (*alein*), ودى (*wadda*), and وياه (*wyah*) were translated as "when," "took," and "with him," respectively, thereby showcasing ChatGPT-4's effectiveness in capturing the nuances of the Emirati dialect. Remarkably, ChatGPT-4 not only succeeded in recognizing and translating the unique Emirati word نبق into *nabam* but also provided an explanation, "a type of berry that grows in desert regions," to assist readers unfamiliar with the term. This demonstrates its ability to not only translate accurately but also enrich the translation with annotations providing key cultural and contextual information.

The graders awarded mostly 3.0 ratings to the translations of Excerpt 3's lexical items (Table 6). This value signifies substantial agreement among the graders, underscoring the translation's effectiveness and reliability.

TABLE 6  
EMIRATI LEXICAL ITEMS FROM EXCERPT 3 AND CHATGPT-4 ENGLISH TRANSLATIONS WITH MEAN RATINGS ACROSS THE FIVE CRITERIA

Emirati Term	Translation	Meaning Accuracy: Mean	Appropriate Word Choice: Mean	Linguistic Naturalness: Mean	Syntactic Harmony: Mean	Clarity and Understandability: Mean
الين	When	3	2.75	3	3	2.75
ودى	Took	3	3	3	3	3
وياه	With him	3	3	3	3	3
نبق	Nabaq	3	3	3	3	3

In Excerpt 4 (Table 7), the English translation demonstrated a high accuracy without any significant issues. The Emirati term الابلاذ (*alblad*) was rendered as "the village" despite its spelling and meaning considerably differing from its MSA

variant (البلاد, literally “country”). ChatGPT-4 thus successfully captured the spelling and contextual meaning of the word, accurately translating it as “the village” and again demonstrating its ability to understand and translate based on context.

TABLE 7  
EXCERPT 4 AND CHATGPT-4 ENGLISH TRANSLATION

Full Source (Emirati Arabic)	Full Translation (English)
والعيال يلقطون منه ياكلون، ومنيه يحطون فالبيونه.. البين شبعوا وترسوا البيونه واستوى الليل، قال ابوهم: - الحين استوى الليل وما نقدر نسير البلاد لكن الحين تدرن هناك فيه كهف، جذبه تحت الجبل، غار، وانتوا رقدوا هنيه في الغار البين الصبح، وانا بجلس من برع الغار البين يستوي الصبح بنروح الابلاد.	The kids would pick up [the <i>nabaq</i> ] and eat, and some they'd put in their bags. Once they were full and their bags were packed, and night had fallen, their father said: “Now that it's night, we can't proceed to the village. But you know, over there, there's a cave beneath the mountain. You can sleep in that cave until morning, and I'll sit outside the cave. Once it's dawn, we'll head to the village.”

Although appearing in singular form, the Emirati word *البيونه* (*yoneiah*) in Excerpt 4 was translated as “bags.” Despite not adhering to the original's singular form, the plural form accurately conveyed the Emirati term's intended meaning in English, demonstrating ChatGPT-4's ability to capture and reflect a source dialect's essence accurately in a target language. Furthermore, the translations of the excerpt's other items were accurate. Notably, the translation of distinctive Emirati terms such as *يعلقون* (pick up), *منيه* (some), *يحقون* (put), *ترسوا* (were packed), *استوى* (had fallen), *نسيروا* (proceed), *رقدوا* (sleep), *هنيه* (in), and *برع* (outside), respectively, exemplify ChatGPT-4's success at contextual-based translations. The translated examples flowed naturally and were easily understandable.

The graders consistently awarded high scores to Excerpt 4 (Table 8). Terms such as *يعلقون* (pick up), *منيه* (some), and *يحقون* (put) received scores of 3.0 across all criteria, indicating the raters' perfect agreement on translation quality. Even for terms such as *جذبه* (over there), which received slightly lower grades, the overall scores reflected a strong consensus on the translation's overall effectiveness and appropriateness. Each term's average rating thus underscored the accurate, natural translation of the Emirati dialect into English that maintained syntactic harmony and clarity.

