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Intelligent IT Technologies in Contemporary Folklore Studies (Amid the Dynamics of Uncertainty, Turbulence and Systemic Risks in the External Environment of Philology)

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Abstract. The article explores the possibilities of using intellectual (knowledge-based) IT technologies in modern folklore studies under conditions of uncertainty, turbulence and systemic risks. The prospects of using artificial intelligence, machine learning, natural language processing technologies, Big Data and intelligent analytics for research, systematization, modeling and preservation of folklore heritage are considered. The role of intelligent digital technologies in the formation of a new paradigm of digital folklore studies and increasing the efficiency of humanitarian research is substantiated.

Keywords: modern philology; digital folklore studies; intelligent IT technologies; knowledge-based technologies; Digital Humanities; artificial intelligence; natural language processing (NLP); machine learning; Big Data; data mining; intangible cultural heritage.

Introduction.

The current stage of development of world science and education is characterized by the rapid complication of the research environment, caused by the high dynamics of uncertainty [1], turbulence and systemic risks arising from accelerated digitalization [2], globalization of the information space, geopolitical transformations and exponential growth of scientific and educational data (batch and streaming [3]; structured, semi-structured and unstructured [4]). In these conditions, intellectual (knowledge-based [5]) IT technologies are becoming one of the key factors in increasing the efficiency of research, ensuring the transition from traditional methods of processing and

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analyzing information to intellectual support for analysis, analytics, interpretation, forecasting and (even) optimization of complex processes, especially in the current conditions of the dynamics of uncertainty, turbulence and systemic risks of the modern external environment.

Their role is especially noticeable in the humanities, where artificial intelligence, Knowledge Management Systems, Data Mining, Natural Language Processing, Machine Learning, semantic modeling and expert systems technologies = form a qualitatively new research paradigm of Digital Humanities research; significantly expanding the possibilities of studying complex cultural, linguistic and historical phenomena in a constantly changing external environment.

Modern philology is experiencing a stage of deep digital transformation, caused by the rapid development of intellectual information technologies [6], Digital Humanities, artificial intelligence, Big Data analysis technologies, text mining, natural language processing, machine learning and generative artificial intelligence models. As a result, the possibilities of identifying patterns in the functioning of folklore systems, reconstructing cultural ties, modeling the processes of transformation of traditional culture, automated classification of folklore texts and predicting the dynamics of the development of intangible cultural heritage are significantly expanding. At the same time, modern folklore studies are developing in a fundamentally new external environment, characterized by a high degree of uncertainty, nonlinearity and instability. Social crises, armed conflicts, large-scale migration processes, information wars, digitalization of public communications, globalization of cultural exchanges, accelerated spread of Internet folklore, meme culture and artificially generated content are significantly changing the mechanisms formation, transmission and preservation of folklore traditions. These processes increase the systemic risks of loss of authenticity of cultural heritage, complicate the identification of sources of origin of texts and require the introduction of new intellectual methods of scientific analysis.

The use of intelligent IT technologies as the basis for the formation of a new research paradigm of digital folklore is becoming particularly relevant. Modern intelligent systems are able to analyze multimillion-dollar arrays of text, audio and video information, identify hidden semantic relationships between plots, characters, motifs and cultural archetypes,

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automatically build maps of the spread of folklore phenomena, determine the degree of transformation of traditional texts under the influence of the digital environment and support them.

That is why the purpose of this article is to study the role of intelligent IT technologies in modern folklore in the conditions of the dynamics of uncertainty, turbulence and systemic risks of the external environment, as well as to determine the prospects for the formation of intelligent digital tools for research, preservation and forecasting the development of folklore heritage.

Main Part.

Digital transformation of modern folklore studies.

Folkloristics has traditionally been based on field research, archival materials, and comparative historical analysis. However, the digital era has significantly changed the source base of this science. In addition to traditional records of oral folklore, electronic archives, digital libraries, Internet forums, social networks, video hosting, multimedia collections, and numerous forms of digital folklore are becoming objects of research.

As a result, the volume of available information is growing exponentially, and traditional methods of analysis are proving to be insufficiently effective. There is a need to apply intelligent technologies for automated data processing that can provide high-speed analysis and detection of patterns in complex distributed information arrays.

Modern digital folklore studies is gradually transforming into an interdisciplinary research area that combines the humanities, computational linguistics, artificial intelligence, data mining, digital cultural archaeology, and mathematical modeling of complex cultural systems.

Intelligent IT technologies as a tool for folklore research.

The most promising areas of development of intelligent technologies are methods of artificial intelligence, machine learning and intelligent data analysis.

NLP technologies allow to automatically perform morphological, syntactic and semantic analysis of folklore texts, identify stable word combinations, archetypal constructions, thematic models and features of national linguistic consciousness.

Machine Learning methods are used for automatic classification of folklore genres, determination of

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authorship of texts, recognition of regional features of folk language, analysis of plot structures and prediction of transformation of cultural traditions.

