Research Article

An Analysis of the Interaction between Ancient Literature Informatization Project and Classical Literature Research Based on Intelligent Computing

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Objective. This research preliminarily establishes a public information platform in the field of ancient literature informatization engineering aiming to provide an effective platform and foundation for the analysis of the interaction between ancient literature informatization engineering and classical literature research. Methods. This research collects ancient documents and establishes an ancient document information engineering retrieval system based on intelligent computer. Through the computer, various data and keywords can be extracted and preprocessed, and the required word frequency can be obtained through the sorting index. Check and use coordinates to label node locations, which can automatically generate data tables and files arranged by year. The method based on intelligent computing is used to analyze the development context of ancient Chinese literature, literary thoughts of different schools, and the quantity of classical literary works of different ages. Results. The ancient literature informatization project occupies an important position in the complex ancient literature, and the application frequency is high, which promotes the development and progress of classical literature. Applying the method based on intelligent computing for ancient literature retrieval, the retrieval speed is significantly improved, and basic and comprehensive retrieval can be realized. Conclusion. The ancient literature informatization project based on intelligent computing and classical literature research can build a good relationship through interaction, and the work in this area has achieved the initial results. In the process of applying the ancient literature information engineering retrieval system, there will still be a problem that the management level of a large number of ancient literature is not high. However, it is necessary to continue to explore in more unknown areas and expand the application scope of intelligent computers.

1. Introduction

1.1. Research Background. More and more scholars around the world are now highly interested in information retrieval of ancient literature based on intelligent computers, and a transition from traditional computers to intelligent computers has been formed at present [1]. More and more researchers are applying intelligent computers to research in different fields, and it is especially important to establish the connection between data and information technology for the same inquiry into classical literature [2].

1.2. Research Overview. The application of traditional full-text information retrieval methods for data retrieval is difficult for the following reasons: (1) traditional information retrieval methods cannot accurately determine the user input, resulting in the return results getting mixed with more irrelevant information, and the user can only check and browse one by one, which is not conducive to the user to accurately and quickly find the required information, reducing the efficiency of data retrieval, and at the same time, it will hinder the process of classical literature research [3]; (2) the traditional retrieval method cannot reflect the semantics comprehensively when processing the user input information content, so the returned content is confusing; (3) the inconsistency between the user’s search keywords and the data retrieved from the database will waste more energy and time for reevaluation and sorting [4]. Therefore, it is necessary to introduce intelligent computing in the analysis of the interaction between ancient literature informatization project
and classical literature research, which has relevant characteristics such as easy construction of knowledge base, high retrieval efficiency, and can imitate the human psychological model to deal with problems, especially it is more advantageous in dealing with the problems of complex reasoning, expression, and difficult knowledge acquisition, which can realize the retrieval of similar ancient literature, and it is now in literature retrieval. It has been widely used in literature retrieval [5]. "Quan Song Ci" is very representative; it is a poem in the Song Dynasty. After the high prosperity of Tang poetry, Song poetry has new development and creation in ideological content and artistic expression. Many excellent writers have appeared, and many schools have been formed. It has had a profound impact on the development of poetry in the Yuan, Ming, and Qing Dynasties, so this study takes it as the main case for analysis. This study applies intelligent computer technology to the analysis of the interaction between ancient literature information engineering and classical literature research. The following research provides effective approaches and theoretical basis.

2. System Design

In this study, according to the user’s needs, the ancient literature database information project is combined with the study of classical literature for the retrieval of literature. The keywords are entered in the text box of the login interface of the ancient literature retrieval, and the keywords can be one or more, and it is noted that each keyword should be separated by a space, and the system will automatically list the keywords entered by the user or the related keywords when the retrieval is clicked. The search method will appear on the page after the search button is pressed, then select the appropriate search method and press the search button again. If the selected way is able to search for the entered keywords, Figure 1 is the operation process diagram of the ancient document retrieval system based on intelligent computer.

