Potentials and Limitations of Artificial Intelligence in Literary Translation: Maintaining Narrative Clarity, Emotional Subtlety, and Authorial Style

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Abstract

Artificial intelligence, particularly through the emergence of neural machine translation systems, has revolutionized language translation. These tools process vast amounts of text at astonishing speeds, delivering a level of accuracy that would have seemed almost science fiction just a few decades ago. However, beneath this technical prowess lies deep limitations, especially when it comes to literary works. Consider, for example, poetry or novels. While AI can certainly extract and translate the essential meanings, many of the subtleties of the original work are lost in the process. Literary translation requires more than simple linguistic equivalence. It relies on sensitivity to the text, an understanding of cultural references, an understanding of tone, and an appreciation of stylistic details—none of which AI can currently truly emulate. Human translators combine these elements to recreate the "art" in a new language, preserving the rhythm, creative metaphors, or unique emotional resonances that define literature. In contrast, current machine translation models tend to flatten language, reducing it to its most literal interpretation. This can lead to an erosion of the subtlety and complexity that scholars and readers have long valued in translated works. The spread of AI translation therefore raises legitimate concerns about the potential loss of the subtlety, precision, and cultural depth that human translators have traditionally preserved in world literature.

پتانسیل‌ها و محدودیت‌های هوش مصنوعی در ترجمه ادبی: حفظ وضوح روایت، ظرافت عاطفی و سبک نویسنده عطاالکریم

هوش مصنوعی، به ویژه از طریق ظهور سیستم‌های ترجمه ماشینی عصبی، ترجمه زبان را متحول کرده است. این ابزارها حجم عظیمی از متن را با سرعت شگفت‌انگیزی پردازش می‌کنند و سطحی از دقت را ارائه می‌دهند که تنها چند دهه پیش تقریباً علمی تخیلی به نظر می‌رسید. با این حال، در زیر این مهارت فنی، محدودیت‌های عمیقی نهفته است، به خصوص در مورد آثار ادبی. به عنوان مثال، شعر یا رمان را در نظر بگیرید. در حالی که هوش مصنوعی مطمئناً می‌تواند معانی اساسی را استخراج و ترجمه کند، بسیاری از ظرافت‌های اثر اصلی در این فرآیند از بین می‌روند. ترجمه ادبی به چیزی بیش از معادل‌سازی زبانی ساده نیاز دارد. این امر به حساسیت به متن، درک ارجاعات فرهنگی، درک لحن و درک جزئیات سبکی متکی است ـ که هیچ یک از آنها در حال حاضر توسط هوش مصنوعی قابل تقلید نیستند. مترجمان انسانی این عناصر را برای بازآفرینی «هنر» در یک زبان جدید ترکیب می‌کنند و ریتم، استعاره‌های خلاقانه یا طنین‌های احساسی منحصر به فردی را که ادبیات را تعریف می‌کنند، حفظ می‌کنند. در مقابل، مدل‌های ترجمه ماشینی فعلی تمایل دارند زبان را مسطح کنند و آن را به تحت‌اللفظی‌ترین تفسیر آن تقلیل دهند. این می‌تواند منجر به فرسایش ظرافت و پیچیدگی شود که محققان و خوانندگان مدت‌هاست در آثار ترجمه شده برای آن ارزش قائل بوده‌اند. بنابراین، گسترش ترجمه هوش مصنوعی نگرانی‌های مشروعی را در مورد از دست رفتن احتمالی ظرافت، دقت و عمق فرهنگی که مترجمان انسانی به طور سنتی در ادبیات جهان حفظ کرده‌اند، ایجاد می‌کند.

کلمات کلیدی: ادبیات، از دست دادن وضوح و ظرافت، تسلط هوش مصنوعی، ترجمه ترکیبی، مهارت زبانی

Introduction

Artificial intelligence, particularly through advances in neural machine translation and large-scale language models, has revolutionized the way written translations are done. These technologies offer fast, cost-effective, and scalable solutions, making it easier for people to communicate across languages on a large scale. Tools like Google Translate have played a major role in breaking down language barriers and helping to share information more smoothly and efficiently around the world. The use of machine translation is very common, with estimates suggesting that over 89.5% of all translations performed each day are done by these systems, translating trillions of words. This shows how much AI has contributed to everyday communication. However, applying AI to literary translation poses many challenges that still make it difficult. Literary translation is a complex process that requires not only linguistic skills, but also deep cultural understanding, creative interpretation, and a thorough understanding of human expression that goes beyond the simple translation of individual words. The difficulties of literary texts arise from their layered meanings, the use of delicate language and cultural subtleties, and often hidden messages that are difficult for machines to fully understand.

