THE IMPORTANCE OF COMPUTATIONAL LINGUISTICS IN DIGITIZING OUR COUNTRY

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Turkmenistan is rapidly advancing its digital transformation initiatives, working towards the implementation of the Conception of Digital Economy Development in Turkmenistan (2019-2025) and the State Programme of Digital Economy Development in Turkmenistan (2021-2025). Under the guidance of President Serdar Berdimuhamedov, the country is making significant strides in incorporating digital technologies into all aspects of daily life, aimed at making it more efficient and user-friendly.

The government of Turkmenistan has launched several initiatives aimed at digitizing key sectors of the economy, such as healthcare, education, and transportation. These initiatives are aimed at improving the delivery of services, reducing costs, and enhancing the overall competitiveness of the country. For example, the government has launched a program to digitize the healthcare sector, aimed at improving the delivery of healthcare services and reducing the costs associated with healthcare.

Computational linguistics is a branch of computer science and linguistics that deals with the development of computational models for the analysis and generation of human language. It leverages artificial intelligence, natural language processing (NLP), and machine learning to process, analyze, and understand human language, making it a powerful tool in the digitalization of country.

In the implementation of the Conception and the State Programme of the Development of Digital Economy, computational linguistics is being utilized to enhance various sectors of the national economy. For example, in the digital government sector, computational linguistics is used to analyze large amounts of text-based data such as public opinion and policy documents, to help decision-makers make informed decisions. Chatbots are being employed to provide citizens with information about government services and procedures and assist them in completing online forms and applications [1]. In the digital economy, computational linguistics is utilized to analyze large amounts of customer feedback, product reviews, and market trends, to help businesses understand their customers and make data-driven decisions. Sentimental analysis can measure the sentiment of customer feedback, allowing businesses to understand how their customers feel about their offerings [2].

In the healthcare sector, computational linguistics is making a significant impact by analyzing patient data, medical records, and research papers to help providers make informed decisions. NLP techniques can process large amounts of medical data and extract insights to improve patient outcomes, while speech-to-text and text-to-speech systems can assist patients and healthcare providers in communication [3].

Computational linguistics is also shaping the future of the smart city sector, by analyzing data generated by IoT devices to help city managers make informed decisions [4]. NLP techniques can process this data and extract insights that can be used to improve city services, such as traffic management and waste management.

The robotics sector is also benefiting from computational linguistics, by developing robots that can interact with humans in natural language. NLP techniques enable robots to understand human speech and respond in a human-like manner.

One of the key applications of computational linguistics in digitization is machine translation. Machine translation systems use algorithms and models to translate text or speech from one language to another. This has several benefits, including reducing the cost and time required for translation, making it possible to translate large volumes of text quickly and accurately, and enabling communication between people who speak different languages [5].

Finally, computational linguistics is playing an increasingly important role in education by enabling the development of personalized learning tools and virtual tutors. These tools can analyze students' language and learning patterns, and provide individualized support, leading to better learning outcomes [6].

In conclusion, computational linguistics is an important field of study that is playing a critical role in the digitization of Turkmenistan. The technology and algorithms developed by computational linguists are making it possible to improve communication, accessibility, and decision-making, and support the growth of key sectors of the economy. As digitization continues to advance, it is likely that the importance of computational linguistics will continue to grow, making it an increasingly important field for researchers, practitioners, and policymakers.

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