Recommended Method of Legal Articles for Legal Judgment Documents

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Abstract: With the advancement of artificial intelligence and big data, my country's judicial organs have already proposed to use intelligent judicial services as the purpose, and then build a period of "smart justice". Under the continuous leadership of the court, the Judgment Document Network and the China Law Application Digital Network service platform were launched. At the same time, such a plan can support the construction of smart courts and propose the next step to promote the development of laws and regulations. In 2018, the Ministry of Science and Technology issued a new plan, focusing on the task of research and development of judicial topics. Intelligent services will promote the basic scientific issues of intelligent justice in my country's law, procuratorate, and division. Intelligent services can promote justice. Favorable goal of informatization to intelligent development. This article mainly takes "comprehensive rule of law" as a strategic partner, actively strengthens the technology and application of artificial intelligence, and encourages the realization of artificial intelligence laws. At the same time, during the same period, the national smart judicial construction system should be used as a foundation, Legal documents can record the trial results of the people's court, mainly information about the case, the name of the case, and the development of the case. Legal provisions are the legal responsibilities that can limit the people's right to use and personal obligations, and are very important for the court to judge when making a judgment. Zaogen drama takes criminal law as an example of relevant documents as experimental data. When it comes to using the recommended model of laws and regulations, there will be many problems, which is how to solve them. For example, there are relatively small differences between different laws and regulations. A document will involve a lot of laws and regulations, so it will be difficult to determine how many corresponding laws and regulations are there. For example, the issues described in different adjudication documents are also different, but the similarity in content and structure between them is also very high.

1 INTRODUCTION

In recent years, many tasks and deep learning techniques have been greatly affected. For a vocabulary and SKip-gram model that can be trained from a large amount of text, these phrases have certain problems in meaning and sentence meaning, in the English classification has also obtained a more excellent effect. The characteristic of obtaining the full text by Kalchbrenner technology is proposed, which can achieve better results in English classification. At this stage, in order to be able to use a variety of neural network systems for the task of text classification, the legal judgment prediction is verified after the machine input, and the final result of the legal case can be output. This work is a work that can be realized for a long time at home and abroad, but these works are limited to a specific case and can be regarded as generalization problems that can be encountered elsewhere. In 2021, scholar Li Ru defined judgment documents in an article on legal judgment prediction based on legal judgment documents. In 2019, scholar Zhang Hu came up with the prediction results on the recommended method of legal articles for legal judgment documents. In terms of statute recommendation, we can classify and discuss various issues through a fixed combination of statutes, and then convert the results according to different goals. The recommendation of legal articles plays a very important role in the law. When dealing with problems in key parts, the use of artificial intelligence as the point of support is also the field of law in terms of deep learning, and it is

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also one of the important factors in legal construction.

In these studies, we can clearly know that the neural network model combined with the adjudication document data recommendation method improves the accuracy of this paper to a certain extent. There are also certain problems in the task of recommending legal provisions. For example, the traditional method is prone to local problems, thus ignoring the relationship between the structures of sentences; the data in the process of using the legal provisions recommendation task belongs to the law. The differences between different laws and regulations will also be different, which will make the traditional classification method inconsistent with our ideas; on the issue of legal classification, one problem corresponds to the situation of multiple laws and regulations. In order to solve the problem smoothly, the model fusion method of neural network must be used.

2 NEURAL NETWORK-BASED LAW RECOMMENDATION MODEL

2.1 Convolutional Neural Networks

Convolutional neural networks play their own roles in both image processing and speech, using their own convolution and pooling structures to operate. In language processing, convolutional neural networks can be used to achieve desirable results in retrieval, text classification, etc. The processing rule recommendation problem of convolutional neural network mainly includes three aspects: convolutional layer, pooling layer, and fully connected layer. Following a top-to-bottom principle, the input legal documents can be identified from this, and the output is the corresponding legal provisions for the facts. As shown in Figure 1.

