Hindawi
Mobile Information Systems
Volume 2023, Article ID 9817329, 1 page
https://doi.org/10.1155/2023/9817329

Retraction

Retracted: Classification Method of Ideological and Political Resources of Broadcasting and Hosting Professional Courses Based on SOM Artificial Neural Network

Mobile Information Systems

Received 8 August 2023; Accepted 8 August 2023; Published 9 August 2023

This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

(1) Discrepancies in scope

(2) Discrepancies in the description of the research reported

(3) Discrepancies between the availability of data and the research described

(4) Inappropriate citations

(5) Incoherent, meaningless and/or irrelevant content included in the article

(6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

References

[1] W. Si, "Classification Method of Ideological and Political Resources of Broadcasting and Hosting Professional Courses Based on SOM Artificial Neural Network," *Mobile Information Systems*, vol. 2022, Article ID 9220857, 12 pages, 2022.

Hindawi
Mobile Information Systems
Volume 2022, Article ID 9220857, 12 pages
https://doi.org/10.1155/2022/9220857

Research Article

Classification Method of Ideological and Political Resources of Broadcasting and Hosting Professional Courses Based on SOM Artificial Neural Network

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Received 23 May 2022; Revised 15 June 2022; Accepted 24 June 2022; Published 13 July 2022

Academic Editor: Le Sun

In order to improve the classification effect of ideological and political resources of audio hosting professional courses and improve the classification accuracy of ideological and political resources of courses, this paper puts forward a classification method of ideological and political resources of broadcasting and hosting professional courses based on SOM artificial neural network. The adaptive sliding window mutual information method is used to extract the sample characteristics of ideological and political resources of broadcasting and hosting professional courses. This paper constructs the classification model of ideological and political resources of broadcasting and hosting professional courses through deep belief neural network, designs the ideological and political resources classifier of broadcasting and hosting professional courses according to SOM artificial network, constructs the ideological and political resources feature tree of broadcasting and hosting professional courses, and obtains the leaf nodes of the feature tree through hierarchical aggregation algorithm. The category of ideological and political resources of broadcasting and hosting professional courses is obtained by using the merging processing method, the classification operation results are verified by BIC criterion, the number of clusters with the maximum growth distance, that is, the final number of clusters, is calculated and brought into the classifier, and the classification results of SOM artificial network classifier are output to realize the classification of ideological and political resources of broadcasting and hosting professional courses. The experimental results show that, under this method, the accuracy of ideological and political resources classification of broadcasting and hosting professional courses can reach 99.18%, and the completeness is as high as 99.58%, and the F-measure value is effectively improved, which shows that this method can improve the effect of ideological and political resources classification of broadcasting and hosting professional courses.

1. Introduction

With the media integration gradually entering the deep-water area, the communication mode of broadcasting and hosting industry has been transformed and upgraded, which provides a new idea for the promotion of ideological and political construction of broadcasting and hosting art courses [1–3]. In recent years, with the continuous development of China's economy and society and the continuous prosperity of cultural undertakings, the radio and television industry has ushered a new development situation and huge development space [4, 5]. As a key profession in the radio and television industry, the talent training of TV broadcasting host is of great significance to the development of the whole industry. As an institution transporting broadcasting and hosting art talents, TV broadcasting and hosting course is the core course of broadcasting and hosting art specialty [6]. In order to better realize the needs of current social development and the relevant requirements of industry progress, we should attach great importance to the teaching reform of broadcasting and hosting course, so as to continuously promote the better development of TV broadcasting and hosting industry.

Relevant scholars have conducted comparative research and made some progress. Xing et al. proposed a classification method of ideological and political resources of broadcasting and hosting professional courses based on adaptive multi-task convolution neural network [7], extracted the characteristics of ideological and political resources of broadcasting

