

Intelligent Auxiliary Framework for the Development Path of Modern Shipbuilding Enterprises Based on Intelligent Legal Information Retrieval System

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Abstract: The intelligent information retrieval system of traffic laws and regulations is introduced. The system adopts artificial intelligence technology and information push-pull technology, establishes an intelligent retrieval model based on memory network, and realizes intelligent fuzzy retrieval of information. The profits of shipping can be said to be huge, but at present, the global shipping market continues to decline, with excess production capacity and fierce market competition. Therefore, in order to revitalize shipbuilding and shipping, and speed up the structural adjustment of the shipping industry, we need to integrate the facts of the case. The described features propose an improved TextRank keyword extraction method, and the effectiveness of the improved algorithm in case keyword extraction is verified by experiments. The characteristics and technical application of intelligent ships are analyzed, and specific measures for intelligent research are put forward to provide reference for ship design and manufacturing industry personnel.

Keywords: Intelligent Auxiliary Framework, Modern Shipbuilding Enterprises, Intelligent Legal Information, Retrieval System

1. INTRODUCTION

For my country's shipbuilding industry, compared with the development of scientific and technological innovation in Western countries [1], it is still insufficient. Therefore, in order to improve the position of my country's shipping in the world market, it is necessary to increase the strength of scientific and technological innovation [2], and promote the design of my country's ships to complete the intelligent as soon as possible. The exploration of transformation has changed from "Made in China" to "Made in China". Among them, ship logistics transportation [3] is favored by many enterprises and merchants around the world due to its huge freight volume and efficient cargo guarantee, and has become the main mode of transportation in the international logistics market [4].

The intelligence level of ships has been optimized with the continuous improvement of computer information science, communication technology [5], sensor equipment and other technical levels, and the intelligence of the navigation, perception and other automated equipment and facilities installed inside it has been significantly improved [6]. At present, in the field of ship design and manufacturing, the traditional ship world plan model is too detailed, which is mainly reflected in the division of "professionalism," and the separation of "ship, machinery [7], electricity" and other majors. Moreover, within the same major, x is divided into several T species, systems, etc. [8] The design sequence is carried out according to the process of hull first, then turbine, and finally electrical; there are also the above shortcomings, and it is only full-text search. To search for laws related to transportation is not only time-consuming, but also not comprehensive and detailed [9].

In the face of increasing information and handling of traffic accidents, professionals urgently need an information retrieval system that can quickly [10], accurately and economically find all information on a subject. The design content is independent of each other, and the integrity is poor; the amount of information is single [11], and the

comprehensiveness is low; the staffing of E is mainly based on "specialized" people. Intelligent retrieval is a new generation of retrieval technology combined with artificial intelligence technology [12]. The content of intelligent retrieval should be knowledge rather than information. His intelligent analysis of query conditions is mainly to extract the effective components of query conditions [13], including vocabulary and logical relationship. Using its own push software, it can automatically publish various pre-customized news to Internet users [14], economic, sports and other information. So that users don't have to click and roam blindly on the Internet, but they can read and prefetch purposefully like watching radio and television [15].

Nowadays, information retrieval has become a subject involving multi-domain knowledge, including natural language processing, statistics, machine learning and artificial intelligence [16], distributed computing and other fields. Many research and application fields involve key technologies of information retrieval, such as search engines, answer search in question answering systems [17]. The expected quotation of the shipowner is the planning and planning stage of the modern ship design. This stage is mainly used to determine the main working direction and performance of the ship [18], so as to complete the specific design direction of the modern ship and the improvement of the ship design [19]. Material welding, component segmentation and other high-risk links require construction workers to have strong technical skills and professionalism [20]. There are many types of ship manufacturing products, but the number of ships produced is small. It is convenient to prompt ship managers to deal with problems in time [21], ensure the safety and reliability of navigation, reduce the probability of failures during ship navigation, and reduce ship maintenance costs [22].

The extensive application of the IBS system and the continuous improvement of the level of intelligence can accelerate the research level of improving the automatic driving performance [23] of ships. In the project management system, the separation operation mode of "ship, machine and electricity" is adopted [24]. Under this system, each specialty

prepares an independent design plan, and the department of each specialty relies on the specialty department. Because the preparation department has put T as the focus on the professional, it is difficult to formulate a plan that can meet the overall design cycle [25]. Intelligent retrieval models understand the information content of documents and queries by applying domain knowledge. A semantic network knowledge model of each keyword (specialized term) is established. Users search by keywords, and the retrieved results are structured results based on semantics [26].