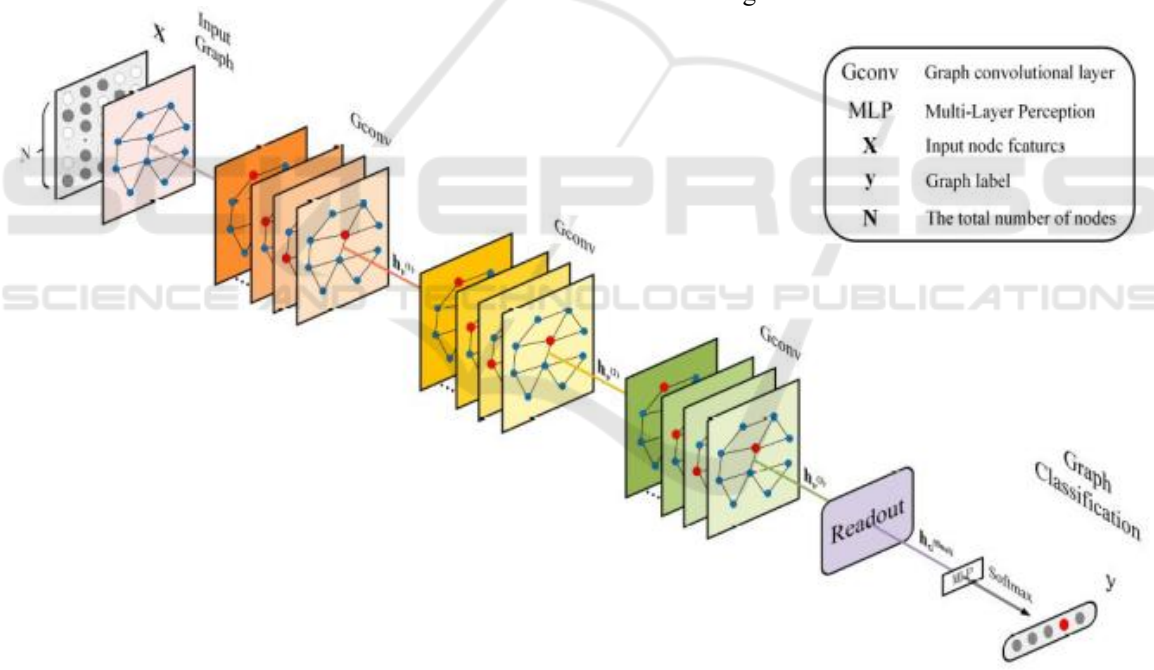

Figure 1: Convolutional Neural Network Architecture Diagram.

2.2 Character-Level Convolutional Neural Networks

In the case of combining deep learning and language problems, there are mainly two ways to process this data, word-based and word-based. When developing from the perspective of characters, it is characterized by being able to know the large-scale data for training without needing to know the meaning of words in the text in advance. In this neural network system, the convolution model is the most basic. Input functions and then perform operations to obtain results. Specifically as shown in Figure 2.

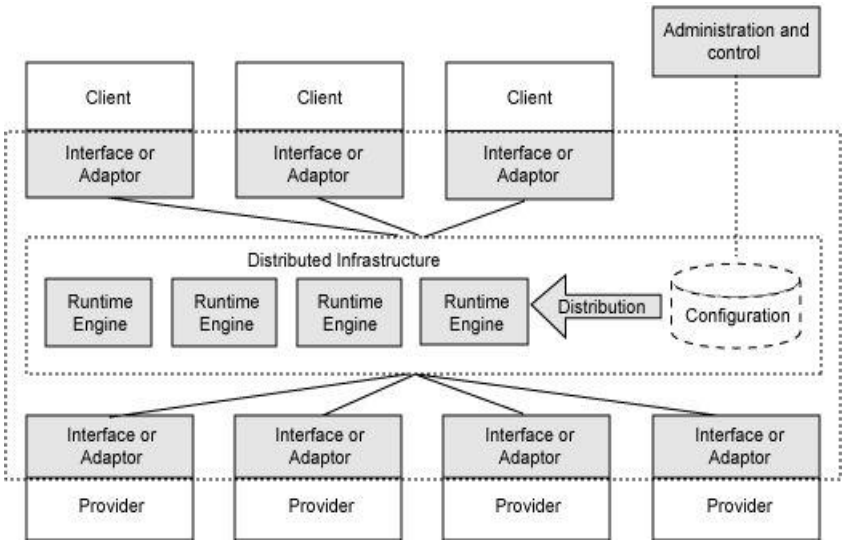

Figure 2: Schematic diagram of character-level convolutional neural network

3 FUSION OF MULTIPLE MODELS

First of all, the idea of multi-model fusion is used for research, and the fusion of different convolutional neural networks and probability can achieve the effect of model complementarity and promote the security of legal recommendations. Then train the entire model. After basic training, all the probabilities are sorted in the Softmax layer, which is the law of prediction. The fusion diagram of the model is shown in Figure 3.