TABLE 8  
EMIRATI LEXICAL ITEMS FROM EXCERPT 4 AND CHATGPT-4 ENGLISH TRANSLATIONS WITH MEAN RATINGS ACROSS THE FIVE CRITERIA

Emirati Term	Translation	Meaning Accuracy-Mean	Appropriate Word Choice-Mean	Linguistic Naturalness: Mean	Syntactic Harmony: Mean	Clarity and Understandability: Mean
يعلقون	Pick up	3.00	3.00	3.00	3.00	3.00
منيه	Some	2.50	2.75	2.75	2.50	2.75
يحقون	Put	3.00	3.00	3.00	3.00	3.00
فالبيونه	Bags	2.50	2.75	3.00	3.00	3.00
ترسوا	Bags were packed	3.00	3.00	3.00	3.00	3.00
استوى	Had fallen	2.75	2.75	2.75	3.00	3.00
نسيروا	Proceed	2.75	2.75	2.75	2.75	2.75
جذبه	Over there	2.25	2.25	2.75	2.75	2.75
رقدوا	Sleep	3.00	3.00	3.00	3.00	3.00
هنيه	In	3.00	3.00	3.00	3.00	3.00
برع	Outside	3.00	3.00	3.00	3.00	3.00
الابلاد	The village	2.75	2.75	3.00	3.00	3.00
البين يستوي الصبح	Once it's dawn	3.00	3.00	3.00	3.00	3.00

The graders agreed that ChatGPT-4 had successfully rendered the Emirati dialect in this excerpt into English (See Table 8), with some disagreement on a few terms, but with an overall high level of agreement regarding the accuracy and clarity of the translations.

### C. Excerpt 5

Excerpt 5 is taken from a story about a blind girl named Fayi, her sister Hoor, and her cousin Shahad. In the excerpt, the narrator describes the close relationship between Hoor and Shahad. The overall message was translated accurately (Table 9).

TABLE 9  
EXCERPT 5 AND CHATGPT-4 ENGLISH TRANSLATION

Full Source (Emirati Arabic)	Full Translation (English)
انزين خلنا نرمس عن حور و شهيد.. بس ما نرمس وايد عنهن..... و هي اربع و عشرين ساعه و يا اختها وهي وايد تحبها و لو بايدها يتم ويا اختها خمس و عشرين ساعه مب اربع و عشرين ساعه	Alright, let's talk about Hoor and Shahad. But I won't talk too much about them. ... She's with her sister 24 hours a day. She really loves her sister. If she could, she would spend 25 hours with her, not just 24.

ChatGPT-4 successfully identified the Emirati word *انزين* (*inzain*) as a discourse marker, rendering it into the English equivalent of “all right.” Although the root *رمس* (r-m-s) has a different meaning in MSA, ChatGPT-4 recognized its intended Emirati meaning as the verb *نرمس* and translated it into “talk,” demonstrating its ability to understand dialectical

variations. Moreover, it accurately conveyed the intended meanings of words beyond their literal meaning, maintaining the essence of the original dialogue.

The word وايد (pronounced *wayed* in Emirati), which means “plentiful”, exists in other Arabic dialects with the slightly different pronunciation of *waged*, but MSA uses neither variation to indicate “plentiful.” In the excerpt, *wayed* appeared twice, and while rendered differently in each instance, it was translated accurately both times. In the first instance, ChatGPT-4 appropriately translated *wayed* as “too much,” although “excessiveness” was only implied through context. In the second instance, ChatGPT-4 used “really” instead of “loves her very much,” thereby including the story’s intended hyperbole but avoiding the repetition of “too much”.

Meanwhile, the word بتم (*bittam*) is morphologically complex: the particle *bi* indicates the future (rendered in English as the conditional “would”), whereas the first *t*, merged phonetically with the second *t*, indicates the feminine second person. The verb *tam* means “complete” in MSA, but in Emirati, it means “to stay or remain.” However, ChatGPT-4 rendered it into “spend,” which better collocates with “hours.” Thus, the translation “she would spend” conveys the intended meaning in natural English. Furthermore, an Arab reader unfamiliar with the dialect would have had difficulty recognizing this word’s pronunciation by its spelling.

Overall, ChatGPT-4 managed to accurately translate the Emirati words into simple, clear English, reflecting the dialect’s conversational informality. However, at times, the English fails to capture the richness of the source language. For example, the idiomatic expression لو بيدها (“if in her hands”) was translated into the simple conditional clause “if she could,” which, although accurate, lacks the original text’s emotive effect.

Lexical items from Excerpt 5 achieved perfect translation ratings of 3.0 on all five criteria (Table 10). Again, this shows perfect agreement among the graders and confirming the translations’ quality and reliability. This level of concordance among the graders indicates a very high degree of consistency in the evaluations, indicating ChatGPT-4’s effectiveness in handling the unique nature of the dialect.