In the context of literary translation, "subtlety" refers to the subtle and often hidden elements in language that reveal the customs, traditions, values, and social behaviors of a society. This includes a wide range of linguistic features such as proverbs, humor, irony, historical allusions, emotional tone, and stylistic choices, as well as the meanings that exist between words. The true measure of a good translation, especially in literature, is not just accurate language, but also the ability to convey the cultural context, emotional background, and social norms that are naturally part of the original language. The power of AI lies in its ability to process large volumes of text quickly and efficiently. This has made machine translation extremely popular in helping people communicate globally. But the same speed and scalability that are useful for general translation become problematic when dealing with the complex and layered nature of literary texts. The statistical approach to AI grapples with the nonlinear, cultural, and emotional aspects of literature that are not easily measured or predicted from raw data. AI is built to find patterns in large data sets, which makes it ill-suited to the interpretive, cultural, and often ambiguous nature of literary language, where meanings are often implied rather than directly stated or easily extracted. The widespread use of AI for common translations, due to its low cost and speed, has created a social expectation that literary works should perform similarly. This is despite the fact that there are important differences in the nature of texts. If the limitations of AI in this area are not well understood and properly addressed, it could lead to a significant reduction in the value of human literary translation and make translated literature more difficult to understand. The financial benefits, combined with the public belief in the capabilities of AI, run the risk of transforming what is considered "good translation" from an art form to a mere transmission of language, driven largely by technology and cost, and likely to result in major cultural loss.

Research Methodology

With a solid foundation in the FLA programming language and initial insights into the literary impact of AI translation, I will now focus on critically assessing the "unquestioned dominance" of AI in translation across a range of contexts. I will expand my research on how AI translation specifically impacts the clarity, elegance, and artistic integrity of literature, seeking concrete examples and case studies. At the same time, I will explore the potential interaction between the widespread use of AI translation tools and levels of foreign language anxiety among language learners and professional translators. This involves identifying and comparing research methods that can empirically investigate these complex relationships.

Related Literature Review

The literature on foreign language anxiety examines the psychological barriers that learners face when communicating in a second language. However, the advent of artificial intelligence in translation has raised concerns about the loss of clarity and nuance in literature. Critics argue that artificial intelligence, while efficient, often sacrifices nuance and cultural depth, leading to a loss of authenticity in translated texts. This shift raises important questions about the balance between technological advancement and the preservation of linguistic artistry in literary works.

Conclusion

In examining the impact of artificial intelligence (AI) on language translation and its impact on literature, the results highlight important advantages and disadvantages. AI-based translation tools, such as Google Translate and DeepL, have made language learning and intercultural communication more accessible than ever before. They have simplified the process of understanding foreign languages and reduced the barriers caused by foreign language anxiety. However, this comes at the cost of losing the subtleties, cultural context, and nuances found in literary works.

AI translation tools perform well with real, everyday language, making them effective for communication and basic understanding. For example, travel, business, and technical content are successfully translated. However, when it comes to literary translations, AI tools often struggle to capture the subtleties, metaphorical richness, and stylistic depth that define great literature. In literary translations, there is a noticeable lack of clarity and complexity. AI tends to prefer literal translations over interpretive or more creative translations provided by human translators, which often results in the loss of the author's original tone and intent.

Discussion

AI translation algorithms are built to prioritize speed and accuracy, but they cannot capture the intuition, creativity, and understanding that human translators bring to literary works. Take poetry, for example—where rhythm, emotion, and imagination are key—AI often delivers translations that miss these vital elements. This means that the elegance and style of translated texts, especially those with rich and complex cultural nuances, can gradually fade. Sure, AI can improve clarity

and make essential communications more accessible, but it can sometimes dilute the richness of creative expression found in literature. When a translation sacrifices the stylistic subtleties of the original text simply for the sake of simplicity or accuracy, it can result in a watered-down version of the original work. Cultural sensitivity and context are another major hurdle for AI. One of its main limitations is its attempt to understand and respect the cultural and historical context behind the language. Words come with cultural baggage that AI may not fully understand, which can lead to misinterpretations or even loss of meaning. Furthermore, while AI has made real progress in breaking down language barriers, it also poses challenges in maintaining literary nuance and clarity. Looking ahead, combining human expertise with AI technology could be a way to preserve the efficiency and artistry of language in future translations.