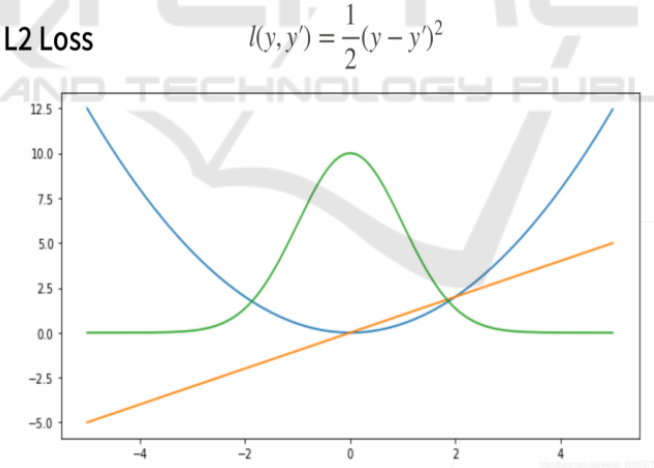

Figure 3: Fusion structure diagram of the model.

A single case in the recommendation of articles will have multiple articles. This situation is a “one-to-many” legal article problem, and traditional methods should be used to solve this type of problem. This paper adopts the strategy of multi-model fusion and result value combination to carry out the corresponding process. This method is used to identify which one is better for "one-to-many" application. As shown in Figure 4.