and hosting professional courses by convolution neural network, grouped and sorted the characteristics of ideological and political resources of courses by decision tree clustering, constructed an adaptive multitask convolution neural network training model, and input the ideological and political resources of broadcasting and hosting professional courses into the training model for training, to realize the classification of ideological and political resources of broadcasting and hosting professional courses. This method can effectively improve the automatic clustering of ideological and political resources of broadcasting and hosting professional courses, but the classification and completeness of ideological and political resources is poor. Wang et al. proposed a text classification method of ideological and political resources of broadcasting and hosting professional courses based on neural network [8]. The text information of ideological and political resources of broadcasting and hosting professional courses is collected by machine vision technology, the importance evaluation of ideological and political resources of broadcasting and hosting professional courses is realized according to analytic hierarchy process, and the text classifier of ideological and political resources is designed according to recursive neural network structure, using natural language processing technology to complete the classification of ideological and political resources data set of broadcasting and hosting professional courses. The experimental results show that the neural network structure can automatically obtain the text features of curriculum ideological and political resources, avoid complicated artificial feature engineering, and improve the text classification effect of curriculum ideological and political resources, but the classification efficiency of curriculum ideological and political resources is not good. Wu et al. proposed a text classification method of ideological and political resources of broadcasting and hosting professional courses based on efficient use of neural network [9]. The existing text classification method of ideological and political resources of broadcasting and hosting professional courses based on deep learning does not consider the importance of text features and the correlation between features, which affects the accuracy of classification.

In view of the above problems, this paper proposes a classification method of ideological and political resources of broadcasting and hosting professional courses based on SOM artificial neural network. Finally, the performance of the classification method of ideological and political resources of broadcasting and hosting professional courses is verified by experiments, and the full text is summarized.

2. Feature Extraction and Resource Classification

2.1. Feature Extraction of Ideological and Political Resources of Broadcasting and Hosting Professional Courses. The text vector obtained by the traditional text representation method generally has the problem of too high dimension and being very sparse, which greatly affects the performance of ideological and political resources classification of broadcasting and hosting professional courses. Therefore, it is necessary to use feature selection to remove redundant features, screen representative important features to better represent the text, and improve the classification effect [10]. The number of feature items in the text representation determines the dimension of the input vector. The more the features are, the more accurate the text can be represented, and the higher the accuracy of classification is. However, when dealing with large-scale text data, due to the excessive number of feature items and low relevance, the direction of text representation has the disadvantages of high latitude and strong sparsity, and the time cost of calculation also increases, which affects the classification efficiency. Therefore, in order to avoid the dimension disaster and improve the calculation efficiency, it is necessary to adopt the adaptive sliding window mutual information method to extract the features of ideological and political resources of broadcasting and hosting professional courses. It mainly selects the feature items and calculates the feature weight. The purpose is to select the important features in the text, reduce the vector dimension, and achieve the goal of reducing the amount of calculation and improving the accuracy. Generally, there are four ways:

(1) The original features are mapped or transformed to obtain fewer new features.

(2) Select important features directly from the original features.

(3) Select representative features based on expert knowledge.

(4) Features are selected mathematically.

The specific process is as follows:

During the application of ideological and political resources of broadcasting and hosting professional courses, with the increase of teaching course hours, the resource data shows an incremental development trend. In the process of extracting the characteristics of ideological and political resources of broadcasting and hosting professional courses, we should consider the new data and historical data at the same time, realize the feature extraction based on the global perspective, and avoid ignoring the hidden information contained in the resources [11].

The adaptive sliding window mutual information method is used to process the historical data and incremental data of ideological and political resources of broadcasting and hosting professional courses, so as to realize the feature extraction of ideological and political resources of broadcasting and hosting professional courses.

Matrix $X_1 = [x_1, x_2, \cdots, x_m]$ represents the original window data, and matrix $X_2 = [x_{m+1}, x_{m+2}, \cdots, x_{m+r}]$ represents the incremental window data. All data contained in the ideological and political resources of broadcasting and hosting professional courses are represented by $X = [X_1, X_2]$; Z_1 and Z_2, respectively, represent the mutual information matrix of the original window data and the new window data of the ideological and political resources of the broadcasting and hosting professional courses; Z represents the mutual information matrix of ideological and political resources samples of all broadcasting and hosting professional courses [12].

According to the definition of resource samples mutual information, the expression of mutual information matrix is as follows:

$$Z = \frac{1}{m+r}(Z_1 + Z_2). \tag{1}$$

The diagonalization process uses the unit matrix to represent Z_1, and the resource samples characteristic decomposition formula is as follows:

$$I = G_1^T Z_1 G_1. \tag{2}$$

Using the space formed by S G_1 to receive the projection of D Z_2, the formula is as follows:

$$\overline{Z_2} = G_1^T Z_2 G_1. \tag{3}$$

Find the sum of formulas (1) and (2) to obtain [13]

$$G_1^T (Z_1 + Z_2) G_1 = I + \overline{Z}. \tag{4}$$

The characteristic decomposition $\overline{Z_2}$ formula is as follows:

$$\overline{Z_2} = P_2 \Lambda_2 P_2^T. \tag{5}$$

Substitute formulas (5) into (4) to obtain the following expression:

$$P_2^T G_1^T (Z_1 + Z_2) G_1 P_2 = I + \Lambda_2. \tag{6}$$

Through the above process, we can obtain the decomposition results of the characteristics of ideological and political resources of all broadcasting and hosting professional courses [14–16].

