ҚАЗАҚСТАН РЕСПУБЛИКАСЫ ҒЫЛЫМ ЖӘНЕ ЖОҒАРЫ БІЛІМ МИНИСТРЛІГІ

«Л.Н. ГУМИЛЕВ АТЫНДАҒЫ ЕУРАЗИЯ ҰЛТТЫҚ УНИВЕРСИТЕТІ» КЕАҚ

Студенттер мен жас ғалымдардың
«ĠYLYM JÁNE BILIM - 2023»
XVIII Халықаралық ғылыми конференциясының
БАЯНДАМАЛАР ЖИНАҒЫ

СБОРНИК МАТЕРИАЛОВ
XVIII Международной научной конференции
студентов и молодых ученых
«ĠYLYM JÁNE BILIM - 2023»

PROCEEDINGS
of the XVIII International Scientific Conference
for students and young scholars
«ĠYLYM JÁNE BILIM - 2023»

2023
Астана

«ĠYLYM JÁNE BILIM – 2023» студенттер мен жас ғалымдардың XVIII Халықаралық ғылыми конференциясы = XVIII Международная научная конференция студентов и молодых ученых «ĠYLYM JÁNE BILIM – 2023» = The XVIII International Scientific Conference for students and young scholars «ĠYLYM JÁNE BILIM – 2023». – Астана: – 6865 б. - қазақша, орысша, ағылшынша.

Жинаққа студенттердің, магистранттардың, докторанттардың және жас ғалымдардың жаратылыстану-техникалық және гуманитарлық ғылымдардың өзекті мәселелері бойынша баяндамалары енгізілген.

The proceedings are the papers of students, undergraduates, doctoral students and young researchers on topical issues of natural and technical sciences and humanities.

В сборник вошли доклады студентов, магистрантов, докторантов и молодых ученых по актуальным вопросам естественно-технических и гуманитарных наук.

by replacing language units, but through speech words-texts that have a certain meaning [9]. Moreover, the meaning of the text does not imply a simple sum of the meanings of language units. It implies that the main task of the translator is to extract meaning from the original message and reproduce it in the translated text.

According to this theory, the translation process is divided into three stages: *comprehension, deverbalization* and *re-expression*. At the same time, among these stages, the deverbalization process is of great importance. Initially, the interpretive theory was developed on the basis of empirical experience and observation of the translation process, which allows you to study the cognitive process of translation in more detail than written translation. Spoken words and sounds quickly disappear, but the meaning remains. The conclusions of translators in other languages make it clear that meaning is a consequence of understanding, which consists of two elements: the contextual meanings of the language and cognitive applications. Thus, the development of this theory came from the study of interpretation, and that close attention was paid to understanding. Therefore, interpretive theory is not just an abstract concept. Its roots lie in practice, and practice enriches theory, which in turn helps many professional translators.

Consequently, through the theories outlined above, it is known to what extent modern translation studies have begun to take a new approach to many translation practices and theories. It would not be superfluous to say that these are theories that serve as a guide for translators not only to achieve their goal in the translation process, but also to overcome various linguistic and lexico-semantic difficulties and convey the "meaning" of the source text. All theories have a certain value for the general science of translation, and especially for translation studies. Because they are not only based on direct measurement of the components of the translation process, but on individual, sometimes very successful observation of the object. That is why none of the modern theory and models of translation can occupy a dominant position. However, all these theories contribute to it, taking into account the soul side of the object of translation science.

Literature

1. https://medium.com/лекции/н-к-гарбовский-объект-и-предмет-современной-теории-перевода-опереводная-перевода-b49ee3c8aea8
2. https://vuzlit.com/883547/obschaya_harakteristika_sovremennoy_teorii_perevoda
3. Nelyubin LL, Khukhuni GT. Nauka o perevode (History and theory from ancient times to our days). — M.: Flint: MPSI, 2006. - 416 p.
4. Retsker Ya. I. Translation theory and translation practice. - M.: R. Valent, 2009. — 240 p.
5. Minyar Beloruchev R.K. Theory and methods of translation. - M.: Moscow Lyceum, 1996. - 208 p.
6. Komissarov V.N. Slovo o perevode (Essay on Linguistic Teaching and Translation). - M.: Mezhdunaar. relations, 1973. - 215 p.
7. Sdobnikov V.V., Petrova O.V. Theory in translation. Textbook for students of linguistic universities and faculties of foreign languages / V.V. Sdobnikov, O.V. Petrova. - M.: AST, Vostok-Zapad, 2007. - 448 p.
8. Schweitzer AD. Translation and linguistics. - M.: Voenizdat, 1973. - 280 p.
9. ru.wikipedia.org/wiki/Интерпретативная_теория_перевода

LINGUISTIC PROBLEMS OF MACHINE TRANSLATION AND NEURAL MACHINE TRANSLATION

Bektleuova Aruzhan
aruzhan.bs@yandex.kz
The 4-th year student of Eurasian National University
named L.N.Gumilyov, Astana, Kazakhstan

Research supervisor – Kyzyrova A.M.