The Rise of AI in Translation: Capabilities and Benefits
AI technologies, particularly neural machine translation (NMT) and large language models (LLM), offer powerful advantages that have led to their rapid integration into the translation industry. One of the key benefits of AI in translation is its unparalleled speed and efficiency. These tools can process huge volumes of text in seconds, a task that would typically take human translators weeks. This efficiency is especially valuable in sectors where time is of the essence, such as international trade, education, and government communications. In addition to speed, AI tools significantly reduce translation costs. While professional human translation can be expensive, especially for large projects, many AI tools are available for free or through affordable subscription plans. This makes them accessible to a wider range of users, including small businesses, students, and individuals, and democratizes access to multilingual content. AI translation tools are widely available and often only require an internet connection. They support dozens, and in some cases, hundreds, of languages, allowing communication across diverse linguistic backgrounds. This broad language coverage greatly expands global communication opportunities.

Furthermore, AI has significant potential to break down language barriers for low-income or under-resourced languages. With continued investment in data collection and algorithm development, these languages could benefit from better AI support, potentially increasing the volume of translated literary works from these often-overlooked language communities. AI tools have shown great effectiveness in maintaining terminology consistency across large documents or projects. This feature is particularly valuable in specialized fields such as technical writing, legal documents or corporate communications, where precise and coherent language is crucial to ensuring clarity and accuracy. The economic benefits and speed offered by AI are so attractive that there is a strong incentive to adopt it in various fields, including literature, despite the known qualitative shortcomings in sensitive areas. This economic pressure directly challenges the traditional human-centered translation model. Economic gain, defined by lower costs and higher speed, acts as a powerful driving force that can overcome or at least significantly reduce qualitative concerns about subtlety, thereby creating significant tension in the translation industry and potentially changing established publishing practices. Although AI promises to expand access to

literature from low-resource languages, if translations are not carefully edited by human experts, this expansion may inadvertently come at the cost of reduced aesthetic value and cultural fidelity. Thus, the opportunity for wider dissemination paradoxically comes with the risk of shallower understanding. This represents a trade-off between increased access (quantity) and a potential loss of depth and authenticity (quality). This situation raises important questions about whether "any translation" is preferable to "no translation," especially for cultures that are currently underrepresented in global literary discourse.

The Complexities of Literary Elegance: Why Literature is a Unique Challenge for AI

Literary texts are inherently complex, woven with layers of meaning that extend far beyond their superficial linguistic components. This inherent complexity makes them particularly challenging for AI translation systems.

Literary works are rich in layers of situational and life context, authorial intent, deep feelings, and subtle emotions that current AI models struggle to fully extract from words alone. The full semantic perspective often lies in "what lies between the words," a kind of understanding that machines struggle to achieve. The success of a translation depends on its ability to convey the cultural context, emotional subtext, and social norms embedded in the source language. Existing AI models often fail to capture these cultural subtleties, idioms, and historical significance, resulting in translations that can unintentionally marginalize linguistic diversity and misrepresent the original intent.

Cultural subtleties, including idioms, humor, subtext, historical references, and etiquette, vary significantly across cultures. For example, idioms often do not have direct equivalents in other languages (e.g., "it's raining cats and dogs"). (Chehra Azad, 2022:27). Artificial intelligence systems, which rely heavily on statistical patterns derived from large data sets, have difficulty accurately interpreting and translating such figurative meanings. A joke that is funny in one cultural context may be completely meaningless or even offensive in another. AI's inability to fully understand cultural metaphors and social norms often leads to significant misinterpretations. In addition, literary devices such as metaphor, simile, and characterization are crucial for conveying deeper meanings, and careful construction of tone and mood is essential for creating atmosphere and emotional impact. It is very difficult for AI to faithfully replicate these artistic elements.

Genre-Specific Complexities

Each literary genre has its own unique translation challenges:

• Poetry: This genre is particularly difficult due to its rhythmic complexities, weight considerations, and stress patterns. Translators must preserve the rhythmic features of the original text while adapting them to the constraints of the target language. AI consistently demonstrates limitations in preserving sound-based rhetorical devices such as assonance and harmony, resulting in a loss of the desired sense of aural playfulness and comedic impact.

• Prose: Translating prose requires a delicate balance between "indigenization" (making the text culturally intelligible to the target audience) and "alienization" (preserving elements of the source culture). The decision to translate literally versus loosely will have a significant impact on fidelity to the original text, and preserving multiple layers of meaning necessitates careful word choice.