According to formula (2):

$$G_1 = B_1 \Lambda_1^{-1/2}. \tag{7}$$

In formula (7), $\Lambda_1 \in R^{m \times k}$ and $B_1 \in R^{n \times k}$, respectively, represent the matrix composed of the first k eigenvalues and the principal component decision matrix of ideological and political resources of the original broadcasting and hosting professional curriculum.

Through the above process, the eigenvalue Λ_2 and eigenvector P_2 and $\Lambda_2 = [\mu_1, \mu_2, \cdots, \mu_n]$, $P_2 = [\beta_1, \beta_2, \cdots, \beta_n]$ of the mutual information matrix of the new window data are obtained.

Obtain the characteristic values of ideological and political resources samples of all broadcasting and hosting professional courses according to the characteristic vectors and eigenvalues [17]. The formula is as follows:

$$\Lambda = \frac{1}{m+\sigma}(I + \mu_i). \tag{8}$$

In formula (8), m represents the sample data of ideological and political resources of history broadcasting and hosting professional courses; σ represents the sample data of ideological and political resources of newly added broadcasting and hosting professional courses [18].

The ideological and political resources extraction model of broadcast hosting professional courses is

$$P = G_1 \beta_i. \tag{9}$$

Reduce the dimension of the decision-making resources to the principal component matrix established by the broadcasting resources, and then realize the mapping of the principal component matrix established by the broadcasting resources [19]. The subsequent window repeats the above process to extract the characteristics of ideological and political resources samples of all broadcasting and hosting professional courses.

2.2. Classification Model of Ideological and Political Resources of Broadcasting and Hosting Professional Courses. Depth belief neural network technology is a multilayer neural network jointly constructed by the display layer and the hidden layer. Through the weight processing and calculation between neurons at different levels, for the existing data samples, the maximum degree of data prediction and restoration is completed according to the depth calculation method. The technology is called DBN. Deep belief neural network can be used in the field of supervised learning and unsupervised learning. Because of the particularity of technology, the application field is expanding [20–22]. For the classification model of ideological and political resources of broadcasting and hosting professional courses designed in this paper, firstly, the deep belief neural network calculates the unsupervised learning feature extraction and training of ideological and political resources of broadcasting and hosting professional courses in areas that need to be classified. Then, the supervisory neural network is used to construct the network for the collected ideological and political resource data of broadcasting and hosting professional courses. Finally, the constructed data samples are globally optimized by means of joint fine-tuning to achieve the purpose of analysis [23]. The structure diagram of deep belief neural network model is shown in Figure 1.

The normalization formula is as follows:

$$x_i(k)_1 = \frac{x_i(k)}{\sum_{k=1}^{s} x(k)}, \tag{10}$$

where k represents the number of network layers, and its value range is 1, 2, 3, 4, 5; i represents the number of nodes, and its value range is 1, 2, 3, 4, 5, 6, 7, 8, 9.

Then, the deep belief neural network technology is called to learn and train effective data samples. According to the basic types of classification required, the calculation dimension (collectively referred to as step size) of the classified sample data of ideological and political resources of broadcasting and hosting professional courses is determined. The value range is 0~1. The calculation formula of step size is as follows:

