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Intangible Cultural Heritage Protection Based on Big Data

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Abstract: Intangible cultural heritage (ICH) defined in UNESCO Convention for the Protection of ICH refers to the practices, performances, activities, knowledge systems and skills of groups, and sometimes individuals as well as related tools, commodities, handicrafts and cultural places as cultural heritage. Combining with the most intense concept of Big data, this paper discusses the protection mode from the perspective of Big data, explore a new way to build Big data in the field of ICH, provide reasonable practical guidance, and devote yourself to the protection of ICH and the creation of innovative methods. At the same time, it also contributes to the innovation and inheritance of ICH. In this paper, a bionic optimization algorithm is proposed, and the ICH preservation and inheritance are investigated, it is concluded that the research on ICH protection based on Big data will improve its perfection by 25%.

1. Introduction

ICH, as defined in the UNESCO Convention for the Safeguarding of ICH, refers to practices, performances, activities, knowledge systems and skills that are regarded as cultural heritage by groups, sometimes individuals and related tools, commodities, handicrafts and cultural places. With the rapid development of information technology and computer network technology, the era of Big data has arrived[1]. Organizational communication in the era of Big data development is both an opportunity and a challenge. Under the severe impact of the social transformation period, the traditional cultural heritage is facing a huge crisis of protection, inheritance and development. Under the background of the collapse of traditional rural social infrastructure, the protection of traditional cultural heritage has become an important task in the new period [2-3]. In the field of heritage research, ICH has become a priority in the "nonexistent" heritage enjoyed by human senses [4].

Rural culture is the precious cultural heritage of the Chinese nation, and it plays an active role in the construction of beautiful villages [5]. ICH is the embodiment of a country's culture and history

[6]. The purpose of protecting ICH is to enhance the country's soft power. In this era of rapid development, people urgently need to have this cultural identity in order to gBig datan a sense of national belonging. The application of Big data in the protection and research of ICH is bound to make a major breakthrough in China[7].

Protecting heritage is considered as an important step to protect cultural diversity. Zhang H believes that the protection and inheritance of the existing ICH projects is of great historical and practical significance to the urban historical and cultural heritage and the promotion of national, scientific and popular socialist culture. The International Council of Monuments and Sites in the field of cultural heritage, the Union for Conservation of Nature in the field of natural heritage and the International Council of Monuments and Sites in the field of protection and restoration have assumed the responsibility of giving opinions on the archives of the 1972 Convention [8]. Big data (Big data) proposed by Croix's house is very rich, and Croix's house has also accepted spiritual practice. This is the purpose of Buffalo dogs in their waves because it is constant [9]. If Big data is applied to the protection of ICH, it will be a great progress for the research of ICH protection. However, through combing the research literature of ICH, this paper finds that the research on ICH protection from the angle of Big data is still weak, and there is a big research gap. ICH and Big data are both new research fields, and a complete and mature theoretical system has not yet been constructed.

Combined with the new concept of Big data, it is applied to the protection of ICH. Improve the diversity of protection methods of ICH, and provide a strong guarantee for the continuation of human civilization. A large number of experiments are conducted to verify the feasibility of applying Big data to the protection of ICH.

2. Method of ICH Protection Based on Big data

2.1. Literature Analysis

First, they will compile the detBig dataled information required and read the statements that ask the questions you asked. These statements lay the material foundation for handling different content. Then, students are required to perform related classic reports under the same content, make statistics and careful analysis, and record Big data images related to the object, the author observes some Big data and analyzes it from the research point of view, and also requires friends and lovers of Big data around to obtBig datan a certBig datan amount of information.

2.2. Particle Swarm Bionic Optimization Algorithm

Particle Swarm Optimization (PSO) N is a team-based intelligent optimization algorithm proposed by R Ebbert Hart and Jay Kennedy in 1995,It solves the problem of intelligent search through the interaction between particles, thus finding the best solution. The basic algorithm formula is as follows:

$$v_{id}^{(k+1)} = \omega v_{id}^{(k)} + c_1 r_1 (P_{id}^k - x_{id}^k) \quad (1)$$

$$x_{id}^{(k+1)} = x_{id}^k + v_{id}^k \quad (2)$$

In which:v represents the flight speed of particle;ω stands for inertia weight:c_1 stands for acceleration coefficient;rl is a random number between 0 and 1;P_{id} and x_{id};represents the best position of individual particles and the current particle position;k is the k generation particle

evolution.