• Drama: Translating dramatic works requires careful attention to stage directions, the distinctive voices of characters, and aspects of performance, all of which are crucial to successful live performance. AI's reliance on statistical pattern recognition from vast datasets fundamentally limits its ability to understand the implicit, non-literal, and cultural layers of meaning embedded in the text that define literary nuances. These nuances often exist "between the words" or rely on "lived experience," features that go beyond the scope of mere statistical correlation. AI's learning paradigm, which is essentially a form of compression and correlation, has difficulty extracting the full range of situational and life contexts, intentions, feelings, and emotions that characterize human language. This mismatch between AI's statistical, data-driven learning mechanism and the human, embodied, and cultural nature of literary meaning-making directly contributes to its difficulties in subtle translation. (Casheekar, 2024:65) The persistent failure of AI to understand literary subtleties suggests that understanding language, especially in its most complex forms such as literature, may not be solved simply by "using more data and algorithms." (Maryam, 2016:34) This highlights a fundamental limitation of current AI paradigms for tasks that require genuine human-like understanding and creativity. The observation that "more data provides a better and smoother approximation of language; but it does not create reliable intelligence," coupled with AI's ongoing struggle with subtleties, suggests that the problem of literary translation is not simply an engineering challenge of scale or optimization. Rather, it appears to be a deeper cognitive challenge, underscoring that some human cognitive abilities, such as empathy, intuition, and cultural immersion, may not be as reducible to computational models as currently thought.

AI's Limitations in Capturing Detail: An In-Depth Look at Specific Failures

Despite significant advances, AI translation systems exhibit recurring patterns of errors that severely compromise the accurate transmission of nuances, especially in sensitive literary and cultural contexts.

• Literalism and word-for-word translation: This is one of the most common mistakes where AI systems produce translations that are stylistically unnatural and practically inappropriate, especially when dealing with idiomatic expressions. For example, the French phrase "Tu me manques" might be translated literally as "You are missing from me" instead of the English phrase "I miss you." Similarly, the French phrase "tomber dans les pommes" (to faint) could be translated as "to fall into apples." (Bahj, 1402:81)

• Domain and style mismatch: Large language models (LLMs), despite advances in in-domain translation, still show significant performance degradation when faced with changes in the domain. This includes "term mismatch", where domain-specific terms are translated

inappropriately (e.g., "Folienverpackung" in a medical context is translated into "sliding package" instead of "sterile packaging"), and "style mismatch", where the AI cannot generate a hypothesis that accurately matches the out-of-domain style (e.g., "prediction calculation method" becomes "prediction method").

• Illusion: AI systems can mistranslate terms by replacing them with common terms from their training domain, even when they are contextually incorrect. For example, a medical translation system will translate the German term "Tatort" (crime scene) as "accident" because "accident" is a common term in the medical domain, leading to the illusion of input inconsistency.

• Gender bias: AI models can inadvertently perpetuate biases in their training data, leading to biased translations. For example, Google Translate has been criticized for translating gender-neutral pronouns as masculine or feminine based on occupational stereotypes. The Turkish phrase "o bir muhendis" (he is an engineer), which is gender-neutral, is often translated with a masculine pronoun. This happens because if a job is called masculine 62% of the time in an educational text, AI might interpret it as masculine 99.05%. • Poor handling of rare words and neologisms: While AI models are excellent at predicting common words, their performance with rare words decreases significantly. They have particular difficulty with novel lexical items and often leave them untranslated or transpose them in rigid and insensitive ways. (Asadollahi, 1402:12)

Case Studies and Specific Examples of Mistranslations in Literary and Sensitive Domains
The consequences of these AI limitations are evident in numerous real-world examples:

1. Poetry: AI consistently fails to preserve sound-based rhetorical devices such as assonance and harmony, thus losing a sense of aural playfulness and comedic effect. Studies of Giacomo Leopardi's poetry revealed mistranslations of ambiguous words (e.g. "mirare" translated as "aim" instead of "gaze"), words that were not translated due to spelling similarities or apocalypticism, and grammatical inaccuracies that affected the original meaning and revealed conflicts between past and present tenses. Translations of song lyrics have also been far from satisfactory.

2. Novels: AI translations of novels can lose the depth, metaphors, and poetic quality of the original text, thereby diminishing their inherent beauty and significance.

3. Cultural/Contextual Misinterpretations: A notable example was the typo of the word "dog" in Maori, which resulted in the English translation: "Doomsday Clock is three minutes to twelve."

4. An Arabic "good morning" message ("yousbihuham") posted on Facebook was mistakenly translated by AI to "hât them" in English and "attack them" in Hebrew, leading to the arrest of the sender.