Because the conflict between man and machine is the focus of this study, we draw on earlier scientific research to distinguish between language analysis and synthesis and translation. It is first required to define the science and the fields that research it in order to completely comprehend machine or automatic translation. Studies on automatic translation are primarily found in the fields of applied and computational linguistics because it is a modern linguistics topic that is carried out by a computer. One can systematically summarise the genesis, history of development, and accomplishments of machine translation by taking into account the research format and characteristics of these sciences.

Applied linguistics is a branch of linguistics that deals with the development of practical methods for using language. While translation studies or translation theory is one of the main areas of applied linguistics dealing with the study of language, computational linguistics, corpus linguistics, and machine translation are areas of applied linguistics that are related to the applied sciences. For example, in the modern period of information technology, applied linguistics is actively conducting research on automation [1, p. 140-142]. Computational linguistics is a branch of applied linguistics that deals with the processing of computer programs that model language data and language functions, and a set of necessary technologies [2, p. 7].

To date, the use of a mathematical model, as well as its software or hardware implementation, built on the principle of organization and functioning of biological neural networks (networks of nerve cells of a living organism) underlies a new neural translation technology, which has recently been used by Google and Google Corporations. Microsoft, called Google Neural Machine Translation (GNMT). The Google neural machine translation system based on the "millions of examples" learning system was introduced in 2016. Note that the starting point of machine translation is considered to be 1954, when the Georgetown experiment was carried out, which consisted in translating 60 sentences on special chemical topics from Russian into English, which was based on 60 sentences with 250 specialized terms and six grammatical rules. Then the first generation of machine translation (the first half of the 1960s) was born, based on the word-for-word translation technique, the second generation (the second half of the 1960s, early 1970s) was based on the syntactic structures and grammatical rules of the input language , in the 1990s. systems of a semantic type appear. Rule-based systems are divided into two subtypes: transfer (for example, the PROMT system) and interlinguistic, with the general idea of connecting the input and output sentence. At the end of the XX century. the statistical approach turned out to be predominant - machine learning on the example of hundreds of thousands of parallel texts in different languages of the same content ("Yandex. Translation") with further independent decision making.

Yandex launched a neural network translation program in 2017, the main difference of which was declared hybridity. The Yandex translator program translates the sentence simultaneously by two methods - statistical and neural network, and then, using the CatBoost algorithm, finds the most suitable translation option. It is believed that neural translation does not cope well with short phrases; when translating intricate phrases, neural networks can "fantasize" too much, while a simple statistical translation will find both words without any problems.

Thus, despite significant progress in the field of machine translation over the past few years, a complete solution to the problem of machine translation has not been implemented; for example, researchers are trying to implement a program of oral simultaneous machine translation or to teach neural networks to replenish their vocabulary on their own. [3, p. 118]

Neural machine translation (NMT) is a form of machine translation that uses neural networks to translate text from one language to another. NMT is a relatively new approach to machine translation that has shown promising results in terms of translation quality and accuracy.

The basic idea behind NMT is to use a neural network to learn how to translate text from one language to another. The neural network is trained on a large corpus of parallel text, which consists of pairs of sentences in the source language and their translations in the target language. The neural

network learns to map the input sentences in the source language to their corresponding translations in the target language.

One of the advantages of NMT over earlier machine translation approaches is that it is able to take into account the context in which words and phrases are used, which can improve the accuracy of the translations produced. NMT also tends to produce more fluent and natural-sounding translations than earlier machine translation approaches.

However, NMT still faces a number of challenges. One of the main challenges is the need for large amounts of training data in order to achieve high translation quality. In addition, NMT systems may struggle with rare or technical vocabulary, as well as with idiomatic expressions and other forms of non-literal language use.