2.3. Interdisciplinary Research Method.

ICH protection research and Big data research are interdisciplinary studies, and multidisciplinary attention is an important feature of the two major folk studies at present. This research combines two kinds of "grafting" interdisciplinary research, which is the proposition of interdisciplinary research, and it is an inevitable choice to adopt interdisciplinary research methods. On the basis of non-heritage research and Big data research results, this study also makes a comprehensive and systematic study on the protection proposal of Big data by using the multidisciplinary theories and achievements of cultural industry, cultural research, anthropology, communication and aesthetics.

3. Experiment of ICH Protection Based on Big data

3.1. Investigate the Inheritance and Retention of ICH

The heritage and preservation of the ICH can be divided into the following three situations: First, it is lost and cannot be repBig datared. This situation means that it was recorded in the documents and books of mochi and deir people, and the old people still remember it. However, due to economic and social development, changes in natural ecology and social environment. Second, ICH is listed. Protected ICH refers to the ICH that is threatened, lost its vitality, but still has room for protection and can be protected within a certBig datan range. For example, greeting ceremony and smear festival. According to the survey results of some scholars, the statistical table of the survey of people's greeting ceremony in Daour is shown in Table 1 and Figure 1:

Table 1. Statistical table of questionnBig datare survey on Daur people in nierji town who know about Daur people's greeting and greet their elders

Know about the courtesy	Yes, please greet me	know.haven't pBig datad my respects.	be unaware of	No answer	add up
Select headcount	116	11	three	seven	137
Compare columns (%)	84.67	8.03	2.19	5.11	100

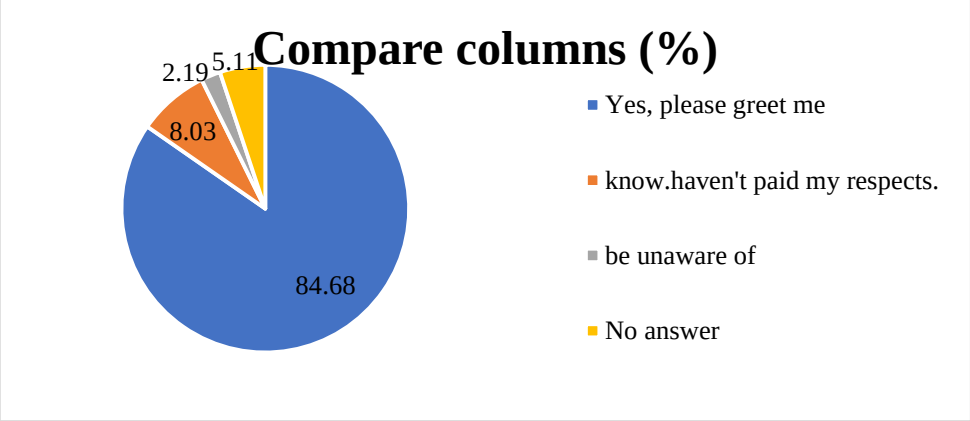

Figure 1. Statistical table of questionnBig datare survey on Daur people in nierji town who know about Daur people's greeting and greet their elders

3.2. Using ases Model to Classify and Protect ICH

Traditional artistic skills are protected in an experienced way. We can introduce tea into the modern industrial system without violating the internal laws and our own operation mode, without distorting the natural refraction tendency, and actively protect tea in production practice. Realize the positive interaction between cultural heritage protection and economic development. Only in the actual production process can the traditional production capacity be truly protected and mBig datantBig dataned. Craft is formed in long-term production practice and accumulated by our ancestors from generation to generation. It represents the essence of art, and insisting on production skills is the bottom line of ICH protection. At the same time, technological skills can not be separated from the actual needs of people's production and life in modern society. Production can't be completely out of touch with the needs of reality and lose the concept of protection. Therefore, the development of ICH projects is to encourage and support inheritors to actively resume production and truly realize ICH. At the same time, some activities are being carried out to introduce the experience of tea production process to the public. Many ICH works, such as traditional art, traditional crafts and traditional medicine, are produced in production practice, and their cultural complex and artistic value depend on the production process reflected by them, the public can experience, visit, own or consume the traditional skills or works of natural products and share the charm of ICH. Through people's experience, tea art can not only enhance the integration of ICH projects with modern society, and close the distance between ICH and the masses, but also fully demonstrate the importance and role of ICH in modern life.

