Academicus Journal of Research
ISSN (E): 3054-3371
Volume 1, Issue 4, April, 2026
Website: https://researchiapress.com

THE ROLE OF ARTIFICIAL INTELLIGENCE IN MODERN LINGUISTICS

Achilova Dilnoza Kuldashevna
Senior Lecturer, Department of Practical French Language Studies Uzbekistan State World Languages University
Independent Researcher, Bukhara State University

Abstract
This article explores the growing role of artificial intelligence (AI) in modern linguistics. It analyzes how AI technologies, particularly natural language processing (NLP), are transforming the study of language, including syntax, semantics, and pragmatics. The paper also examines the benefits and challenges of integrating AI into linguistic research and language education. Special attention is given to machine translation, speech recognition, and corpus linguistics. The findings suggest that AI not only enhances linguistic analysis but also reshapes traditional approaches to language study.

Keywords: Artificial intelligence, linguistics, natural language processing, machine translation, corpus linguistics, speech recognition, language technology.

Introduction

In recent decades, artificial intelligence has significantly influenced various scientific fields, including linguistics. The development of advanced computational tools has allowed researchers to process large amounts of linguistic data more efficiently. Linguistics, traditionally concerned with the structure and function of language, is now increasingly intertwined with technological innovation.

The integration of AI into linguistics has opened new opportunities for analyzing language patterns, understanding human communication, and improving language learning systems. This article aims to explore the impact of AI on modern linguistics and highlight its advantages and limitations.

Academicus Journal of Research
ISSN (E): 3054-3371
Volume 1, Issue 4, April, 2026
Website: https://researchiapress.com

Artificial Intelligence and Linguistics

Artificial intelligence refers to the simulation of human intelligence processes by machines, particularly computer systems. In linguistics, AI is mainly applied through natural language processing (NLP), which enables computers to understand, interpret, and generate human language.

NLP combines computational linguistics with machine learning techniques to analyze linguistic data. It includes tasks such as text classification, sentiment analysis, machine translation, and speech recognition. These technologies have revolutionized how linguists collect and analyze data.

Applications of AI in Linguistics

1. Machine Translation

One of the most visible applications of AI in linguistics is machine translation. Modern translation systems use neural networks to produce more accurate and context-aware translations. Unlike earlier rule-based systems, AI-powered tools can learn from vast datasets and continuously improve their performance.

2. Speech Recognition

Speech recognition technology allows computers to convert spoken language into written text. This has practical applications in voice assistants, transcription services, and accessibility tools. It also provides linguists with valuable data for studying phonetics and spoken language patterns.

3. Corpus Linguistics

AI has significantly enhanced corpus linguistics by enabling the analysis of large text corpora. Researchers can now identify patterns, frequency of usage, and linguistic variations more efficiently. This contributes to a deeper understanding of language evolution and usage.

4. Language Learning

AI-driven language learning applications provide personalized learning experiences. They can adapt to the learner's level, offer instant feedback, and simulate real-life communication scenarios. This has transformed traditional language education methods.

Academicus Journal of Research
ISSN (E): 3054-3371
Volume 1, Issue 4, April, 2026
Website: https://researchiapress.com

Advantages of AI in Linguistics:

The use of AI in linguistics offers several benefits. First, it increases the speed and accuracy of data analysis. Second, it allows researchers to work with large datasets that would be impossible to analyze manually. Third, AI tools facilitate interdisciplinary research, combining linguistics with computer science, psychology, and education.

Moreover, AI technologies make language learning more accessible and interactive. They support learners in developing their skills through adaptive and engaging methods.

Challenges and Limitations

Despite its advantages, the integration of AI in linguistics also presents challenges. One major issue is the lack of contextual understanding in AI systems. Although machine learning models can process large amounts of data, they often struggle with ambiguity, cultural nuances, and figurative language.

Another challenge is the ethical concern related to data privacy and bias. AI systems may reflect biases present in their training data, leading to inaccurate or unfair outcomes. Additionally, the overreliance on technology may reduce the importance of human intuition and critical thinking in linguistic research.

Future Perspectives

The future of AI in linguistics is promising. Advances in deep learning and neural networks are expected to improve language understanding and generation. Researchers are also working on developing more transparent and explainable AI systems.

In the coming years, AI will likely play an even greater role in language preservation, especially for endangered languages. By digitizing and analyzing linguistic data, AI can help document and revitalize languages at risk of extinction.

Conclusion

Artificial intelligence has become an essential tool in modern linguistics. It has transformed the way language is studied, analyzed, and taught. While there are challenges associated with its use, the benefits of AI in linguistic research and education are undeniable.

Academicus Journal of Research
ISSN (E): 3054-3371
Volume 1, Issue 4, April, 2026
Website: https://researchiapress.com

As technology continues to evolve, the collaboration between linguistics and artificial intelligence will lead to new discoveries and innovations. It is important for researchers to balance technological advancements with critical and ethical considerations.

References

1.Chomsky, N. (2002). Syntactic structures. Mouton de Gruyter.
2.Jurafsky, D., & Martin, J. H. (2021). Speech and language processing (3rd ed.). Pearson.
3.Manning, C. D., & Schütze, H. (1999). Foundations of statistical natural language processing. MIT Press.
4.Russell, S., & Norvig, P. (2020). Artificial intelligence: A modern approach (4th ed.). Pearson.
5.Sinclair, J. (2004). Trust the text: Language, corpus and discourse. Routle