Despite these challenges, NMT is a rapidly developing field, and many researchers and companies are working on improving the accuracy and efficiency of NMT systems. With continued advances in machine learning and natural language processing, it is likely that NMT will continue to play an increasingly important role in the field of machine translation.

Statistical modeling was once considered the most common machine translation. This has changed with the advent of neural machine translation. Knowing the principles of statistical machine translation, we will consider the requirements for the new system, identifying the main linguistic difficulties of automatic translation in front of a neural model. Since artificial intelligence and the neural network component in the mechanism of neuromachine translation are new, based on the work of scientists who built the NMT system, and on the basis of domestic experience, it can be concluded whether the capabilities of the machine have increased during the translation process or not.

The two main objectives of translation are language acquisition and adequacy, i.e. the translation can be read as clearly as any other text in the same language and still retain its original meaning. Depending on the genre style and the use of the text, the translator prefers one of these two somewhat contradictory goals. When translating fiction or poetry, the language and emotion of the work is more important than accuracy, and when translating a manual or official document, more attention should be paid to the meaning of the original, even if the phrases seem strange. For example, the phrase used in a newspaper article, "about the same population as Nebraska", if translated into Chinese, it is unlikely that Chinese citizens would know how many people live in Nebraska. Or "the American newspaper The New York Times" translated from a foreign language looks like a tautology in English. The American reader can, of course, learn about one of the largest cities in his country and begin to look for hidden meaning in the emphasis on such a people. Conversely, the phrase "Der Spiegel reported" can confuse Americans because they don't know that Spiegel has a German news weekly. The reader should not think about determining the exact meaning of a text by comparing it with the original. An ideal translation, in any case, a successful translation should not be felt as a translation [5, p.4-5].

Machine translation is the process of automatically translating text from one language into another using computer programs and algorithms. Even though machine translation is becoming more popular and getting better every year, it has several issues that make it difficult to use in some cases:

- Limitations in understanding context - machines cannot understand the context in which words are used, and this factor can lead to inaccuracies in translation.

- Limited ability to reproduce the style and nuances of language - machines can translate word for word, but cannot always reproduce the subtleties of the language and the feeling that the author wanted to convey.

- Limited ability to translate phrases with multiple meanings - machines cannot always determine the correct context in which a word with multiple meanings is used, which can lead to inaccuracies in translation.

- Limited access to linguistic information - Machines may have limited access to linguistic information and may not have sufficient knowledge to translate text accurately.

- Difficulties with translating slang and idioms - machines cannot always translate slang and idioms accurately, as they are often used in contexts that cannot be easily understood due to their specific nature.

- Limitations in the translation of multimedia materials - machines cannot always process multimedia materials such as video and sound, which can make it difficult to translate such materials.

Despite these limitations, machine translation still has many uses, especially in the field of technical translation where specific terms and phrases are used. However, in cases where accuracy and stylistic accuracy are very important, it is better to use the services of professional translators.

A corpus is just a collection of texts. The corpus must be representative, complete, of sufficient size, economical, structured and computer-supported. Also, corpora are often used, the texts of which are marked with intralinguistic and extralinguistic information. It is very useful in research in various areas of linguistics, since these features are not only structural and linguistic in nature, but also include such data as the title and author of the text, year and place of publication, genre and style, topic. [4, p. 97-100].

Corpus linguistics is a branch of applied linguistics that generalizes the principles of automated creation and use of collections of linguistic texts (corpora). Corpus linguistics deals with the compilation of corpora of texts used in electronic media and experimental approaches to language research based on corpora written in various genres and styles. In automatic translation, corpus linguistics offers parallel corpora, and this science has made a great contribution to the collection of alternative sequences of each word for text translation [4, p. 97-100].

In the case of small languages, where the available corpora are clearly not enough, the Yandex. Translate system turns to other, larger languages with similar models.

For example, for problems with plural formation, the system turns to a related language - Spanish, in which the endings -s / -es form the plural. Encountering a plural in the Spanish corpus, the machine looks for a match in papiamento and concludes that the plural marker in this language is the ending -nan. The same algorithm works for other inflection rules. [6, p. 4]

If the computer does not even know the initial form of the word, then it finds similar words in the available corpora of other languages. Yandex technology can understand the difference between sounds and borrow some words when translating: cas = casa (Esp.) = house

There can be several matches, and each of them can have different meanings. Having met an unknown word in papiamento, the translator finds two matches in the corpora of related languages, and if they have different meanings, then the system builds both versions of the translation, and then, analyzing a large number of corpora, concludes which of the variants is more likely.