5. Medical context: There have been notable errors, such as "anti-tank missile" instead of "ibuprofen" in Armenian and "soybean" instead of "coumadin" in Chinese translations of medical advice.

6. Marketing slogans: KFC's "finger-licking good" was translated in China to "eating your fingers." Pepsi's slogan in the 1960s, "Live! You are a Pepsi generation," became "Pepsi brings

your ancestors back from the dead" in Mandarin and Cantonese. The phrase "tonic water" from Shops in Italy was infamously translated to "toilet water from Shops." The phrase "Every car has a quality body" from Ford was translated to "Every car has a quality body" in Dutch.

7. Political/Sensitive Content: Google Translate in Ukraine reportedly changed "Russia" to "Mordor" and "Russians" to "occupiers," indicating poor handling of sensitive cultural and political topics.

8. Subtitle errors: In one study, the Chinese word "wen" (a unit of currency) was incorrectly translated as "words" in subtitles, causing significant viewer confusion and creative but erroneous interpretations. (Mohabi, 2024:12) Similarly, "Jinling" was translated with a capital letter as "Golden Hill" or "Golden Mound," further confusing viewers. (Knox, 2020:11) The principle of "worthless input, worthless output" directly explains the prevalence of biases and inaccuracies in AI translations. AI models learn by analyzing large datasets. If these datasets contain inherent biases, such as gender stereotypes in job roles or are inadequate for less common languages, AI will inevitably replicate and even amplify these flaws in its output. The quality and representativeness of training data are therefore direct determinants of the accuracy and fairness of AI output, particularly in delicate or sensitive communication contexts. The severe consequences of AI mistranslations in high-stakes domains such as medicine, law, and diplomacy underscore that loss of elegance is not merely an aesthetic concern limited to literature. It represents a critical failure with real-world consequences that can range from potentially life-threatening medical errors to politically destabilizing diplomatic misinterpretations. This extends the discussion beyond academic interest to issues of public security and international relations. Fundamental limitations of AI in understanding human communication lie in a variety of global domains. In critical domains, these limitations manifest as serious risks, making the issue of literary elegance a specific manifestation of a broader, systemic challenge.

Table 1

Common AI translation errors and their impact on detail

Error type	Explanation	Specific example (origin/destination target)	Effect on elegance/meaning
A literal translation	Word-for-word translation, without taking into account idiomatic expressions and figurative meanings	French: "Tu me manques" -> "You are far from me" (instead of "I miss you")	It loses its idiomatic meaning, sounds unnatural, and is emotionally distorted.
Domain/Style Incompatibility	Inability to adapt the translation to specific	Medical: "Sterile packaging" -> "Sliding packaging"	This produces incorrect terminology that leads to confusion

	subject matter or stylistic conventions.	(instead of "Sterile packaging")	or misinterpretation of specialized content.
Illusion vs. delusion	Incorrect replacement of terms with common words from training data, regardless of context.	German: "Tatort" -> "accident" (instead of "crime scene")	It provides incorrect information that leads to significant misunderstandings.
Prejudice (gender/cultural)	Perpetuates stereotypes or biases in educational data	In Turkish: "o bir muhendis" (neuter gender) -> male engineer	It reinforces social prejudices, makes people look bad, and can be offensive.
Disregard for poetic devices	Inability to retain rhetorical devices based on sound, rhythm, or complex syntax in poetry	Giacomo Leopardi's poems: "mirare" -> "to aim" (instead of "to stare"); incorrect verb tenses	Its aural appeal and comedic effect diminish, and its deeper thematic meaning changes.
contextual misinterpretation	Inability to understand situational, emotional, or cultural context beyond explicit words	Arabic: "يُسْبِحُوهُم" (Good morning) -> "Harm them" or "Attack them" Arabic: "يُصْبِحُوهُم" (Good morning) -> "Harm them" or "Attack them"	Leads to severe misinterpretations with potentially serious real-world consequences (e.g., hurt them, attack them)

