Preventing ethical risks of machine translation

LINGUISTICS

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The rapid development of machine translation technology over the years has greatly transformed translation. Post-editing of machine translation (MTPE) has emerged as a new format in the language service industry.

Compared to traditional human translation, the "machine translation + post-editing" translation model liberates translators from heavy and inefficient labor, and effectively balances the cost and quality between human translators and machine translation. However, its emergence has also brought certain ethical challenges to translation, triggering concerns that machine translation will replace human translators, as well as ethical risks related to data privacy and translator subjectivity, among other issues. We must be aware of the ethical risks brought by emerging translation technology and take proactive countermeasures and build a harmonious and symbiotic ecology between humans and machines so as to promote the sustainable and healthy development of the language service industry.

Types of risks

Translation data is susceptible to abuse and security risks. In the modern language service industry, translators often generate a large amount of data when using machine translation engines, such as terminology and bilingual parallel corpora. These resources are automatically stored in translation memory systems and may be utilized for future translation projects to be sold or exchanged. While this data reuse is beneficial for enterprises, it may compromise the data security of clients and lead to data breaches. Additionally, when using online machine translation engines, clients' data is automatically collected for machine learning, training, or testing, usually by default. In many cases, users are unaware that their data is being collected and used and may unwittingly disclose private information.

Human translators are facing challenges to their subjectivity due to the rise of machine translation. The collaborative translation model between humans and machines is evolving from "machine-assisted human translation" to "human-assisted machine translation," which threatens the position of human translators. In recent years, some language service providers have proposed the concept of "human-machine co-translation," hoping to improve the translation effectiveness of human-machine cooperation or the machine's ability, to provide services on itself by simulating human translators through deep learning. As to the "human-machine co-translation" model, machines are the main actor though both are seen as co-subjects of translation. The boundary between human and machine is increasingly blurred, while the subjectivity of human translators is further eroded. As technology advances, machine translators may eventually surpass human performance, entirely replacing humans.

The professional values and principles of obligation in the translation industry are now facing challenges. Excellence is the lifelong pursuit of many translators. However, with the wide use of machine translation, some language service providers have become increasingly efficiency oriented. They view post-editing workloads as key performance indicators and are content with simply meeting the clients' basic needs. Consequently, professionalism and excellence are compromised. For translators, this kind of translation no longer represents a valuable and creative work, but rather a mechanical task on an assembly line. What is more, in the traditional human translation mode, translators are fully responsible for the quality of the delivered product. However, in the "human-assisted machine translation" mode, mistakes in the translation are often the results of errors in the training corpus. Therefore, in such cases, it is unclear whether machines or humans should be held responsible for the mistakes.

The diversity of human language and thinking is reduced due to the wide use of machine translation. The uniqueness of human language lies in its diversity, ambiguity, and creativity, while the excessive use of machine translation can lead human language to become more procedural, standardized, and simplified.

Frequently, when conducting post-editing work, translators are often required to use machine to translate as much as possible to increase efficiency, without paying much attention to modifying the writing style or improving fluency. This standardized output of machine translation will continue to erode natural language, making languages increasingly more mechanized and homogenized. Similarly, the practice of pre-editing the source text to improve the output quality of machine translation often sacrifices human language characteristics. If left unmonitored, this trend will inevitably threaten language diversity, leading to convergence and stereotypical thinking.

Precautions

It is important to put people first and develop machine translation we can trust. To prevent ethical risks associated with machine translation, it is necessary to start with product design and system development. Firstly, it is important to adhere to a "human-centered" approach and ensure that the system is designed to promote comprehensive development of humanity and society, as well as improving human well-being. It should not be developed for the sole purpose of replacing human translators. Going forward, human-machine interaction and ensuring translators' subjectivity will be an important direction when developing machine translation.

Secondly, machine translation must be secure, reliable, and trustworthy. It is a must to protect users' privacy and data security. The protected information refers to both users' personal information and the language and data generated during human-machine interaction. For one thing, we must increase the technical security robustness of machine translation engines through taking preventive measures against potential attacks on the system or the data.

For another, we must design a system to safeguard privacy and security by introducing a supervised feedback mechanism to ensure that user data is not misused. For instance, when a user's translation data is collected for machine learning or training purposes, the system should display a security prompt in advance to warn the user against potential ethical risks before obtaining user authorization.

It is also necessary to put responsibility first and improve professional ethics standards. Professional ethical standards have been created to regulate practitioners' behaviors from a moral and ethical perspective. They are important means of mitigating ethical risks. However, the existing professional ethical standards for translation are incomplete as they pay insufficient attention to the ethical risks of emerging translation technologies and their application.

We can refer to Hans Jonas' "ethics of responsibility" to improve the professional ethics standards for translation. He believes that the actor has a duty to anticipate the potential consequences of their actions on the environment and the future. The "responsibility" referred to here is different from "occupational duty," which may exist entirely within an action, while responsibility refers to external behaviors and demonstrates its connection to the outside world.

Regarding the ethics of translation technology, the development of industry standards should not be limited to traditional responsibilities such as loyalty, honesty, and confidentiality. They should have a broader and more forward-looking perspective, highlighting the external social responsibilities that enterprises and translators should bear. Specifically, for the application of machine translation, this responsibility means ensuring that the use of machine translation does not affect the sustainable development of the industry in the future. Neither does it affect the social life of a larger group or the ecology of languages, among other things.

When there is a conflict between immediate interests and external responsibilities, we should follow the principle of "responsibilities first." If the use of machine translation may bring potential ethical risks, stakeholders should first consider whether machine translation should be used or what machine translation should do, rather than how to use it.

We should also advocate "education first" and raise awareness of ethics associated with translation technology. Currently, ethical education regarding translation technology is still insufficient. Additionally, the public's awareness of ethical risks related to translation technology is weak and needs improvement. Therefore, efforts should be made to strengthen research on translation technology ethics and to carry out ethical education, thereby enhancing the society's awareness of and voluntary compliance with translation technology ethics.

Policy guidance can be used to encourage educational and research institutions, industry organizations, and translation agencies to work together to provide ethical education and training to developers of machine translation systems, companies as well as individuals using machine translation, among other stakeholders in the loop. The focus of ethical education should be placed on cultivating awareness of translation technology ethics, and adopting an objective perspective on the development of machine translation technology. While recognizing the tremendous progress that the development of translation technology has brought to human society, it is also key to be aware of the ethical risks associated with the development of the technology.

Meanwhile, it is necessary to popularize basic concepts, ethical principles, and governance methods of translation technology ethics. The public should be encouraged to pay attention to the humanistic and rational values of machine translation, while rectifying any misconceptions caused by exaggerated commercial claims. This is how we can understand the relationship between development and governance, and achieve a balance between promoting translation technology innovation and preventing ethical risks.

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A staff from Iflytek introduces its speech recognition and translation technology. Photo: CFP