

COMPARING HUMAN TRANSLATION AND MACHINE TRANSLATION: STRENGTHS AND LIMITATIONS

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ANNOTATION. This article examines the similarities and differences between human translation and machine translation, focusing on their strengths, weaknesses, and practical applications. It analyzes contextual understanding, accuracy, cultural adaptation, and technological capabilities. The study emphasizes the importance of combining human expertise with artificial intelligence to achieve high-quality translation results.

Key words: translation, machine translation, human factor, neural networks, context, accuracy, artificial intelligence, post-editing, cultural equivalence.

СРАВНЕНИЕ ЧЕЛОВЕЧЕСКОГО И МАШИННОГО ПЕРЕВОДА: ПРЕИМУЩЕСТВА И ОГРАНИЧЕНИЯ

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АННОТАЦИЯ.Статья рассматривает сходства и различия между человеческим и машинным переводом, анализирует их преимущества, недостатки и области применения. Раскрываются вопросы точности, понимания контекста, культурной адаптации и технологических возможностей. Подчеркивается важность сочетания профессиональных навыков переводчика и технологий искусственного интеллекта.

Ключевые слова: перевод, машинный перевод, человеческий фактор, нейронные сети, контекст, точность, искусственный интеллект, постредактирование, культурная эквивалентность.

INSON TARJIMASI VA MASHINA TARJIMASI: AFZALLIKLARI VA CHEKLOVLARI

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ANNOTATSIYA.Ushbu maqolada inson tarjimasi va mashina tarjimasi o'rtasidagi o'xshashliklar va farqlar, ularning kuchli hamda zaif jihatlari tahlil qilinadi. Kontekstni anglash, aniqlik, madaniy moslashuv va zamonaviy texnologiyalarning roliga alohida e'tibor qaratilgan. Sifatli tarjima yaratishda inson

omili va sun'iy intellekt imkoniyatlarini uyg'unlashtirish muhimligi ta'kidlanadi.

Tayanch so'zlar: tarjima, mashina tarjimasi, inson omili, neyron tarmoqlar, kontekst, aniqlik, sun'iy intellekt, post-tahrirlash, madaniy ekvivalentlik

In the rapidly developing digital era of the 21st century, translation has become not only a linguistic practice but also a technological phenomenon shaping global communication. As the world becomes increasingly interconnected, the demand for fast, accurate and culturally appropriate translation continues to grow. Against this background, human translation and machine translation have entered a new stage of comparison, collaboration and coexistence. Although both pursue the same goal—conveying meaning from one language to another—they function through fundamentally different mechanisms. Understanding their strengths and limitations is crucial for researchers, translators, and language professionals seeking high-quality results.

Human translation has long been the dominant force in the translation industry. For centuries, translators have played an essential role in diplomacy, literature, science, trade, and intercultural communication. A human translator does not merely convert words; rather, they interpret feelings, tone, intention, and cultural context. A sentence uttered with sarcasm, humor, or politeness cannot be fully understood without cultural intuition, which machines still struggle to achieve. Moreover, human translators rely on years of academic preparation and practical experience. They develop sensitivity to linguistic nuances that cannot be easily replicated by algorithms. This makes human translation particularly significant in fields such as literature, diplomacy, legal translation and artistic writing, where precision alone is not enough—emotional depth and stylistic accuracy are equally important.

Machine translation, on the other hand, has undergone a remarkable transformation, especially after the emergence of neural networks in the 2010s. The transition from rule-based systems (widely used in the 1980s and 1990s) to statistical models (2000s) and later to neural machine translation (NMT) marked a technological revolution. Today's AI-powered models such as Google Translate,

DeepL, and ChatGPT rely on massive datasets, complex neural architectures, and probabilistic reasoning to generate translations that often resemble natural human language. In many cases—especially when translating predictable, structured texts such as instructions, news articles, or technical descriptions—machine translation provides surprisingly accurate results. Its speed and availability make it indispensable for everyday communication, education, and preliminary text processing. For example, by 2025 machine translation tools have become an essential companion for students, travelers, and researchers who need immediate access to information in various languages.

However, speed does not always equal quality. Machines still struggle with idiomatic expressions, metaphors, culturally loaded phrases, polysemy, and stylistic subtleties. A neural network can process billions of sentences, but it cannot “feel” the emotional weight of a poem, the sensitivity of a diplomatic speech, or the cultural symbolism of a folkloric expression. In many languages—including Uzbek, which has complex morphology and context-dependent meanings—machine translation often produces literal or awkward phrases that require extensive human post-editing. This shows that despite technological progress, artificial intelligence remains limited by the data it has been trained on.

One of the most important concepts in modern translation theory is post-editing—the process in which a human translator reviews and corrects machine-generated translations. In many countries, post-editing has become a standard practice since the early 2020s. It allows researchers and companies to combine the efficiency of machine translation with the precision and cultural awareness of human translators. Although post-editing reduces time and cost, it requires specialized skills: the translator must understand the logic of machine errors and know how to correct them without losing naturalness. This hybrid model demonstrates that the future of translation is not a battle between humans and machines, but rather cooperation.

Another important factor is ethical responsibility. Human translators can make informed decisions about sensitive content, political implications, and culturally

inappropriate expressions, whereas machines operate mechanically. A mistranslation in the field of medicine, international relations or law can lead to serious consequences. For example, misinterpreting a medical term in a patient's report or incorrectly translating a government statement could result in misunderstanding or conflict. Therefore, in domains where accuracy and accountability are crucial, human expertise remains irreplaceable.

Yet, it would be incorrect to underestimate the power of technology. By 2030, many experts predict that artificial intelligence will become even more advanced, capable of deeper contextual understanding. Nevertheless, machines will still rely on human insight to interpret emotional and cultural subtleties. As translation scholars frequently note, human language is not merely a system of grammar and vocabulary—it is a reflection of identity, historical memory, and collective experience. No matter how sophisticated AI becomes, it cannot completely replace the intuition, empathy and creativity that characterize human thought.

In conclusion, both human and machine translation have distinctive strengths and unavoidable limitations. Machine translation offers speed, accessibility and efficiency, while human translation provides emotional depth, cultural accuracy and stylistic sophistication. The most effective approach is not choosing one over the other but integrating the best aspects of both. As technology evolves, and as translation practices continue to adapt to global needs, collaboration between human translators and intelligent systems will shape the future of multilingual communication. Achieving high-quality translation requires the harmony of human expertise and artificial intelligence—where one compensates for the limitations of the other.

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