4. ICH Protection Based on Big data

4.1. Particle Swarm Optimization Analysis

Similar to particle swarm optimization, other intelligent algorithms can be used to analyze big data. At present, it mBig datanly focuses on the application of group intelligent algorithms distributed on the map reduction of programming framework, which is used to improve the effectiveness of algorithms and speed up the running speed of solutions. When the amount of data has a certBig datan percentage, the group information algorithm based on mapping is better than the execution without central velocity distribution. Ant Colonization Algorithm is a parallel internal algorithm with strong global searching ability. Because the ant colony optimization (Ottim colony ant, ACO) is concentrated slowly and exposed in the booth, Cheng et al,suggested that the ant community optimization algorithm should give positive and negative feedback, use internal positive feedback strategy and negative feedback between groups, and distribute it on har ring,using the framework constructed by n081, as a repeated Maperce Wu Wei will be divided into strategy and simulated fire algorithm, and fire algorithm will be divided into group algorithm,Map reflow based on ant colony algorithm is based on map -duce ACO and MRA. Cuckoo search has been studied all over the world, and LS L∈Vy flight has been used to discover the best probability algorithm in the world, which is two to four times faster than the algorithm based on Ma-pReduce. Xu et al,further completed the cuckoo search and proposed a new heuristic search algorithm, which shortened the search time of big data optimization solutions and improved the search performance.

4.2. Feature Correlation Test

In this study, Weka software is used to evaluate the image features extracted from the trBig

dataning set images, determine their relevance to the protection of ICH, and calculate the results after the features are normalized, as shown in Table 2 and Figure 2:

Table 2. Evaluation results of correlation between characteristics and teaching behavior categories

Correlation coefficient of features	Feature name
0.539	Number of contours
0.366	Number of faces
0.285	Maximum contour area of image
0.255	Maximum contour area of interframe difference graph

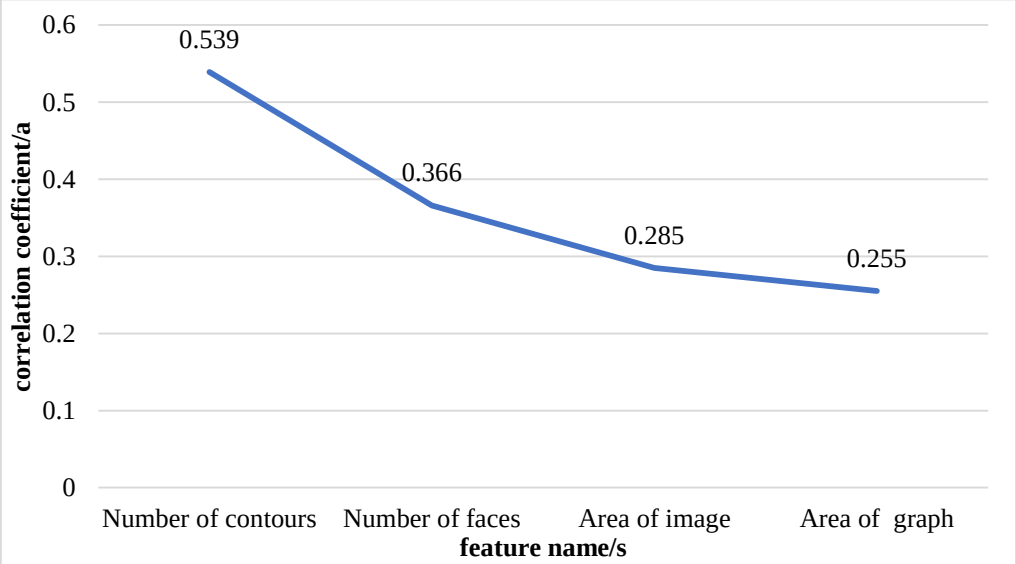

Figure 2. Evaluation results of correlation between characteristics and teaching behavior categories

Pearson correlation coefficient between all individual features and ICH protection is calculated, and the features are sorted according to the size of the coefficient,the larger the coefficient value, the stronger the correlation between the features and ICH protection.

5. Conclusion

With the rapid development of my country's spiritual civilization, we must attach importance to the protection of intellectual property rights of intangible assets to ensure that our country's intangible cultural heritage can be inherited and developed. The application of Big data to the protection of ICH is a major breakthrough, which will surely have broad prospects in the future. Moreover, the protection and research of ICH is undoubtedly a promotion of our country's soft power and a great help to enhance our comprehensive national strength. However, the application of Big data is not mature at present, which is far from enough compared with the urgent situation of protecting ICH. And there is no precedent for the application of Big data.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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