3. Data Processing

Ancient literature involves many fields such as Tang poetry and Song lyrics. The data body of this study is a hierarchical tree structure, and the data processing process of the ancient literature retrieval system based on intelligent computers is described using the All-Song Poems as an example. The All-Song Poems is the largest general collection of poetry of interrupted generations compiled by the Institute of Ancient Literature of Peking University and published by Peking University Press at the end of the 20th century, which contains 270,000 poems in total and is a major project of ancient books in the 20th century. The detailed process of processing the above data based on intelligent computers is as follows: (1) standardization of document names: marking and arranging ancient documents in a chronological order, and unifying the format of document contents such as year, author, and dynasty, returning the search results in a chronological order and outputting information on related documents; (2) deletion of duplicate words: there may be duplicate keywords in the process of ancient literature retrieval, so it is necessary to deal with duplicate keywords; (3) this study is on word frequency and keyword extraction: it is marked by inverted indexing technique, and the frequency of keyword occurrence in all documents is counted; (4) checking the integrity of the search: some special circumstances can affect the accuracy of the search, and if the phenomenon of empty nodes occurs, the integrity of the search should be checked. The main factors affecting the integrity of the search were judged by means of expert consultation. It is worth noting that the included experts must be engaged in cultural work for more than 5 years, have a certain enthusiasm, and freely participate in this research. After completing the above steps, the ancient literature information will be formed in a chronological order, and the literary thoughts, literary styles, and literary works corresponding to different ages can be understood, which lays a solid foundation for the analysis of the interaction between the ancient literature informatization project based on intelligent computing and the study of classical literature. For details, see Table 1 and 2 and Figure 2. The data in this study were obtained with reference to classical cultural books, and the data and materials were accurate.

Ancient literature appeared in China from the ancient pre-Qin period to 221 BC. At first, the representative works of literature were only prose and poetry. Later, with the development of literature, the representative literature style also changed a lot, and the literary style became more and more abundant. This shows China’s breadth and depth of ancient literature. However, on the basis of the development of ancient literature, the interaction between ancient literature informatization engineering and classical literature...
research will become more complicated. Therefore, it is urgent to find an accurate and comprehensive evaluation method. Therefore, this research is based on the background of intelligent computer and analyzes the correlation between the two.

In the process of literary development, a group of writers who appeared in a certain historical period, consciously or unconsciously formed a literary group and faction due to the same aesthetic viewpoint and similar creative style, usually a group of writers with a certain number and representative

<table>
<thead>
<tr>
<th>Start and end dates</th>
<th>Ideas</th>
<th>Representative literary style</th>
<th>Representative literary works</th>
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<tbody>
<tr>
<td>221 BC–189 AD</td>
<td>Qin and Han Dynasty</td>
<td>Music and folk songs, Qin Dynasty prose, Han Fu, Han Dynasty prose</td>
<td>Si Feng Xiangru’s “Zixu Fu” in the book; Wu Ming’s “Nineteen Old Poems”; Lu Buwei and his disciples’ “Lu’s Spring and Autumn Annals”; Si Feng Qian’s “The Records of the Grand Historian Cao Cao’s Short Songs and Lines; Cao Pi’s Essays on the Canon; Tao Yuanming’s Drinking Wine; Liu Yueming’s Wexin Diao Long; Xiao Tong’s Zhaoming Wexuan; Gan Bao’s Book of the Searching Gods; Zhong Rong’s Poems; Liu Yiqing’s “The New Story of the World”</td>
</tr>
<tr>
<td>189 AD–589 AD</td>
<td>Metaphysics in Wei, Jin and North and South Dynasties</td>
<td>Literary criticism, poetry, strange, literary theory, Zhiren novel</td>
<td>Du Fu’s Five hundred words of Chanting; Bai Xingjian’s biography of Li Wa; Liu Zongyuan’s Eight Records of Yongzhou; Li Bai’s General Wine; Bai Juyi’s Song of Long Hatred</td>
</tr>
<tr>
<td>906 AD–1271 AD</td>
<td>Song dynasty philosophy</td>
<td>Douban fiction, lyrics, poetry, prose</td>
<td>Autumn Thoughts in Tianjing Sha; Guan Hanqing’s Dou’e Injustice; Bai Park’s Wutong Rain; Ma Zhiyuan’s Autumn in the Han Palace</td>
</tr>
<tr>
<td>1271 AD–1368 AD</td>
<td>Yuan dynasty Confucianism and Buddhism</td>
<td>Yuanqu (Yuan prose songs, Yuan miscellaneous plays)</td>
<td>Wu Chengen’s “Journey to the West”; Lao Guanzhong’s “Romance of the Three Kingdoms”; Shi Naian’s “Water Margin”; Xiaoiaoyu’s “The Golden Lotus”; “Three Words” and “Two Beats”; Tang Xianzu’s “The Peony Pavilion”; Xu Wei’s Four Sounding Apes</td>
</tr>
<tr>
<td>1368 AD–1644 AD</td>
<td>The early Ming Dynasty, Cheng-Zhu Theory, and the late Ming Dynasty, Xinxue.</td>
<td>Words, fiction, poetry, opera, the</td>
<td>Cao Xueqin’s Dream of the Red Chamber; Pu Songling’s Liaozhai Zhiyi; Wu Jingzi’s Confucianism; Kong Shangren’s “The Fan of Peach Blossoms; Hong Sheng’s The Palace of Eternal youth</td>
</tr>
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| Table 2: Different schools of literary thought. |