Deep neural networks significantly expand the possibilities of processing audio recordings, song folklore, folk music, storytelling and multimodal sources of information, combining text, sound and visual data into single intelligent models.

Big Data and intelligent analytics in folklore research.

One of the most significant areas of digital folklore studies is the use of Big Data technologies.

Modern research projects work with millions of documents of various origins, including historical archives, electronic museum collections, digital libraries, expedition records, social media posts, internet memes, video materials, and digital platforms for collective creativity.

Intelligent analytics allows you to automatically identify thematic clusters, build maps of the distribution of plots, identify the dynamics of changes in folklore motifs, analyze the speed of cultural diffusion, and determine the influence of social processes on the evolution of folk art.

Big data makes it possible to move from local analysis of individual texts to the study of global patterns in the development of folklore systems.

Generative artificial intelligence in modern folklore studies.

The rapid development of generative artificial intelligence models opens up new opportunities for the reconstruction of lost texts, restoration of damaged archival materials, automatic translation of folklore works and modeling of various plot development options.

At the same time, new scientific risks are growing. Generative models are capable of creating artificial texts that are practically indistinguishable from authentic folk art. This significantly complicates the task of scientific verification of sources, expert assessment of the origin of materials and preservation of cultural authenticity.

Therefore, the use of generative artificial intelligence requires a mandatory combination of automated analysis methods with professional expert interpretation of the results.

Digital modeling of folklore development processes.

Modern intellectual technologies allow us to consider folklore as a complex self-organizing information and cultural system.

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Computer modeling makes it possible to study the mechanisms of the emergence of new variants of folk texts, the processes of the spread of cultural traditions, the impact of migration flows, digital communications and social crises on the transformation of the folklore space.

The use of intelligent modeling methods contributes to the construction of scenarios for the development of cultural heritage under different options for changing the external environment, which significantly expands the analytical potential of modern folklore studies.

Intelligent technologies for the preservation of cultural heritage.

Digitization significantly increases the efficiency of the preservation of intangible cultural heritage objects.

Intelligent information systems provide automatic digitization of archival materials, recognition of handwritten texts, restoration of damaged documents, indexing of audio and video collections, intelligent search for semantic content and the construction of integrated digital repositories.

The use of computer vision technologies, intelligent speech processing and automatic annotation significantly accelerates the creation of national digital archives of folklore and contributes to the expansion of access of the scientific community to unique cultural resources.

Systemic risks of digital folklore studies.

Despite the significant advantages of intelligent technologies, their widespread implementation is accompanied by a number of new challenges.

The main risks are the spread of unreliable digital content, loss of cultural context during automated data processing, algorithmic errors, information distortions, digital inequality, problems of intellectual property protection and the complexity of long-term storage of digital archives.

An additional threat is the high dynamics of the modern external environment, characterized by uncertainty, turbulence, accelerated technological changes and the constant emergence of new information risks. In these conditions, the development of intelligent systems for assessing the reliability of sources, the use of hybrid analysis methods that combine the capabilities of artificial intelligence and expert knowledge, as well as the creation of digital standards for preserving folklore heritage, are of particular importance.

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Prospects for the development of intelligent digital folklore studies.

The prospects for further development of the field are associated with the integration of artificial intelligence, digital humanitarian technologies, intelligent analytics, semantic knowledge graphs, digital twins of cultural heritage and self-learning expert systems.

A new research paradigm is being formed in which intelligent IT technologies become not only a tool for automating data processing, but also an active means of scientific modeling, forecasting and supporting research decision-making.

Further development of intelligent digital folklore studies will allow us to move from descriptive analysis to complex modeling of the evolution of folklore systems, identifying hidden patterns of cultural dynamics and predicting changes in intangible cultural heritage in the context of global digital transformation.

Conclusions.

Taking into account all of the above, the author argues that modern folklore studies is at the stage of forming a new digital research paradigm, which is based on the widespread use of intelligent IT technologies, artificial intelligence, machine learning, natural language processing, intelligent analytics and Big Data technologies. Their application significantly expands the possibilities of research, systematization, preservation and forecasting the development of folklore heritage, ensuring the transition to the analysis of large-scale multidimensional arrays of cultural information.

It is shown that intelligent digital technologies allow automating the classification of folklore texts, identifying hidden semantic connections, modeling the processes of transformation of cultural traditions, reconstructing lost materials and forming intelligent digital archives. At the same time, the high dynamics of the modern external environment, characterized by uncertainty, turbulence and systemic risks, requires the development of reliable mechanisms for data verification, expert interpretation of the results of artificial intelligence and ensuring the information stability of digital humanitarian research.

A promising direction for further research is the creation of intelligent hybrid platforms for digital folklore studies that combine methods of artificial intelligence, semantic

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modeling, intelligent analytics, and forecasting the evolution of cultural processes. Their development will contribute to increasing the scientific validity of research, preserving intangible cultural heritage, and forming a new generation of intelligent information systems for modern folklore studies.

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