2. THE PROPOSED METHODOLOGY

2.1 The Intelligent Legal Information Retrieval System

This paper simulates the human thinking mode and establishes an associative memory feather model based on the semantic network for intelligent retrieval. The large-scale information has exceeded our imagination, but with the influx of a large amount of information, the problem is: the huge amount of information can sometimes make us at a loss. It becomes very difficult for a user to quickly and efficiently query the information he wants in large-scale information. Among them, forestry law is also a part of large-scale information. This system selects Apache and Tomcat as WEB containers. Apache itself can only interpret static pages such as HTML. It cannot interpret code like ASP, PHP, JSP, and Tomcat is a servlet container that is used to interpret code written in JavaServlet and JSP.

Intelligent retrieval models understand the information content of documents and queries by applying domain knowledge. Establish a semantic network knowledge model of each keyword (professional term). Users search by keywords, and the retrieved results are structured results based on semantics. This paper simulates the human thinking mode and establishes an associative memory feather model based on semantic network for intelligent retrieval. Through repeated research on the grammatical structure and semantic features of forestry laws, it is found that gerunds are very important in every legal provision. By summarizing, the verbs in each forestry legal clause are expanded in the form of synonyms and synonyms. Create a table for each user in China and the seven countries, and the structures of the two tables are the common fields of the original country. Remaining unchanged, all non-empty records of very used fields are merged into one field and put into a small table.

Named Entity Recognition (NER) refers to the automatic recognition by computers of person names, place names, institution names, proper nouns, and phrases such as dates, times, and quantities that have a certain meaning.

2.2 The Development Path of Modern Shipbuilding Enterprises

Among them, the most used relationship is the upper and lower relationship. The construction of the information storage model is to improve the retrieval efficiency and save the information that is of interest to advanced users. First, the advanced user retrieves the data through the advanced retrieval function, and the advanced user decides whether the retrieved information is of interest and whether to save it in his own information database. Memory Web is a model developed on the basis of Semantic Web. However, there is a big difference between them: the information expression ability of the Semantic Web is limited to the network itself, that is, knowledge can only be expressed through the

connection between nodes and nodes; but the expressive ability of memory is much more than that.

The systematic nature of the intelligent ship, the so-called intelligent ship system, not only refers to the ship itself, but is the result of the ship's shore-based integrated intelligent service system composed of many sub-systems. Shipbuilding is a long-term and complex production process. There are a wide variety of materials and components required for a ship, and shipbuilding companies need to introduce them to several companies. In this process, it takes a lot of money, material resources, manpower and time, and there may also be parts production for individual cooperative companies. Errors and delays in delivery time.

In the process of intelligent design and manufacture of ships, there are many hardware problems or technical problems, which are embodied in two aspects. On the one hand, the bandwidth of navigation-related satellites is insufficient, and it is not possible to achieve a high level of intelligent network coverage of ships due to technical or financial capabilities. It also includes systems for ship design, manufacturing, and operation. The new design model promotes the process of "cross-training" system, which further accelerates the transformation of "training" purpose into results. Expanding the knowledge of employees; improving the inter-professional technical level and comprehensive business ability of employees; at the same time, it also improves the overall design level of the company.

It shortens the time for employees to grow into comprehensive design talents with "one specialty and multiple abilities". The synergy of smart ships. The smart ship system includes many companies that can share information, such as ship design companies, manufacturing companies, and sales companies. Data is exchanged between these companies.

2.3 The Intelligent Auxiliary Framework for the Development Path of Modern Shipbuilding Enterprises

In 1995, the 6th Message Understanding Conference (MUC-6) formally proposed the task of named entity recognition. In this system, nodes represent legal concepts or terms (keywords, legal titles, legal terms, content explanations). Arcs represent similarity relationships. Generic and related relationships. As shown in Figure 1. Figure 2 is an example of associative memory with the key word "suspending motor vehicle driver's license". Sememe is not an independent unit, there are many relationships between them, such as: hyponymous relationship, synonymous relationship, antonymous relationship, whole-part relationship, event-role relationship, etc. 16 kinds of relationships.

The shipbuilding industry is an intensive industry. In the process of manufacturing ships Shipbuilding companies will have frequent transactions with various companies, and some related companies are located in other provinces and cities, which increases production costs and time.

Provide stronger support for the development of shipbuilding. Ship manufacturing enterprises need to adapt to the current development model, and continuously improve the strength of the enterprise in the stage of rapid technological upgrading. The flexible employment system and reasonable personnel structure provide a material basis for the transformation of the design model. The company's employment system is different from that of state-owned enterprises, which fully reflects the principle of survival of the fittest. Putting the selection of

useful talents in the first place, breaking the outdated interpersonal network that restricts the development of advanced productive forces. Focus on the selection of excellent designers. Give full play to the advantages of high-tech, high-automation, and integration in intelligent manufacturing.

3. CONCLUSIONS

If modern ship logistics wants to occupy a place in international logistics and domestic logistics, it must objectively examine its own development drawbacks and defects, timely reform and innovate to find new development paths, and the internal structure and scoring and sorting implementation mechanism of Apache's open-source full-text search development library LUCENE, and make an improved scoring calculation method. Finally, this paper develops an online legal retrieval system based on B/S architecture. It abandons the traditional management mode. In order to solve the obstacles encountered in the process of ship design and manufacture, and to improve the reliability of the system itself.

