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LINGUISTIC PROBLEMS AND OPPORTUNITIES OF USING ARTIFICIAL INTELLIGENCE IN TEXTS.

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Annotation. This article analyzes the linguistic problems and opportunities of using artificial intelligence technologies in translation studies. In particular, semantic ambiguity, phraseology, pragmatic and linguocultural factors are discussed. The effectiveness and prospects of artificial intelligence in the translation process are also highlighted.

Key words. artificial intelligence, translation studies, machine translation, linguistics, phraseology, pragmatics

Introduction

In the 21st century, the development of digital technologies, in particular, systems based on artificial intelligence (AI), has had a significant impact on the theoretical and practical foundations of translation studies. In particular, the emergence of neural machine translation (NMT) systems has initiated a new stage in the automation of the translation process. Researchers have noted that modern machine translation systems have significantly higher quality indicators compared to previous rule-based and statistical models (Bahdanau et al., 2015).

However, along with the rapid development of AI technologies, important linguistic problems are also emerging. The purpose of this article is to analyze the linguistic problems and opportunities of using artificial intelligence in translation studies on a scientific basis.

Theoretical foundations of AI-based translation systems

AI-based translation systems are based on natural language processing (NLP) and deep learning technologies. Neural machine translation systems use an encoder-decoder architecture to translate text from one language system to another (Sutskever et al., 2014).

Neural Machine Translation systems allow for global context consideration, which significantly improves translation quality. However, due to the complex nature of language, these systems cannot perfectly cover all linguistic phenomena.

Linguistic Problems

Semantic Ambiguity and Polysemy

Polysemy and homonymy in language systems are among the most pressing problems for machine translation. As Yorick Wilks noted, the meaning of a word is often determined by context, and automating this process is difficult (Wilks, 1972). For example, the English word “bank” is translated differently in different contexts. SI systems sometimes choose the wrong option because they cannot identify enough context.

Phraseologisms and idiomatic units

Phraseological units have a linguocultural meaning load, and their translation requires a high level of interpretation. Mona Baker emphasizes the importance of the problem of equivalence in the translation of phraseologisms (Baker, 1992). For example, if the phrase “kick the bucket” is translated literally, a semantic error occurs. SI systems often resort to literal translation for these types of units.

Pragmatic and discursive compatibility

Pragmatic meaning is important in the translation process - that is, its relevance to the purpose, context, and audience of the speech. Danica Seleskovitch notes that contextual understanding plays a crucial role in the process of transmitting meaning in translation (Seleskovitch, 1978).

SI systems, on the other hand, cannot fully understand discursive elements such as: irony, mockery, hidden meaning

Linguo-cultural differences

Translation is not only a language, but also a process of intercultural communication. Eugene Nida emphasizes the importance of the role of the receiving culture in translation in his theory of “dynamic equivalence” (Nida, 1964).

SI systems, on the other hand, are often based on universal statistical models and do not sufficiently take into account national-cultural characteristics. This is especially evident in the translation of paremias, proverbs and national phraseologisms.

Syntactic and grammatical complexities

Complex syntactic constructions, such as:

inversion, ellipsis, multiple-level compound sentences

This poses a challenge for machine translation systems. Noam Chomsky’s theory of generative grammar suggests that language has a deep and a surface structure (Chomsky, 1965). Machine translation systems, however, cannot always correctly identify these structural differences.

The potential of artificial intelligence in translation studies

Translation efficiency and speed

Machine translation systems can translate large volumes of text in a short time. Platforms such as Google Translate and DeepL are providing high-speed real-time translation services.

Terminological consistency

Machine translation systems ensure accuracy in scientific and technical texts by using the same terminology consistently. This is especially important in specialized fields (e.g., oil and gas engineering or medicine).

Working on the basis of corpus linguistics

Machine translation systems are based on large-scale parallel corpora. The Corpus Linguistics approach statistically analyzes real-world language usage (McEnery & Hardie, 2012).

Post-editing and human-machine collaboration



The concept of “post-editing” is widely used in modern translation studies. In this process, a human translator edits a machine translation. Research shows that this approach increases efficiency (O’Brien, 2011).

New opportunities for linguistic research
SI systems create broad opportunities for:
analyzing parallel texts,
identifying translation strategies,
conducting linguo-cultural research.

Discussion

The above analysis shows that artificial intelligence plays a dual role in translation studies: on the one hand, it accelerates and optimizes the translation process, and on the other hand, it cannot fully resolve linguistic complexities.

The limitations of AI systems are especially evident in the areas of paremiology and linguoculturology that you are researching. The human factor remains crucial in the translation of proverbs, phraseologisms, and cultural units.

Conclusion

Artificial intelligence opens up new opportunities in translation studies, but the linguistic problems associated with it are still relevant. Semantic ambiguity, phraseological units, pragmatic compatibility, and cultural differences remain complex issues for AI systems.

At the same time, AI:
increases translation efficiency;
ensures terminological accuracy;
supports the work of the translator.

In the future, human-artificial intelligence collaboration is expected to become a major focus of translation studies.



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