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<thead>
<tr>
<th>Schools of thought</th>
<th>People</th>
<th>Main ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confucianism</td>
<td>Confucius</td>
<td>Advocating “benevolence” and “propriety”; “teaching according to ability,” combining learning and thinking</td>
</tr>
<tr>
<td></td>
<td>Mencius</td>
<td>“Benevolent government”; “the people value the ruler”; “the theory of good nature”</td>
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<tr>
<td></td>
<td>Xunzi</td>
<td>“The use of the Mandate of Heaven”; “the king’s boat and the people’s water”; “the theory of the nature of evil”</td>
</tr>
<tr>
<td>Mohism</td>
<td>Mozi</td>
<td>“Love and love”; “nonattack”; “virtuousness”; frugality</td>
</tr>
<tr>
<td></td>
<td>Laozi</td>
<td>Tao; dialectical thinking; “rule by doing nothing”</td>
</tr>
<tr>
<td>Taoism</td>
<td>Zhuangzi</td>
<td>The doctrine of the Qi; the idea of “peace with nature” and obedience to nature</td>
</tr>
<tr>
<td>Legalism</td>
<td>Han Feizi</td>
<td>Advocating the combination of law, technique and power; centralization of power by the monarch; change of law and innovation</td>
</tr>
</tbody>
</table>
characters. There are also differences between different schools of literary thought, and the process of literary development can be better understood by analyzing the literary thoughts of different schools.

From the classical literature of the Qing Dynasty to the number of modern literary works, the overall trend is on the rise. These data fully show that the development of Chinese literature is getting faster and faster, whether it is in terms of the background of the work, the motivation for writing, the characteristics of the work, the genre of literature, etc., or the literary thought. In terms of the above, it has been greatly improved, and the application of intelligent computer-based analysis can more easily understand the specific situation of classical literary works of different ages.

4. Discussion

4.1. Technical and Methodological Revolution—Status and Prospects of Electronic Information Discovery of Ancient Documents. After the digitization of the Complete Song Poems, I have gained a new understanding of the development of informationization of ancient documents, and the search here does not only refer to the “search system” [6]. The search method has a single characteristic, which is designed by a large ancient literature search platform, and the current search method is broken with the simple “retrieval system” and an “analysis system,” which can be used for information filtering with the aid of computers. The search method nowadays has broken away from the simple “retrieval system” and is an “analysis system” that can be used to filter information in an organized manner with the assistance of computers and can realize “discourse system analysis,” “word frequency analysis,” “rhyme analysis,” “metrical analysis” etc. [7]. Although computers have been widely used in ancient literature retrieval decades ago, it was only a laboratory act and did not have a sufficiently rich literature base and prerequisites [8]. Personal computers became popular as early as 1995, but with only 6763 Chinese characters, and there was a greater difficulty in documenting the entry and ancient texts [9]. In 1996, the computer character set reached 20,000 [10]. So far, more and more people choose to estimate the information processing platform, which has the advantage that processing by means of statistical characters can speed up the work, can expand people’s research horizons to a greater extent, and can obtain the research information we need very easily [11]. In addition, the intelligent computer-based information system of ancient documents can realize the statistics and scanning of abstraction concepts, which can comprehensively explore multiple concepts and imagery [12]. Secondly, in terms of character statistics, the intelligent computer-based ancient literature information system plays an important role by adding Chinese character audio statistics to it, enabling the analysis of a particular character in literature. In addition, by adding the frequency statistics of Chinese characters, it is possible to count the frequency of the characters of a certain part of the head, the characters of the ligatures and the stacked characters, which is often referred to as “multidimensional character frequency statistics” [13]. Nevertheless, there is no good theoretical basis for the processing of electronic documents, and the applied methods are not mature, and the knowledge structure of researchers in literature and history should be continuously improved [14–16]. In addition, in ancient literature, informatization project retrieval does not apply the computer’s own functions but only as a high-speed retrieval machine, which prevents the effective use of the function computer’s own functions, which in turn can affect the analysis of the interaction between the ancient literature informatization project and classical literature research based on intelligent computing [17].