$$\alpha = \frac{L_A}{L_C}, \tag{11}$$

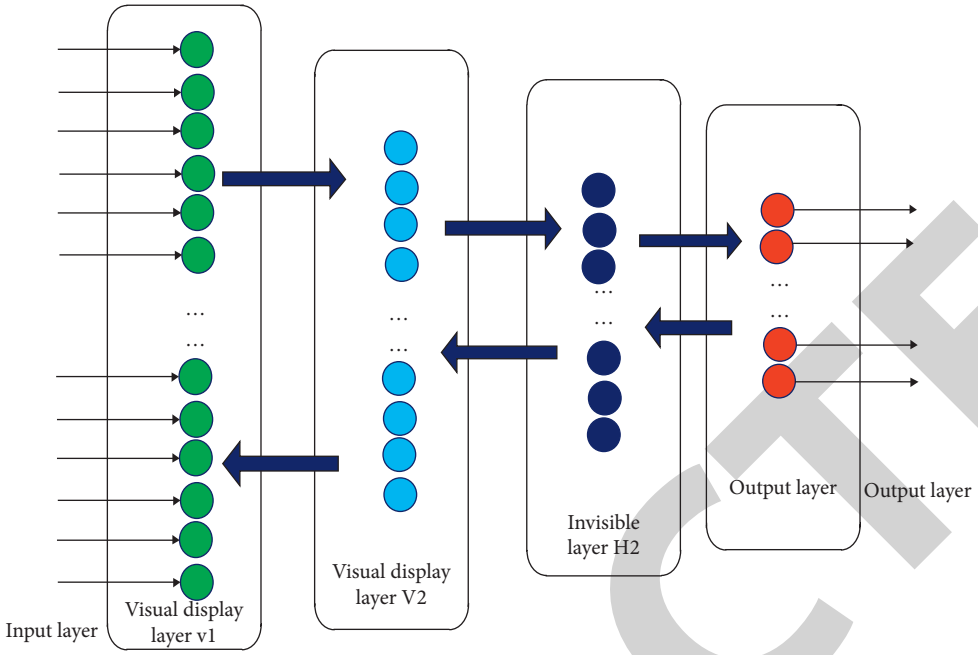

Figure 1: Structure diagram of deep belief neural network model.

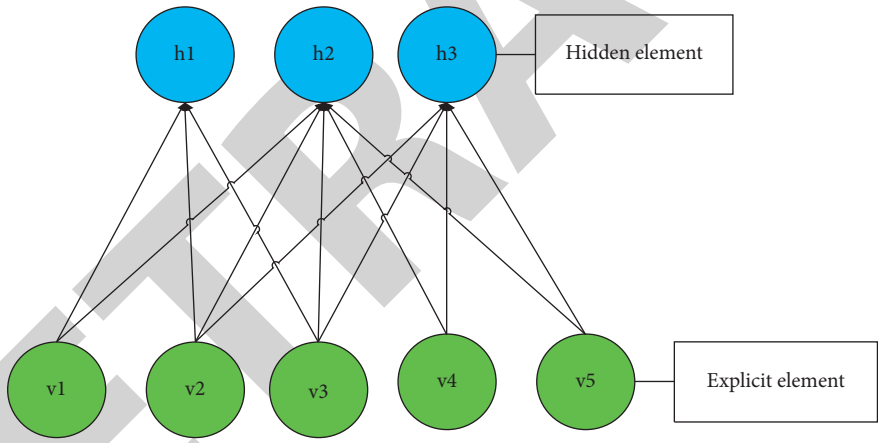

Figure 2: Neuron structure in neural network.

where L_A and L_C, respectively, represent the number of data output by the prediction neural network and the number of sample data [24].

The neuron structure in the neural network is shown in Figure 2.

For the training process of the classified sample data of ideological and political resources of broadcasting and hosting professional courses, it is necessary to calculate the input and output value of any node of the display layer [25], and the two calculation formulas are as follows:

$$net\mathrm{b}_r = \sum_{N}^{i=1} \mathrm{w}_{ij} * \mathrm{x}_i - \theta_i, \tag{12}$$

$$\mathrm{y}_1 = \mathrm{f} \sum_{N}^{i=1} \mathrm{v}_{r1} * \mathrm{b}_r - \theta_r. \tag{13}$$

Among them, formula (12) represents the output calculation formula of the node, and formula (13) represents the input calculation formula of the node. b_r represents the output of the r-th node of the display layer; y_1 represents the output of the hidden layer; w_{ij} represents the connection weight between the ith node of the hidden layer and the jth node of the display layer; v_{r1} represents the connection weight between the r-th node of the hidden layer and the node of the display layer; θ_r represents the threshold of the r-th node of the hidden layer; θ_i shows the threshold of the r-th node of the layer; f represents S-type function.

