Study on the new trend of network information retrieval in the era of big data

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Abstract: the traditional way of information retrieval is obviously difficult to meet people's needs. In this case, the application of intelligent artificial technology plays an important role in the development and improvement of network information retrieval. Based on this, this paper first discusses the network information retrieval, and then discusses the application of artificial intelligence in the network information retrieval under the background of big data. It is committed to research the related work of network information retrieval, and provides reliable support for the improvement and optimization of network information retrieval technology.

With the development of the times, the Internet has become an integral part of our life. People can get all the information they need through the Internet search engine. This is more efficient and universal than the paper information transmission. However, there are still many problems in the development and application of Internet search engine. Among them, information classification is an urgent aspect to be optimized. The deepening and development of information classification work limits people's access to accurate information to a certain extent. Therefore, to strengthen the application of artificial intelligence technology and search information through keyword search is undoubtedly an important development direction of network information search in the future.

1. Overview of network information search and artificial intelligence

1.1 Overview of network information search

The so-called network information search is actually based on the application of the network, users in the terminal to achieve the search of relevant information. With the help of distributed data storage, a large number of data information is distributed in the corresponding server. As a user, we can browse and search the pre saved data through the terminal system. Therefore, based on this criterion, any information in the network world can be queried and applied, and the way or tool that serves the network information search of network users can be called network information search.

1.2 Overview of artificial intelligence

The so-called artificial intelligence is actually to use machines to simulate and perceive the real feelings of people when they are engaged in certain things, and make more effective judgments and decisions based on this, so that machines have the ability to deal with complex problems that only human experts can have. Therefore, the essence of artificial intelligence is also around the human brain simulation. The biggest characteristic of AI is that the problem is dealt with on the basis of reliable knowledge. It takes a relatively complete reasoning system as the core and realizes the reorganization and utilization of knowledge. At present, artificial intelligence can be divided into five schools: distribution school, cognition school, connection school, logic school and knowledge engineering school. The research directions of each school are different, but the research directions in the structure and function of artificial intelligence are the same, that is, artificial intelligence needs to be composed of six parts: intermediate database, interpreter, knowledge acquisition device, user interface, knowledge base and reasoning machine.

First, take the knowledge base as an example, which is the part responsible for long-term memory in the artificial intelligence system, in which special knowledge is mainly stored. This includes established facts and information, as well as general common sense and rules. Some special systems also contain databases. The second is inference engine, which is a kind of assembly used to perform retrieval tasks. It mainly includes the main control and various task programs. As a special library, it plays an important role in providing retrieval support. The user interface mainly includes the system and the links used by users for input and transmission of relevant information. As a bridge between external information and internalization, it can display the final processing results to users and transfer the users' will to computers. The non natural language used in this process can also reduce the burden and pressure of users in the process of using. Intermediate database is also the blackboard we often say. It is mainly used to store intermediate results and data in the process of performing tasks and reasoning. In the process of practical application, the system will first show the problem on the blackboard, and then show the initial state of the problem. Then the expert system infers according to the matching condition of knowledge retrieval in knowledge base, and constantly mends and infers the content of blackboard. When necessary, they will also ask customers to make up for and solve the shortage of knowledge in the knowledge base. So blackboard can be regarded as a dynamic knowledge base to some extent. It plays a key role in controlling the process of work. Finally, the knowledge acquisition device is also known as the learner. Its main function is to constantly repair the content of the knowledge base according to the system operation experience, which is an effective supplement to ensure the smooth operation of the system. The interpreter is mainly responsible for solving the user's questions and explaining the operation trace of the system conclusion to the user. Generally speaking, artificial intelligence technology is to help people solve some problems in the form of simulation thinking by means of science and technology.

2. Classification of network information retrieval tools

2.1 FTP class

The so-called FTP retrieval tool is essentially a real-time online retrieval tool. In order to query information data, users need to log in to the computer system for operation. Through the retrieval tool of FTP class, different types of data information can also be transferred. For example, the common Archie, as a kind of automatic Title Type retrieval software, users can realize file path and system query on the basis of mastering file related information.

2.2 Retrieval tools based on menu

The essence of menu based retrieval tool is a distributed information query tool. This kind of retrieval tool can select the corresponding data according to the actual needs of users. For some unfamiliar content, users can also handle it freely. Veronica, as a representative of this kind of retrieval function, provides users with keyword based retrieval services in the process of cooperation.

