CHINESE TRANSLATIONS OF ENGLISH WORDS: A COMPARISON BETWEEN HUMAN AND CHATGPT TRANSLATIONS

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The recent development of large language models (LLM) has prompted researchers to utilize LLMs, such as ChatGPT, to create more efficient machine translation systems [1]. Although various experiments have been conducted to compare the translation quality of machine translation and ChatGPT [2,3], the extent to which ChatGPT resembles humans in translation is relatively underexplored. Drawing on a database containing human translations of 1427 English words [4], we asked ChatGPT to provide a Chinese translation 400 times for each of the English words. For both human and ChatGPT translations, we coded the most frequent translation of a word as the dominant translation and others as alternatives.

For dominant translations that were the same between humans and ChatGPT, they were more often in ChatGPT than in humans, suggesting that ChatGPT is more consistent than humans in translation. When we included word length, word frequency, and concreteness of English words, ChatGPT was less affected by these lexical variables than humans. For alternative translations, the proportion of alternatives did not differ between humans and ChatGPT, suggesting that both were equally diversified in their translations. However, lexical effects varied between humans and ChatGPT: the proportion of alternatives increased as a function of word frequency in humans but decreased in ChatGPT; Humans were more sensitive to concreteness: Less concrete words tend to have more translations for both, while humans produce more alternatives than ChatGPT for those abstract words.

The findings of the present study contribute to a more profound understanding of the differences between machine and human word translation, and the underlying mechanisms governing translation processes. Moreover, these insights will aid in the enhancement of human-like machine translation algorithms.

References:

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