

THE ROLE OF ARTIFICIAL INTELLIGENCE IN MODERN LINGUISTICS: OPPORTUNITIES AND CHALLENGES

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In recent years, artificial intelligence (AI) technologies have caused profound changes in almost all areas of science. In particular, the use of artificial intelligence tools in the field of linguistics has become the basis for a new stage in the development of science. Language models, automatic translation systems, speech recognition, and natural language processing (NLP) tools are widely used in linguistic practice. This article analyzes the capabilities, relevance, impact on linguistic research, and potential threats of these technologies.

The connection between linguistics and artificial intelligence began to take shape from the end of the 20th century. Initially, AI algorithms were used in language modeling, that is, in analyzing words and determining grammatical structure, but today systems such as ChatGPT, Google Translate, DeepL, Siri can perform complex syntactic, semantic, and pragmatic analysis [1;15]. As a result of collaboration between linguists and computer specialists, analyzers based on corpus linguistics, automatic annotation, lemmatization, and machine learning are being developed [2;67]. Artificial intelligence is emerging as an important tool in solving both theoretical and practical problems in linguistics.

Application of AI technologies in linguistic research

Artificial intelligence is actively used in such areas as language learning, translation, text analysis, automatic speech recognition (ASR). Including:

- Automated translation systems (such as Google Translate) accelerate the translation process, but still need a human translator to ensure pragmatic and cultural compatibility [3;79].

In corpus linguistics, large volumes of texts are automatically lemmatized and morphologically analyzed [4;45].

- Language learning platforms (Duolingo, Grammarly) identify user errors using artificial intelligence and offer an individual approach.

Improvements and advantages

The following achievements can be made with the help of artificial intelligence:

1. Speed and efficiency: The ability to analyze large volumes of text in a short time.
2. Basic analysis: In linguistics, deeper analysis is achieved using statistical and probabilistic models.
3. Interactive learning environments: Chatbots, virtual language assistants, and practice systems adapt learning based on user activity [5;121].

Nevertheless, the use of artificial intelligence also poses a number of threats:

1. Artificial standardization of language: AI models often rely on literary standard language, which can overlook dialects and speech variants.
2. Pragmatic uncertainty: Machines have not yet reached the level of humans in contextual understanding.
3. Translation errors: Semantic ambiguity, translations that do not correspond to the cultural context are common [6;98].
4. Ethical problems: Language automation poses a risk of human factor displacement and misinterpretation of language-related information.

Conclusion

In modern linguistics, artificial intelligence tools open up opportunities for new scientific research. At the same time, it is important to introduce these technologies carefully, without excluding the human factor. Although artificial intelligence increases efficiency in the processes of linguistic analysis, language teaching, and translation, the final control must always be carried out by a person. The balance between AI and linguistics is crucial for the advancement of science.

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