2.3 Keyword based retrieval tools

The so-called keyword based retrieval tool refers to a specific computer system in which users can ignore the information originally distributed in the process of using. Taking WAIS as an example, firstly, the name of the required file is extracted from the corresponding database by WAIS retrieval software, and then the search is carried out within the set retrieval range. As the system can achieve efficient remote retrieval, after the completion of the above retrieval link, WAIS software can not only directly reflect the information, but also focus on the key information, which is no different from greatly improving the user experience.

3. The application of artificial intelligence in network information retrieval in the age of three big data

3.1 Network intelligent knowledge service

The system usually consists of four main components: knowledge base, knowledge service system, knowledge acquisition system and knowledge processing system. Taking the knowledge processing system as an example, its main function is to classify knowledge, and then search around key words. Finally, we need to transfer the audited knowledge to the database. Generally speaking, the process of knowledge processing is divided into four main parts: intelligent knowledge classification, intelligent knowledge matching process, intelligent knowledge updating and intelligent knowledge cleaning. The main purpose of knowledge acquisition system is to improve the richness of knowledge in the system. Therefore, the system can also be understood as a knowledge acquisition and processing system. As an important part of knowledge base, intelligent knowledge storage system is also the key to ensure the quality of information retrieval. The system is usually divided into software retrieval, hardware retrieval and system retrieval. Among them, hardware provides support for data storage, and software is mainly used for information storage and management. On the basis of software management and hardware preservation, the retrieval system realizes the perfection of the intelligent retrieval system, and the redevelopment based on the intelligent retrieval system undoubtedly makes the system more perfect and targeted.

3.2 Intelligent agent technology

In the era of big data, intelligent agent technology has become an integral part of the intelligent field. At the same time, with the overall progress of the network society, the application of IA intelligent agent technology in various fields of society is also deepening. Up to now, it has also become an important part of our country's intelligent technology exploration. Using intelligent agent technology can deal with some problems existing in traditional retrieval more efficiently, which is helpful to improve the level of network information retrieval.

3.2.1 Working principle of intelligent agent

In the information retrieval work, the integration of intelligent agent technology, in a great sense, is the creation and birth of a new retrieval tool. For users, they can enjoy more humanized and personalized retrieval services based on this. This technology mainly focuses on the classification of information retrieval methods around each user's own application habits. For example, if a user has conducted high-frequency search around a keyword in a certain period of time, then on the premise of applying intelligent agent, the user's own search information can be summarized and analyzed, and at the same time, the information concerned by the user can be given special attention. Not only that, the application of this technology can also develop the corresponding reference scheme around the key elements of relevant information for users, which can be used as the basis for subsequent information retrieval. To some extent, retrieval tools know themselves better than users themselves. As a user, when the pushed information is not satisfied, it can also be fed back to the system records according to its actual situation. The system will also be optimized and improved automatically to ensure that the system will be more targeted and accurate in the next information matching process. With the application of intelligent retrieval tools, users' needs have been met to a great extent. To some extent, it also improves the intelligence and rationality of network information retrieval.

3.2.2 Basic functions of intelligent agent

First of all, network management is the most basic technology of intelligent agent. Its main function is to supervise users based on the distribution of network resource points in the process of searching related sites. At the same time, in the process of supervision, it can also improve and deal with the fault phenomenon in time and effectively. For example, in the process of data download, users can choose the appropriate site more efficiently. At the same time, in the process of users' use, we can also choose more scientific and effective information transmission network according to the actual situation. To a certain extent, it also reduces the possibility that the efficiency of information

retrieval will be affected due to network congestion. The second is the information management function. As the name implies, the main function of this function is to further understand and pay attention to the data required by users, and grasp the actual distribution of relevant information in the network, which also supports the keyword retrieval of users to a certain extent. Finally, according to the user's own habits, we can set up a targeted information push plan. In the process of participating in the network, users can choose the corresponding interface according to their own habits, which is also the inevitable trend of the development of intelligent technology.

4. Conclusion

With the development of society, the era of big data has come quietly, which corresponds to the improvement of information retrieval needs of the majority of network users. Up to now, the traditional information retrieval method has obviously met the needs of people. In this case, the application of intelligent artificial technology plays a crucial role in the development and improvement of network information retrieval. Based on this, this paper first discusses the network information retrieval, and then discusses the application of artificial intelligence in the network information retrieval under the background of big data. It is committed to research the related work of network information retrieval, and provides reliable support for the improvement and optimization of network information retrieval technology.

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