Human Translators: The Essential Role of Art and Cultural Insight

The unique capabilities of human translators continue to be essential, especially in the field of literary translation, where the subtle complexities of language and culture are paramount. Human translators possess distinctive abilities that current AI technologies cannot replicate. These abilities include a deep understanding of cultural nuances, the capacity to interpret emotional tone, and an intuitive understanding of textual cues. They are uniquely skilled at interpreting and accurately translating texts that require a thorough understanding of both the source and target languages. Human translators employ "lived cultural experience" and "human intuition," allowing them to navigate linguistic nuances and faithfully preserve the author's original intent. This includes the critical ability to adapt idiomatic language, wordplay, and stylistic nuances to effectively align with the linguistic and cultural norms of the target audience. The human art of translation is widely considered an "art" that requires not only linguistic precision but also deep creativity, interpretive depth, and a delicate balance of cultural insight, authorial voice, and aesthetic sensibility. Empirical studies consistently show that professional human translations in literary fields significantly outperform translations produced by Master of Business Administration (LLM)

students. Human translations are consistently rated as less literal and more diverse than their AI-generated counterparts. Evaluation metrics typically used for non-literary texts, such as multidimensional quality metrics (MQMs), have been found to be inadequate for assessing the quality of literary translation. In contrast, methods based on human judgment, such as best-worst scaling (BWS) and scalar quality metrics (SQMs), consistently show a strong preference for human translations, with preference rates ranging from 82% to 94%. Even the newest and most advanced LLMs, such as GPT-4o, while showing improvements over older models, still rank second to human translators in overall quality assessments. Human translators are able to "convey that world [of language] in a meaningful way," going beyond the surface of a text to convey its deeper meaning and complex cultural context, a capability that is currently beyond the reach of AI. The superiority of human translation in literature stems from their ability to perform interpretive tasks that go beyond mere linguistic decoding. This includes harnessing embodied cultural knowledge, empathy, and creative intuition. AI, lacking these inherently human qualities, is limited to statistical approximations of meaning. The qualitative difference in the nature of "understanding"—where human understanding is holistic and empirical, and AI understanding is statistical and pattern-based—directly explains the observed difference in translation quality for delicate texts. The persistent gap between human and AI performance in literary translation, despite rapid advances in AI technology, suggests that literary translation may serve as a critical benchmark or "hard problem" for the development of true artificial general intelligence (AGI). This highlights the current limitations of AI in tasks that require real creativity, cultural intelligence, and subjective interpretation, and pushes the boundaries of what machines can realistically "understand." The fact that "even the most recent LLMs tend to produce more literal and varied translations than human translations" suggests that the gap is not simply a matter of data volume or computational power. It shows that literary translation is a field in which the unique features of human cognition and creativity are clearly demonstrated, and serves as a strong argument against claims of the imminent complete replacement of human intellectual work by artificial intelligence in creative fields. (Young, 1991: 2)

Table 2

Comparative analysis: Human versus artificial intelligence literary translation capabilities and capabilities

Aspect/feature	Artificial intelligence capability	Human potential and ability
Acceleration and speed	High (processing huge volumes in seconds)	Low (time consuming for large volumes)
expense	Low (free or affordable subscription plans)	High (professional rates)

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Mass and volume	Too much (trillions of words per day)	Very low (very limited considering the amount of capacity used by each person)
Sustainability	Very much (retains terminology in large texts)	Medium (can vary without exact instructions)
Cultural elegance and sophistication	Limited (has problems with implicit elements, often fails)	Excellent (deep understanding, context retention)
Idiomatic expressions	Weak (tendency to be literal, misinterpretations)	Excellent (deep understanding, text retention)
Emotional tone	Limited (difficult to grasp, can be smooth or irregular)	Excellent (translates and conveys accurately and completely)
Loyalty style	Limited (simplifies language, lacks real literary flow)	Excellent (author's voice and artistic style preserved)
Poetic tools and devices	Weak (incapable of maintaining rhythm, coordination, and harmony)	Excellent (replicates or finds creative equivalents)
Interpretive depth	Limited (statistical, pattern-based, lacking "what lies between the words")	Excellent (taken from lived experience, intuition)
Ingenuity and creativity	Limited (production of textual content, imitation, not actual creation)	Excellent (artistic, innovative, disruptive)
Author's voice and intervention	Limited (produces literal translations with less variety)	Excellent (delicate balance conveys a distinctive sound)
Adapting to new contexts	Limited (has problems with domain changes, "worthless input, worthless output")	Excellent (human intuition adapts to new situations)
Overall quality (literary)	Lower and inferior (less literal, less varied, inadequate for literary evaluation)	Superior (consistently outperforms AI, preferred by experts)

A Hybrid Future: Synergy between AI and Human Expertise

The future of translation, especially for complex fields such as literature, increasingly points towards a collaborative approach that leverages the distinct strengths of AI and human expertise. Exploring Machine-Assisted Human Translation (MAHT) and Post-Translation Editing: A promising path forward involves hybrid models that combine the speed and efficiency of AI with the cultural knowledge and nuanced understanding of human translators. Often called Machine-