After the training and learning of the samples by the above deep belief neural network [26], then calculate the error between the predicted value of the output data sample and the expected output value. The formula for calculating the expected output value is as follows:

$$d_1 = y_1(1 - y_1) * \left(y_1^k - y_1\right). \tag{14}$$

The reverse error of the two is calculated as follows:

$$e_r = b_r(1 - b_r) * \sum_{n}^{j=1} v_{r1} d_j. \quad (15)$$

The connection weights and compensation of hidden layer and visible layer nodes inside the deep belief neural network node will be adjusted and calculated in an infinite cycle according to the above formula. After the error between the predicted value and expected value of the sample data of ideological and political resources of broadcasting and hosting professional courses meets the regulations, the ideological and political resources classification model of broadcasting and hosting professional courses will output the results and end the ideological and political resources classification of broadcasting and hosting professional courses.

3. SOM Artificial Network Classifier for Constructing Ideological and Political Resources of Broadcasting and Hosting Professional Courses

Artificial neural network has many application advantages; single neuron or connection has little effect on the overall function of the network. In neural networks, the storage and processing of information are combined, and the information is distributed in almost the whole network. So, when one or more points are destroyed, information can still be accessed. The system can work normally when it suffers local damage. However, the independent application of artificial neural network can not automatically identify the characteristics of data, hence the emergence of the self-organizing map artificial neural network. SOM is an unsupervised artificial neural network. Unsupervised means that there is no need to indicate which outputs of the network are right or wrong, and it automatically identifies and classifies certain features of the input data. Because the input data is usually high dimensional and the output data is low dimensional, it can represent the high dimensional data in low dimensional space.

SOM artificial network captures local features through convolution layer and pooling layer. In text task, local features refer to the sliding window composed of multiple words. TextCNN can extract local features of different sizes by setting convolution cores of different sizes and then filter and combine these to obtain semantic information of different abstract levels, so as to make the feature vectors obtained by network model more diverse.

It is mainly composed of input layer, convolution layer, pooling layer, and full connection layer.

(1) Input layer: first, convert the text data into a vector representation that can be understood by the computer, usually an $n \times k$ matrix, where n represents the length of sentence and k represents the dimension of word vector. Input the matrix into SOM artificial network model.

(2) Convolution layer: different from the image, in order not to separate the word vector and lose the semantic information of the word vector, the convolution core only moves up and down. The width of the convolution core is consistent with the dimension of the word vector, set to k, and the height, as a super parameter, can be adjusted to obtain different local features.

(3) Pooling layer: reduce the dimension of the features extracted from the convolution layer, obtain the key features of the text, reduce the computational complexity, accelerate the convergence speed of the model, and prevent overfitting.

(4) Full connection layer: fuse the features obtained through the convolution layer and pooling layer, use softmax as the classifier to output the probability of each category corresponding to each text, and classify the text according to the probability.

3.1. Basic Structure of SOM Artificial Network Classifier. SOM artificial network classifier is an algorithm that simulates the structure and function of human brain. It is composed of input layer, hidden layer, and output layer. SOM artificial network classifier mainly works through two processes: signal forward propagation and error backpropagation. In the signal forward propagation stage, the input signal is input through the input layer, then processed by the hidden layer, and finally reaches the output layer and outputs the result. At this time, calculate the error value between the output result and the expected output, and judge whether the error value is less than the set threshold. If the error value is less than the threshold, the output result is desirable. If the error value is greater than the threshold, it enters the error back propagation stage. In the error backpropagation stage, the error propagates to the input layer in some form, and the connection weight is continuously adjusted according to the error. After repeated training, the output results keep approaching the expected results.

The construction of classifier based on SOM artificial network mainly includes three steps, as shown in Figure 3.

3.2. SOM Artificial Network Training Process

Step 1. Initialize the parameters of SOM artificial network.

Step 2. The data input layer of ideological and political resources of broadcasting and hosting professional courses.

Step 3. Calculate the hidden layer of ideological and political resource data of broadcasting and hosting professional courses. The calculation formula is as follows:

$$H_j = f\left(\sum_{i=1}^{n} \omega_{ij} x_i - a_j\right), j = 1, 2, \cdots, l, \quad (16)$$

where x_i is the input vector; ω_{ij} is the connection weight between input layer and hidden layer; a_j is the hidden layer threshold, and the hidden layer output is H_j; l is the number

