

## COMPUTER LINGUISTICS

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### Annotation

Computational linguistics, or natural language processing (NLP - Natural Language Processing), is a modern branch of science that studies the interaction between human language and computers. This field is aimed at understanding, analyzing and re-engineering the complexities of human language with the help of computers, and today it has become an integral part of technological development.

**Keywords:** NLP, Computational Linguistics, Siri, Google Assistant, Amazon Alexa.

By the beginning of the 21st century, due to the development of information technologies, the process of globalization reached a new level. The rational use of achievements in science, technology, culture, development of industrial relations, stabilization of democracy, legislation, and justice will create the basis for making Uzbekistan one of the most developed countries in the world. The process of globalization requires speed and rapid development in all areas. The computer system, which is a product of technical progress, creates convenience in all areas, the rapid delivery of information, the implementation of translation and editing processes in a short period of time, the artificial language that serves as a tool between representatives of different nationalities, that is, information -ensures the formation of computer style. Computational linguistics is a field of knowledge created to teach computers to "communicate" with human language. The main goals here are to teach computers to understand text or speech. Creating grammatical and logical text or speech in natural language. Automatic processing of text and speech. Computational linguistics performs a variety of tasks, including determining the syntactic and semantic structure of text. Determining in which language the text is written. Automatic translation of text from one language to another. Convert speech to text and vice versa. Categorize texts into different categories, such as spam or non-spam. Computational linguistics is a set of technologies and algorithms used to process and understand text and speech. Algorithms used in language learning and



understanding. Application of neural networks to understand and model complex language structures.

Computer linguistics is used in various areas of our life: Voice Assistants: Assistants like Siri, Google Assistant, Amazon Alexa help us in daily tasks. Machine translation: services such as Google Translate, Microsoft Translator automatically translate texts from one language to another. Text analysis: Analysis of messages and comments on social networks, automatic generation of reports. Chatbots: Automated chat bots for customer service and answering their questions: . Automatic text generation systems: Text writing programs, automatic story writing systems. Voice Assistants: Voice assistants such as Apple Siri, Google Assistant, and Amazon Alexa understand and respond to users' words using computer linguistics. Google Translate automatically translates text from one language into another. Chatbots: Widely used in customer service. For example, it is used to chat with customers in banks and online stores.

The field has overlapped with artificial intelligence since the 1950s in the United States, when efforts were made to use computers to automatically translate texts from foreign languages, particularly Russian scientific journals, into English. Since rule-based approaches are able to perform arithmetic calculations faster and more accurately than humans, it was expected that lexis, morphology, syntax, and semantics could also be learned using precise rules. After rule-based approaches failed, David Hayes coined the term to distinguish the field from artificial intelligence and co-founded the Association for Computational Linguistics (ACL) and the International Committee for Computational Linguistics (ICCL). 1970s and 1980s. What began as an act of translation between languages has evolved into the much broader field of natural language processing. Computational linguistics deals with the implementation of algorithms and natural language communication between humans and EHM through computers. Man has invented electronic devices that make arithmetic calculations easier. It soon became clear that these machines have the ability to solve a number of problems related to human knowledge. Factual materials were collected, computer programs were created, and artificial languages were created for processing knowledge. These processes formed the basis for the formation of a new field called "artificial intelligence". In our time, many theoretical studies on artificial intelligence have been put into practice. Precise mechanical operations, interpretation of images were carried out. Theoretical research on



artificial intelligence in the United States has been put into practice. One of the main problems of artificial intelligence is the understanding of natural language by computers. This issue is related to computational linguistics. In turn, it became known that EHM can control other machine devices. Therefore, with the successful implementation of computational linguistics projects, it was found that a person can control complex technical objects through voice commands and natural language texts. Computer linguistics is an integral combination of the world of people, words, and technology.

### Literature:

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