COMPUTATIONAL LINGUISTICS: DEFINITION AND STRUCTURE

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Abstract

This article defines the term of computational linguistics, introduces its main features and its necessity in the modern world. Moreover, this paper presents the overall structure, goals and the implementation of computational linguistics in current educational systems.

Key words:

Computational linguistics, chatbots, dialogue agents, structure, machine translating, education, sentiment analysis.

With the introduction of computer science and computer technologies overall, the world has radically changed, not only in terms of communication, but also in terms of other spheres. Linguistics is not an exception either. First of all it is important to define the term of linguistics. According to Oxford Dictionary, linguistics is the scientific study within which all elements of a particular language are researched thoroughly. Computer linguistics has almost identical definitions with common linguistics. However, the view that the language is researched is done not only from a linguistic perspective, but also from computational linguistics. Considering that any language is the mirror of mind, a computational approach to linguistics opens new opportunities to research intelligence and thinking processes. The importance of computational linguistics in the current world is immersible: linguistically competent computers make human interaction with computers facilitated and much more effective than ordinary interaction. Moving onto the goals of computational linguistics, it is important to find out what computational linguistics has introduced to human beings so far. First of all, there are automatic machine translators that make the process of translating and learning very fast and effective. In addition, computational linguistics opened new features of analysing the texts and correcting errors and mistakes of prepared speeches and any other types of documents. There are several ways how computational linguistics are reflected in the modern world and the structure of it consists of the following items:

1. Machine translation; One of the most prominent examples of computational linguistics is machine translation that was experimented since the mid 60s of XX century and started to be widely used by the introduction of Google translate. Machine translations are proven to be free of grammatical errors, but up to this date there are several issues with the delivery of texts' meaning through automatized translations. Mostly, the machines work as they are programmed to do so and that is one of the reasons why the context of texts that are translated is misdelivered. On the other hand, the implementation of machine translation has an undeniable beneficial side and has made the process of translating and finishing the assignments for language learners as convenient as possible.

2. The implementation of sentiment analysis. According to the Stanford Encyclopedia of Philosophy, sentiment analysis is the analysis made on positive or negative feedbacks of people on particular topics. This is a very widely used type of computational

linguistics since it has opened a lot of opportunities for product marketing and ranking on social media and websites.

3. Chatbots and dialogue agents. Chatbots are machines that are usually used to entertain people and give them what they are interested in for a particular purpose. They are enabled with huge scripts that give them a feature of responding to users, they can answer the questions about the particular company or the product. In addition, there are several chatbots which work only for educational purposes. They respond with tips and translate the texts diligently. What about dialogue agents, these are machines that perform almost the same function as chatbots, but they can actually have human emotions and reflect the words said by the learner. Dialogue agents can become an effective tool in enhancing learner's speaking skills and recognizing their inner abilities to communicate well in a target language.

Moving onto the next point, it is crucial to point out how computational linguistics can be integrated into the modern educational process. As we all know, for language learners, especially for elementary English language learners, the practical approach is an important part of exploring a language. Computational linguistics in the form of text-based games. Quest games may look like they are made only for entertainment purposes. But actually if we look at them from the educational perspective, they may work as the feature to improve one's speaking skills as well as the understanding of vocabulary related to the game's purpose. The purpose may vary from adventure to cooking games. The variety of quest game types gives a huge opportunity for English language learners to expand their range of vocabulary on different topics and spheres. On the other hand, we have to consider possible concerns regarding the implementation of computational linguistics. To start with, the high usage of textbots and translators make the English language learners lazy with completing the tasks by themselves. More and more people are seen using the devices of computational linguistics not only as additional help, but also as the tool which will make all the work for them. Considering the fact that the chatbots and other types of computational linguistics are almost everywhere, we can conclude that they are very effective in learning a new language and promote good conditions to learn the language faster and more effectively. However, there are other aspects of a learner becoming lazy and dependent solely on these helpful devices and not on their own knowledge.

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