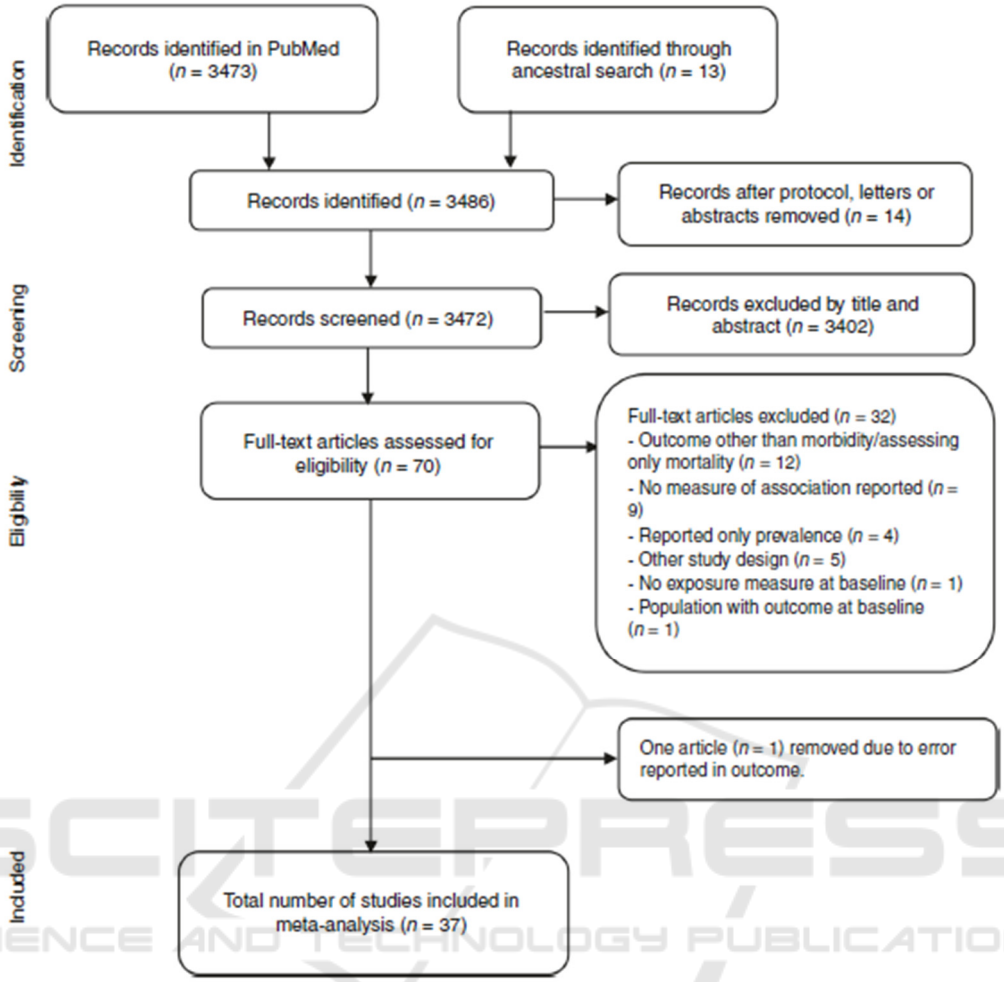

Figure 4: Flowchart of the "one-to-many" law problem

4 SYSTEM ANALYSIS

At present, the relevant research on legal judgment prediction has not been collected. On the issue of legal recommendation, it is selected through the data set to realize the authenticity of the case. In order to verify the validity of the model, each data is sorted together and further validated and tested by scale. With regard to the processing of data, the facts of the various statutes are classified. This approach is to expand the data set, and then involve multiple laws, and then experiment with "one-to-many" laws. There will also be many laws and regulations on the same thing, but there will be gaps in description. For example, Article 347 of the Criminal Law involves many crimes, such as drug crimes, which is different from Article 348 of the Criminal Law. The offence involved is the offence of unlawful possession of drugs. The corresponding statutes between them are the same, but the meaning of the events is indeed different. The descriptions between the two cases are so similar that traditional classification models are difficult to discern. For this kind of problems, the fusion model is used to solve the problems of different differences in the classification of legal articles.

4.1 Comparison of Model Fusion and Single Model

The CNN model with the best model fusion effect in CAIL2018 is compared with CNN\SVM. The comparison results on the database are shown in Figure 5.

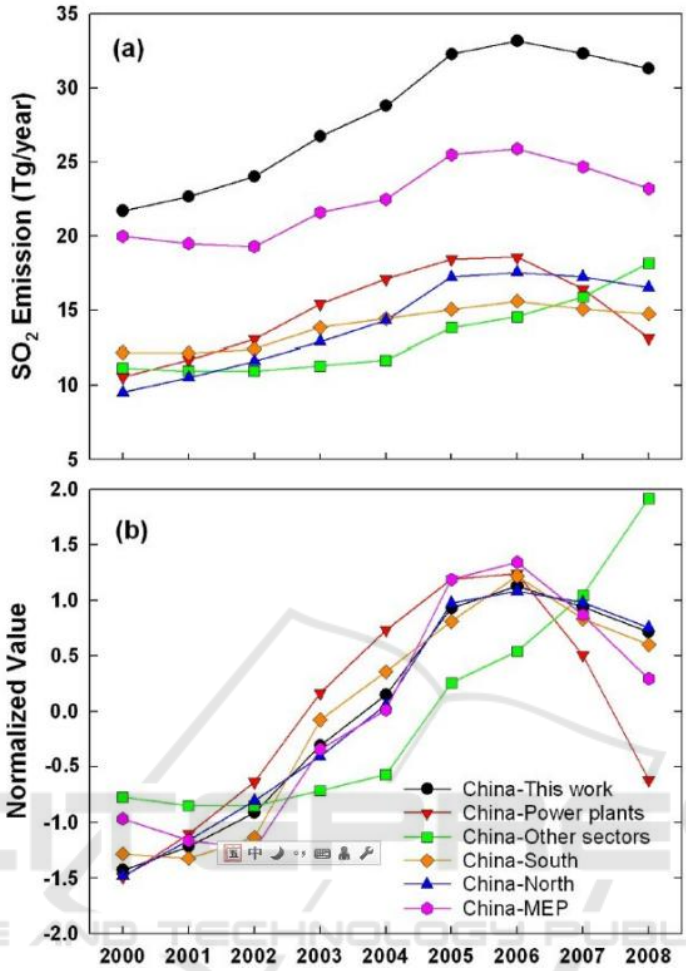

Figure 5: Experimental comparison results.

The experimental results in Figure 5 show that the fusion model is dominant in comparison with other models, indicating that the fusion of the convolutional neural network model proposed in this paper is beneficial in the task of law recommendation.

The analysis of the experiment can know that the use of the fusion model has a more repeated usage rate, which is an advantageous advantage of the convolutional neural network. Combining the fusion model as the first policy of legal recommendation is to promote the further development of legal recommendation.

5 CONCLUSION

In this paper, the method of model fusion is used in the research on legal recommendation. Its main functions are: (1) The use of character-level convolutional neural network for legal recommendation can produce different effects in different environments, it can be seen that it is very helpful for convolutional neural networks. (2) The use of model fusion can resolve the differences in legal recommendations. (3) The method of result value can solve the problem of "one-to-many", and better solution to the problem page generated by the model also improves the application value of the model.

The experimental results can show that it is necessary to use the right method, and it can better solve the problem of legal recommendation. It needs to be improved on this basis, so as to better solve the problem and develop the next key research goals. . To achieve the success of the task of recommending legal articles, the knowledge of legal articles can be fully utilized, the information of legal articles can be familiarized, and the experimental performance can be improved. The significance of this study lies in

the better use of legal recommendations, to provide legal assistance to the people, and to help people who do not understand. The next step of development is to carry out the next step of improvement on the usage method recommended by the law, so as to achieve a more perfect state.

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