MACHINE VS HUMAN TRANSLATION

Dilnoza Mahamatqulova
O'zDJTU magistri

Annotation: The article explores the advantages of combining machine translation (MT) and human translation (HT) to overcome their individual limitations. It highlights the effectiveness of post-editing, where human translators refine MT given drafts to enhance accuracy and cultural relevance. The article also discusses collaborative models that allow translators to utilize MT as a starting point, thereby increasing productivity while maintaining contextual faithfulness. Through practical examples involving idiomatic expressions, proverbs, and humor, the article illustrates how human translators capture nuances often missed by machines. Ultimately, it presents a balanced view, acknowledging that while MT offers efficiency and cost-effectiveness, HT remains essential for nuanced and culturally sensitive translations. The article advocates for a synergistic approach, maximizing the strengths of both methods in the translation process.

Key words: Machine translation (MT), Human translation (HT), Natural language processing (NLP), accuracy, local nuances, cultural context, contextual understanding.

Abstract

This article provides an overview of the changing dimensions of translation on the basis of a comparative analysis between machine translation and human translation. Artificial intelligence acting in concert with natural language processing has given increased sophistication to machine translation tools, which are able to provide faster and volume-oriented translation services. However, human translation represents a full understanding that encompasses cultural contexts and emotional intelligentsia. The study explores strengths and weaknesses of the two approaches, addressing factors that relate to accuracy, contextuality, and user experience. We try to give an insight into how these two types of translations are able to function together and support one another. Results stress that this will require the input of human expertise in conjunction with technological innovation in order to get better translation quality and efficiency.

Challenges of both types of translation.

Starting with the problems of machine translation, there are a couple of them.

While machine translation is considered fast and convenient type of translation, it still faces notable limitations, particularly when tasked with handling nuanced and complex content.

Firstly, one of the significant limitations of MT is its struggle with context. While NMT systems have improved in handling simple sentences, they often fail to give the meaning deeper, contextual meanings, especially in texts with idiomatic expressions or abstract language. MT systems lack human intuition and the ability to read between the lines, resulting in translations that may misinterpret or even distort the intended message. For example, idioms and metaphors, which depend on cultural

or contextual knowledge, are frequently mistranslated, leading to awkward or incorrect outputs.

Secondly, MT systems also face challenges when dealing with cultural references and local nuances. Language is deeply associated with culture, and subtle connotations often influence how a message is understood within a particular cultural context. Without an innate understanding of cultural backgrounds, MT may produce translations that fail to capture these subtleties, leading to misunderstandings or culturally inappropriate interpretations. Despite human translators have strength in terms of cultural awareness and contextual sensitivity, they also have inherent limitations, especially concerning time, cost, and personal influence on the translation.

Human translation is often a slower and more costly process compared to MT. Translators need time to interpret the source material, understand context, and select appropriate phrasing, which requires a large workforce , especially for lengthy or complex texts. Additionally, the cost of hiring professional translators, particularly for specialized fields, can be substantial, posing a challenge for businesses or individuals with budgetary limitations.

Another issue is that unlike MT, human translation involves personal judgement, which can sometimes introduce biases or stylistic variations. Translators may unconsciously interpret texts through their own perspectives, leading to differences in tone or emphasis. While such subjectivity can enrich the translation in creative fields, it may not be ideal in areas that require strict faithfulness to the original text. This variability can create inconsistencies, particularly when multiple translators work on a single project, resulting in variations that can affect the clarity or intent of the translation.

Possible solutions for abovementioned problems.

To address the limitations of machine and human translation, a combined approach that leverages the strengths of both can be highly effective. Integrating human expertise with machine efficiency offers solutions to improve translation accuracy, context, and cultural relevance.

One solution is to have human translators post-edit machine-generated translations. In this approach, an MT system produces a first draft, which is then reviewed and refined by a human translator. Post-editing helps to correct any contextual misunderstandings, cultural insensitivities, or technical inaccuracies in the MT output. By combining the speed of MT with the insight of human translators, post-editing enhances both the quality and efficiency of the translation process.

Secondly, hybrid or collaborative models utilize MT as an aid to human translators, allowing them to work more productively and accurately. Instead of starting from scratch, human translators can build on MT-generated content, focusing on refining and tailoring the translation to the context. This method reduces the time required for tarjnslation while allowing the translator to make adjustments that align with cultural nuances, specialized terminology, and the intended tone. Such collaboration also allows translators to allocate more effort to complex sections, where their expertise adds the most value.

Analysis with examples

We conduct a couple of experiments with machine and human translators in different contexts.

First, common phrases and idioms are given to translate.

Machine translation often struggles with idiomatic expressions, as these require cultural and contextual understanding to translate accurately.

We input the English idiom "It's raining cats and dogs" into a machine translation system to translate it into Russian, it provides a literal translation like «Идет дождь из кошек и собак», which makes little sense in Russian. The literal translation loses the idiomatic meaning, confusing Russian speakers who would not associate animals with heavy rain.

A human translator, on the other hand, understands the idiom's meaning and cultural context, would instead translate it as «Льет как из ведра», which is a Russian idiom conveying heavy rain. This translation not only preserves the intended meaning but also resonates culturally, demonstrating how human translators capture context and nuance that MT often misses.

In our second analysis, we pay attention to proverbs. MT translate proverb "Don't count your chickens before they hatch" like «Не считайте своих цыплят, прежде чем они вылупятся» while HT translate it as «Цыплят по осени считают». It is obvious that HT selects a well-known Russian equivalent, making it more meaningful and relatable for Russian speakers.

Then we translate humor with these translators.

The humor "It's not my cup of tea" is translated by machine translation as «Это не моя чашка чая». But human translator said it like «Это не в моем вкусе», because, HT recognizes the expression as a way of saying "I don't like it," avoiding a literal and confusing translation.

Conclusion.

In summary, both machine translation (MT) and human translation (HT) have distinct strengths and limitations. MT provides speed, accessibility, and cost-efficiency, making it a valuable tool for straightforward translations and large-scale projects. However, it often struggles with context, cultural sensitivity, and idiomatic expressions, leading to inaccuracies, especially in nuanced or specialized texts. On the other hand, human translation excels in capturing context, emotional depth, and cultural relevance but can be time-consuming and costly.

Looking toward the future, advancements in translation technology, particularly in neural machine translation, continue to improve MT's accuracy and adaptability. Innovations in contextual AI and continual learning offer hope for more nuanced and reliable translations, while hybrid models—where human translators work with MT output—show promise in combining machine efficiency with human insight. These collaborative approaches could ultimately redefine translation, allowing for faster, more culturally aware translations across diverse contexts.

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