Assisted Human Translation (MAHT), this approach is gaining considerable popularity. In this model, AI systems typically produce initial drafts that are then revised and "fine-tuned" by human translators for cultural and textual accuracy through a process called post-translation editing. This allows human experts to focus on correcting mechanical errors, addressing stylistic difficulties, and instilling the necessary cultural sensitivity into the text. For example, a text may be processed by an AI tool such as DeepL in a few minutes (10–20 minutes) and then subjected to several weeks (3–5 weeks) of meticulous line-by-line editing by a human to ensure readability and fidelity to the original text. (Frey, 2025:45)

AI as a productivity tool allows humans to focus on finer points: In this collaborative framework, AI acts as a "plug-in tool" similar to spell-checking software. It can efficiently handle high-volume, repetitive, or basic translation tasks. This strategic division of labor frees up human translators to devote their efforts to more creative, complex, and nuanced aspects of the work, where their unique interpretation skills are essential. AI can effectively help produce early drafts, conduct terminology research, and maintain consistency in technical or jargon-laden texts, thereby streamlining the overall workflow.

AI's Potential to Expand Access to Low-Income Languages

AI is poised to play a significant role in overcoming language barriers for low-income languages. Large-scale language models, in particular, have the potential to significantly increase the volume of translated literary works, especially for low-income languages that might otherwise remain untranslated due to economic or logistical constraints. This expansion could enable smaller publishers and independent authors to make their books available in a greater number of languages, thereby opening up new markets and increasing global access, including for minority language users. Recognizing the inherent limitations of AI in capturing nuance, as detailed in this report, coupled with the undeniable benefits of its efficiency, makes it imperative to adopt a hybrid model. This model aims to mitigate the weaknesses of AI by integrating human supervision while exploiting its strengths.

AI offers unparalleled speed, affordability, and accessibility, but fundamentally struggles to understand cultural context. Human translators, by contrast, excel at capturing cultural nuances. The complementary nature of their strengths and weaknesses makes their combination not only useful, but essential. AI provides raw speed and initial processing, while humans provide critical qualitative improvements where AI falls short, resulting in more effective "human-machine translation." This hybrid model redefines the role of the human translator, shifting it from a primary producer of text to a more specialized "post-translation editor" or "linguistic architect." While this transformation offers new efficiencies and opportunities in the marketplace, it raises important questions about the evolving skill sets required of translators and the potential for de-skilling if the "human touch" in the process is marginalized or devalued. The role of translators is increasingly becoming that of "reviser/corrector", focusing on "reviewing translated drafts". (Sheikh, 1400, 23) While this can enhance their capabilities, it also changes the fundamental nature

of their work. The consequence of this is a professional transformation in which translators must adapt to working with AI, but also ensure that their unique value – their ability to convey elegance and creativity – is not lost by an overemphasis on mere efficiency or by being reduced to "reviewing computer assignments". (Falah, 2017:745)

The Ethical, Legal, and Cultural Implications of AI in Literary Translation

The integration of AI into literary translation raises profound ethical, legal, and cultural questions that require careful consideration. A major ethical dilemma centers around the legal implications of AI training data, particularly the widespread use of copyrighted material without express permission or fair compensation. For example, reports have shown that Meta has used millions of copyrighted books to train its AI programs, causing considerable controversy. This practice raises fundamental questions about copyright: In the context of works produced by AI, who owns the copyright – the AI, the human who created it, or both? This development calls for a reassessment of whether the traditional concept of copyright is still relevant in the age of AI. Organizations such as the Authors Guild advocate for explicit written consent from authors before publishers use AI-generated translations, audiobook narration, or cover designs, and require clear disclosure of any AI-generated text in manuscripts (ˇSvab, 2023:111).

Risk of Perpetuating Bias and Reducing Linguistic Diversity: AI models are prone to producing "inaccurate, racist, sexist, and biased content" because their output is dependent on biases in their training data. This not only replicates existing social biases, but can also reinforce them and unintentionally marginalize linguistic diversity. There is legitimate concern that increased reliance on AI could "drastically reduce" the "overall level of human professional skill and competence" in translation, potentially leading to "a significant reduction in the number of active professionals."