By taking into account factors such as family ties and creating complex language models, Yandex managed to make a translator for a language with only 300,000 speakers and a meager amount of parallel texts, on the basis of which ordinary statistical machine translation could not create a full-fledged translator.

Statistical machine translation (SMT) is one of the approaches to machine translation based on the use of statistical methods and probabilistic models to construct the translation.

One example of SMT is Yandex.Translate, which uses machine learning methods and statistical models to translate texts from one language to another.

The translation process in Yandex.Translate begins with tokenization of the source text, i.e. dividing it into separate words or groups of words. The system then analyzes these words and matches them with the corresponding words in the target language using statistical models.

To build a translation, the Yandex.Translate system uses a large corpus of parallel texts - texts that have parallel versions in different languages. These parallel texts are used to train the system so that it can determine which words and structures in one language correspond to which words and structures in another language.

One of the advantages of SMT is its relative simplicity and efficiency - the Yandex.Translate system can quickly translate texts into different languages using a large corpus of parallel texts.

However, SMT also has some disadvantages, including difficulty in translating unusual or unknown words, and difficulty in translating idioms and other forms of ambiguous language.

In general, SMT is still one of the most common approaches to machine translation, although new methods such as neural networks are beginning to be actively used in this area as well.

Literature

1. Қоңыратбаева Ж. Тіл білімі ғылымының теориясы мен тарихы: жоғары оқу орындарының филология факультет. арналған оқу құралы / Ж. Қоңыратбаева; Қазақстан Республикасы Білім және ғылым министрлігі; Л.Н. Гумилев атындағы Еуразия ұлттық университеті. - Астана: Л.Н. Гумилев атындағы ЕҰУ, 2013. - 308 б.
2. Жұбанов А. Қолданбалы тіл білімінің мәселелері = Вопросы прикладного языкознания / А. Жұбанов. - Алматы: Арыс, 2008. - 640 б., 8 б. сур. - (Тіл білімінің озық үлгілері).
3. Ермоленко, О. В. Математические методы в лингвистике: применение модели нейронных сетей в системе машинного перевода / О. В. Ермоленко, И. И. Горев // Переводческий дискурс: междисциплинарный подход : материалы III международной научно-практической конференции, Симферополь, 25–27 апреля 2019 года. – Симферополь: Общество с ограниченной ответственностью «Издательство Типография «Ариал», 2019. – С. 115-119. – EDN ZKAMWE.
4. Мәдиева Г.Б. және т.б. Лингвистикалық зерттеудегі компьютерлік технологиялар: оқу құралы. - Алматы: Қазақ университеті, 2014. - 119 б.
5. Koehn P. Neural Machine Translation. Cambridge: Cambridge University Press, 2020. - 408 p.
6. Пиякова, А. Д. Статистический машинный перевод малых языков на примере Яндекс.переводчика / А. Д. Пиякова // Россия в мире: проблемы и перспективы развития международного сотрудничества в гуманитарной и социальной сфере : Материалы IV Международной научно-практической конференции, Москва - Пенза, 15–16 марта 2018 года / Ответственные редакторы: Д.Н. Жаткин, Т.С. Круглова. – Москва - Пенза: Пензенский государственный технологический университет Институт гуманитарного образования и тестирования Институт международного права и экономики им. А.С. Грибоедова, 2018. – С. 132-137. – EDN YVRKLC.

UDC 80-88
KAZAKH FAIRY TALES: CHALLENGES AND IMPORTANCE OF TRANSLATING TO ENGLISH

Erlikbai Akbilek
erlikbai@mail.ru
L. N. Gumilyov Eurasian National University, Faculty of Philology, 3rd year student of Department of translation theory and practice, Astana, Kazakhstan
Scientific supervisor –Ph.D Kimanova L.B.

Kazakh fairy tales are an important part of the cultural heritage of the Kazakh people. These tales, which have been passed down through generations of oral storytelling, are deeply rooted in Kazakh culture, containing references to customs, beliefs, and traditions that are specific to the Kazakh way of life. However, translating these tales to English can present several challenges, including the issue of cultural differences, the complexity of the Kazakh language, and the preservation of the oral tradition.

One of the primary challenges in translating Kazakh fairy tales to English is the issue of cultural differences. These tales often contain references to customs and traditions that may not be familiar to English-speaking readers. For example, Kazakh fairy tales often mention specific types