4. REFERENCES

- [1]Hu Tianshu. Research on the construction path of smart community in the era of big data [J]. *Modern Marketing: Xia*, 2022(2):3.
- [2] Zhang Baozhen. Intelligent exploration of modern ship design and manufacturing [J]. *China Machinery*, 2020.
- [3] Hong Min. Research and exploration of intelligent design and manufacturing of modern ships [J]. *Transportation Technology and Management*, 2021(20):2.
- [4] Shen Anwei, He Shijun. Intelligent exploration of modern ship design and manufacturing [J]. *China Equipment Engineering*, 2020(6):2.
- [5] Yang Yao. Research and exploration of intelligent design and manufacturing of modern ships [J]. 2019.
- [6] Deng Jianfeng. Research and exploration of intelligent design and manufacturing of modern ships [J]. *Science and Technology Innovation and Application*, 2019(15):2.
- [7] Zhou Huimin. Analysis of the legal problems existing in the crew protection mechanism [J]. *Law*, 2022, 10(3):6.
- [8] Guo Tianxin. Artificial Intelligence and Modern Ship Management [J]. *Pearl River Shipping*, 2019, 000(013):58-59.
- [9] Liu Zhenbin. Intelligent exploration of modern ship design and manufacturing [J]. 2021.
- [10] Liu Yunjie. Research and exploration of intelligent design and manufacturing of modern ships [J]. *Ship Materials and Market*, 2020(5):2.
- [11] Huang Guanghui. Discussion on the Application and Development Trend of Ship Automation Technology [J]. *Modern Information Technology*, 2019, 3(19):2.
- [12] Feng Na. Development Path of Vocational Vocational Navigation Talents Training in the Age of Intelligent Ships [J]. *Research on Navigation Education*, 2020, 37(3):4.
- [13] Niu Xumou. "Two major" restructuring and laying out a strategic move (Part 1): The main frame system of the Korean shipbuilding industry has been integrated from "three major" into "two major" [J]. *Ship Economy and Trade*, 2019(4):6 .
- [14] Chen Gang, Zhang Xuehui, Zheng Xin, et al. Construction of full life cycle management and control system for scientific research projects in large shipbuilding enterprises [J]. 2021(2020-2):70-89.
- [15] Yang Kai, Deng Zhipeng. Research on the development demand and construction plan of "smart ports" for small and medium-sized inland river ports [J]. *China Water Transport*, 2022(5):3.
- [16] Ren Hechun, Zhao Zheng. Smart Service, Smart Management, Smart Sharing: Transformation and Upgrading of Digital Science and Technology Museum to Promote the Intelligent Development of Science and Technology Museum System [J]. *Natural Science Museum Research*, 2022(1):7.
- [17] He Pingshuang. A brief analysis of the development direction and realization of intelligent rail transit [J]. 2021.
- [18] Ning Beibei. Research on the promotion of high-quality development of modern enterprises by smart services [J]. *China Civil Business*, 2021.
- [19] Ma Chen, Cheng Wenming. Cheng Wenming Meet the needs of modern intelligence and develop a new pattern of railway freight transportation [J]. *Hoisting and Transportation Machinery*, 2021(10):4.
- [20] Liu Bo. Current Situation and Countermeasures of Cultivating Technological Talents Adapting to the Development of Smart Shipping [J]. *Science and Technology Think Tank*, 2020(2):4.
- [21] Cao Wei. Analysis on Promoting the Development of Shipbuilding Enterprises with Lean Management Mode [J]. *China Water Transport*, 2022(1):3.
- [22] Chen Gang, Zhang Xuehui, Zheng Xin, et al. Construction of a full life cycle management and control system for scientific research projects in large shipbuilding enterprises [J]. *State-owned Enterprise Management*, 2020(2):20.
- [23] Gao Hongbo, Dang Jinjin. The development prospect of hydrogen energy and the location selection of hydrogen refueling stations based on the carbon peak and carbon neutrality target [J]. *Modern Industrial Economy and Information*, 2022, 12(2):3 .
- [24] Cheng Zheng, Wang Ping. Design of Ship Navigation Communication System Based on CAN Bus [J]. *Modern Industrial Economy and Informatization*, 2022, 12(2):3.
- [25] Li Haozhi, Li Chunhu, Wei Baozhen, et al. Study on photocatalysis combined with seawater NaHSO₃ reduction to remove NO from ship flue gas [J]. *Modern Chemical Industry*, 2022, 42(4):6.
- [26] Zhang Che, Jiang Wei. Optimization design method and application of ship structure [J]. *Ship Materials and Market*, 2022, 30(4):3.