4.2. The Importance of Electronic Informatization of Ancient Documents for the Study of Classical Literature. The Complete Song Poems is a large poetry omnibus, which is subject to reappearances and misappearances, but these phenomena are found only by chance and are not comprehensively counted, which requires further sorting and summarization, but if this work is done only by human hands not only is it more difficult but also is prone to errors [18]. Therefore, this requires the application of an intelligent computer, which reads the ancient poems, compares the words and phrases, and if they reach a certain value, they are identified as reappearing poems [19]. Applying intelligent computers to screen the All Song Poems, the number of screened reappearing ancient poems is about 5000, and this screening method can provide a good guarantee and basis for the use of the All Song Poems [20]. Currently, the reappearing poems can be divided into three types, the first of which is the editorial error. Often, ancient poems with existing authors are published under no name. The second type of ancient legacy remains in two or more people’s collections all collected on the poem, such as Zhang Le’s “there is a composition in the autumn to live in the straight scattered riding house” and Su Shi’s “Entering the pavilion” [21]. The third predecessor collected it by mistake. The problem has been explored in many articles, and the relationship between the project of informatization of ancient documents and the study of classical literature is more complicated, but the former is generally considered to be an expansion and impact on the latter.
The current research on classical literature is increasing and can be broadly divided into three levels: empirical research, reflective research, and literary and historical research [22]. Computers can complete the process of processing public information for humans, and people can have more energy for personalized inquiry. If the research between ancient documentary information and classical literature is continued by means of computers, it is of great value for multidimensional word frequency statistics [23]. Computer technology can analyze specific problems in the past research, and colleagues can propose new methods and ideas for ancient literature research. In terms of thinking, computer technology is not only limited to the function of paper carrier but also can present the development process of cultural history in the chronological order.

4.3. The Respective "Power Boundaries" of the Man and Machine and the Interaction between Them. At present, public information repositories are popularized, but on that basis, they also face a series of problems, so they need to be analyzed and processed through electronic literature repositories, which first require the search of literature, after which research results and related theories will be formed [24]. Computer processing has a greater charm, but if scholars in academia over-rely on it since computer processing technology, they cannot amine to carry out more research according to their will, which will inevitably affect the exploration of people's spiritual world and have an impact on the analysis of the relationship between ancient and classical literature; therefore, it is said that there is a respective power boundary between a human and a machine [25]. Although computers have unlimited prospects for development, only computers are only a means of research, and if they are excessively relied upon, they lose the spiritual value and meaning of literary research [26]. People also need to maintain their spiritual homeland and reasonably divide the good relationship between a human and a computer in order to achieve a good relationship between the two needs to interact. In the end, literature is an important hub for people's emotional and spiritual communication, so we should recognize the academic significance from the heart and choose the content people need according to the human culture and personalized characteristics of intelligent computers, which can realize the ancient literature and the establishment of interactive relationship between information project and classical literature research.

4.4. Strengths, Weaknesses, and Limitations of This Study. Based on the background of intelligent computer, this research analyzes the interaction between ancient literature information engineering and classical literature research. The research has certain innovations and a high academic value. However, the study of ancient literature should not stop there. In response to the establishment of digital humanities technology, the automatic comparison and identification of the intertextual relationship between works can be realized, providing a greater breakthrough for the study of the reception history of ancient literature. In addition, it is necessary to establish the historical scene of ancient literature, provide a new experience of reading and appreciation of ancient literature, and continuously expand new fields of ancient literature research. Generally speaking, technology is passive, and we need to exert the subjective initiative of researchers and apply it creatively, which can promote the development of modern digital humanities technology.

5. Conclusion

The ancient literature informatization project based on intelligent computing and classical literature research can build a good relationship through interaction. At present, the work in this area has achieved initial results. In the process of applying the ancient literature information engineering retrieval system, there will still be a problem that the management level of a large number of ancient literature is not high. However, it is necessary to continue to explore in more unknown areas and expand the application scope of intelligent computers.

Data Availability

The dataset used in this paper are available from the corresponding author upon request.

Conflicts of Interest

The authors declare that they have no conflicts of interest regarding this work.

References