TABLE 10  
EMIRATI LEXICAL ITEMS FROM EXCERPT 5 AND CHATGPT-4 ENGLISH TRANSLATIONS WITH MEAN RATINGS ACROSS THE FIVE CRITERIA

Emirati Term	Translation	Meaning Accuracy: Mean	Appropriate Word Choice: Mean	Linguistic Naturalness: Mean	Syntactic Harmony: Mean	Clarity and Understandability: Mean
انزين	Alright	3	3	3	3	3
نرمس	Talk	3	3	3	3	3
وايد	Too much/really	3	3	3	3	3
بتم	Spend	2.75	3	3	3	3
ويا	With	3	3	3	3	3

## V. DISCUSSION

This study verified ChatGPT-4’s general ability to accurately translate the Emirati dialect. The findings reveal the extent to which this AI tool can bridge the linguistic gaps that have challenged human translators and MT systems. Furthermore, ChatGPT-4’s ability to accurately translate a low-resource Arabic dialect, Emirati, had implications for the automatic translations of other Arabic dialects. The qualitative analysis showed promising results and highlighted ChatGPT-4’s potential for capturing the specifics of the dialect, its cultural context, and its linguistic peculiarities, which have challenged human translators (Al Khamiri, 2015; Al Qassimi, 2017; Al Tenaijy & Al Batineh, 2024). The graders’ consistent high levels of agreement, further corroborates the reliability of ChatGPT-4’s translations across the specified evaluation criteria.

Zbib et al. (2012) and Meftouh et al. (2015) emphasized the challenges of automatic MTs presented by the syntactic, semantic, and structural complexities of Arabic dialects that lack linguistic resources. Prior efforts to create dialect MT tools relied on using MSA as a pivot language. By contrast, ChatGPT-4 overcame such complexities through a direct approach to translating Emirati. These findings also indicated an overall shift in MT from less dynamic engines and systems (which have focused heavily on formal linguistic structures) to those that can handle nonstandard language variants and the fluid and dynamic nature of communication. Furthermore, the study’s findings have contributed to the current discussions in the field of translation studies regarding the potential of LLMs such as ChatGPT-4 for translation tasks (Karpinska & Iyyer, 2023; Hendy et al., 2023).

In addition, this study presents substantial implications for various stakeholders, including translation trainers, professional translators, programmers, and researchers. First, ChatGPT-4 can be used as a valuable pedagogical tool in translation training programs, thereby providing trainees with the advantage of using new technologies. In turn, they can gain a more nuanced understanding of dialect specificity in Arabic–English translation, especially considering the limited resources available for some Arabic dialects. Their large number (which can range from 22 to 32, depending on categorization) makes it even complex for translators and translation students to handle dialectic nuances embedded in

literary works and audiovisual content. However, approaching LLMs and other tools with a critical eye to discern their strengths and limitations is essential. Such tools should be considered as aids to translation, not substitutes for human expertise. One limitation of this study is the potential influence of the data source, which was an online forum where novice writers share their literary works. Since ChatGPT is trained on vast datasets, including publicly available text from various sources, it is possible that the model encountered similar data during its training, which could have influenced its translation outcomes. To prevent mistranslations, bias, and other issues, translator trainers should stress that students and practitioners must remain vigilant in evaluating the outputs of these tools.

The exponential development in MT is changing the skillsets required by novice and experienced translators. Reliance on AI-translated content will undoubtedly increase, as will the demand for translators skilled at generating translation-related prompts and postediting AI-translated content. This shift urges “educational institutions ... to adapt their curricula to better align with the dynamic requirements of the language industry, thereby enhancing the employability and readiness of their graduates for the global translation market” (Al-Batineh & Al Tenaijy, 2024).

## VI. CONCLUSION

This study used qualitative data analysis to investigate ChatGPT-4’s potential for translating lexical items from Emirati Arabic into English. The average ratings from the four graders based on five translation criteria, accuracy of meaning, appropriateness of word choice, linguistic naturalness, syntactic harmony, and clarity and understandability, confirmed that ChatGPT-4’s translations captured the elements of the dialect. Although this study’s findings are promising, the study relied on excerpts from Emirati short stories. That is, the study’s sample size was limited in terms of genre and dialect. Future studies could use this methodology to investigate large datasets across different Arabic dialects and genres. They could also investigate the integration of LLMs into audiovisual Arabic–English translation, novels (see Al-Batineh and Alsmadi), and video game localization (See Al-Batineh, 2021), where nonstandard language forms are predominant. Such integration indicates the requirement of developing hybrid approaches that leverage the strengths of AI-assisted human translations.

In addition, our study highlighted the urgent need for further collaborative, interdisciplinary research that harnesses theoretical and practical insights from translation studies, computational linguistics, computer science, and software engineering. This approach is crucial for a deep understanding of the current AI-based translation landscape and the development of the next generation of computer-assisted translation tools. These endeavors would considerably contribute to the discourse on ethical considerations and potential biases associated with the use of LLMs in translation. As AI technologies become increasingly integrated into translation-related tasks, addressing their ethical implications is imperative. An ethics-focused research approach should aim to develop guidelines and best practices for responsible, equitable, and sustainable use of these technologies, ensuring that AI-enhanced translation tools are accessible, fair, and unbiased across diverse linguistic and cultural contexts.

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