Importance of transparency and accountability: Responsible innovation in AI requires public consultation and informed debate about its development and deployment. It is crucial that books that involve AI in the translation process are clearly labeled, ensuring that readers are aware of the role of AI in the creation of a literary work. The International Federation of Translators (FIT) takes a strong stance against the unsupervised and unviewed replacement of human translators and interpreters by machines, citing significant risks, liability issues and potentially severe consequences. One of the main concerns is liability: while a human translator can be held liable for mistakes, a technical device cannot, which poses significant risks to the fairness and integrity of proceedings, particularly in sensitive areas such as legal cases. The economic incentive to use AI, driven by its cost savings and speed, directly conflicts with established ethical norms around intellectual property, fair compensation and the intrinsic value of human creative work. This fundamental contradiction is at the root of the "existential threat" perceived by writers and translators. AI is significantly "cheaper than human labor" and offers significant "cost savings." This economic advantage forces publishers to "turn to AI due to competitive pressures." However, AI is often "trained on pre-existing works without consent," leading to "anger" from creators and a perception of "an existential threat to creators." Publishers' economic incentive to embrace AI

directly leads to professional and financial insecurity for human translators, creating a contentious environment in which the value of human artistry is pitted against the efficiency of technology.

The debate over AI in literary translation is a small example of a larger societal struggle to define the boundaries of automation in the realms of creativity and interpretation. The outcomes of this struggle—specifically, whether human creativity is adequately protected, fairly compensated, and truly valued, or whether it is commodified and marginalized by technology—will have profound implications for the future of cultural production and intellectual property rights globally. These issues go beyond mere translation and encompass broader concepts of "authorship," "authenticity," and "the broader cultural implications of machines entering the sacred space of storytelling." (Hashemi, 2011: 181) The "despair among translators" and the "horrific" use of copyrighted books to train AI highlight a fundamental tension. How societies decide to regulate and integrate AI into this highly symbolic realm of literature will set precedents for other creative industries and ultimately shape the future relationship between humans, technology, and art.

Conclusion

Artificial intelligence has undoubtedly revolutionized general language translation, offering speed, affordability, and the capacity to process vast volumes of text. However, a comprehensive analysis shows that AI consistently falls short in capturing the deep cultural, emotional, and stylistic subtleties that are essential to literary works. The main limitation stems from the statistical and pattern-based learning approach in AI, which struggles with the implicit, cultural, and often non-literal nature of literary meaning that lies "between the words." Human translators remain indispensable because of their unique abilities in cultural mastery, depth of interpretation, creative capacity, and intuition. Empirical evidence consistently shows that human translators outperform AI in the quality of literary translation, producing less literal and more diverse results. The "art" of human translation involves the transmission of "the whole world" of meaning, not just the linguistic transmission of words, a feat that is currently beyond the comprehension of artificial intelligence. The tension between AI's potential to reduce scale and cost and its inherent limitations in conveying nuance necessitates an ethical and proactive framework for its integration into literary translation. Without such a framework, economic incentives are likely to lead to the degradation of literary quality and the erosion of human creative professions. A conscious, ethical, and human-centered approach is therefore not merely an option but a necessity to preserve the integrity of literary translation. The ongoing evolution of AI in literary translation is a turning point for global cultural exchange. The choices currently being made about the role of AI will determine whether AI becomes a tool for enriching and diversifying literary access while preserving artistic integrity, or whether it leads to a more homogenous and less important global literary landscape. This will profoundly affect cross-cultural understanding and the definition of literary art in the digital age. Based on this analysis, the following recommendations are made for the responsible development and integration of AI in literary translation. Embrace hybrid models: The most

appropriate way forward involves a collaborative approach in which AI, after editing, serves as the primary writing tool for human editors. This strategy leverages AI's efficiency for essential tasks while retaining human expertise for subtle corrections and creative interpretation. Prioritize ethical frameworks and transparency: Strict adherence to ethical norms is crucial.

This includes obtaining explicit consent to train AI on copyrighted works and implementing clear labeling for any AI-assisted translation. In addition, a robust system for accountability for AI errors should be established, especially in sensitive areas. Invest in human translators: Rather than focusing on replacing human experts, efforts should focus on upgrading the skills of human translators to work effectively with AI tools. Their evolving role as language architects and cultural mediators should be recognized and valued, and their work should be guaranteed fair compensation and protection against devaluation. Support research on the limits of AI: Ongoing academic research is essential to deepen understanding of the fundamental challenges of AI in literary translation. This research should aim to develop more sophisticated models that can truly engage with cultural and stylistic complexities, potentially moving from purely statistical to more cognitive approaches. Promoting public education: Educating publishers, authors, and the general public about the distinct capabilities and inherent limitations of AI in literary translation is essential. This will create realistic expectations about the role of AI and foster a greater appreciation for the unique art of human translators.

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