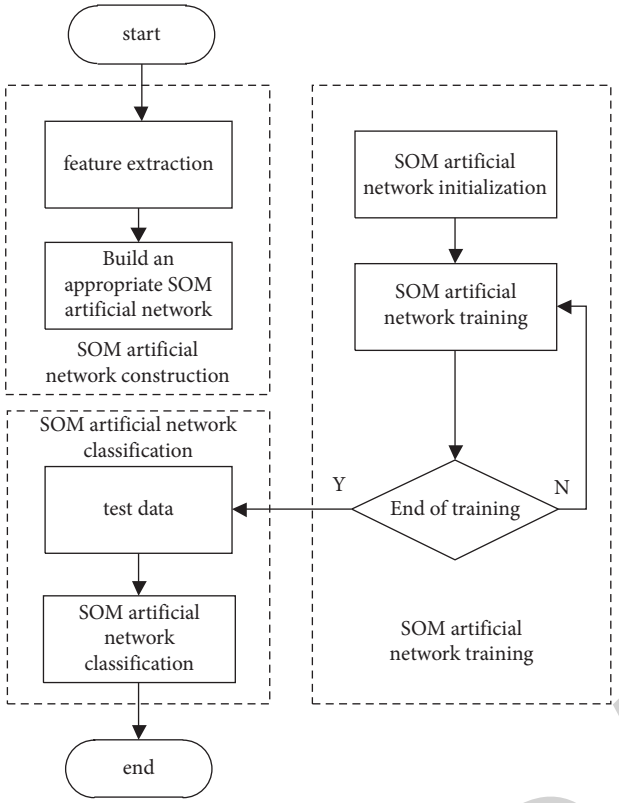

Figure 3: SOM artificial network classifier.

of hidden layer nodes; f is the excitation function of the hidden layer.

Step 4. Input the calculation results of the hidden layer to the output layer. The calculation formula of output layer is as follows:

$$O_k = \sum_{j=1}^{1} H_j \omega_{jk} - b_k, k = 1, 2, \cdots, m, \tag{17}$$

where ω_{jk} is the connection weight, b_k is the threshold, and O_k is the output of SOM artificial network output layer.

Step 5. Error calculation. The calculation formula is as follows:

$$e_k = Y_k - O_k, k = 1, 2, \cdots, m. \tag{18}$$

Step 6. Weight update. Update the network connection weights ω_{ij} and ω_{jk} according to the network prediction error e.

$$\begin{aligned} \omega_{ij} &= \omega_{ij} + \eta H_j \left(1 - H_j\right) x(i) \sum_{k=1}^{m} \omega_{jk} e_k, i = 1, 2, \cdots, n; j = 1, 2, \cdots, l, \\ \omega_{jk} &= \omega_{jk} + \eta H_j e_k, j = 1, 2, \cdots, l; k = 1, 2, \cdots, m, \end{aligned} \tag{19}$$

where η is the learning rate.

Step 7. Threshold update. Update the network node thresholds a and b according to the network prediction error e.

$$\begin{aligned} a_j &= a_j + \eta H_j \left(1 - H_j\right) \sum_{k=1}^{m} \omega_{jk} e_k, i = 1, 2, \cdots, l, \\ b_k &= b_k + e_k, k = 1, 2, \cdots, m. \end{aligned} \tag{20}$$

Step 8. Judge whether the algorithm iteration is over. If not, return to step 2.

3.3. A Two-Step Clustering Method for Ideological and Political Resources of Broadcasting and Hosting Professional Courses. The two-step clustering method is a highly comprehensive hierarchical clustering algorithm, which can realize the simultaneous operation of continuous variables and discrete variables. It has high effectiveness when applied to the sample processing of ideological and political resources of broadcasting and hosting professional courses. The two-step clustering algorithm mainly includes two parts: constructing feature tree and hierarchical aggregation algorithm.

3.3.1. Constructing Feature Tree. The extracted features of ideological and political resources of broadcasting and hosting professional courses are used to construct the feature tree. Scan all sample data characteristics of ideological and political resources of broadcasting and hosting professional courses according to the set fixed sequence, determine the data category and different category centers after scanning, and divide the ideological and political resources of broadcasting and hosting professional courses to be classified into different categories according to fixed standards. The above process is the process of establishing feature tree. The constructed feature tree uses the root of the leaf node to store and broadcast the measurement of ideological and political resources of professional courses, and the variable information contained is reflected through the leaf node. The existing nodes and subsequent observations are compared by similarity measure. When the comparison result is similar, the similar observation samples are added to the existing nodes. When the comparison result is not similar, a new node is established in the feature tree until the comparison of ideological and political resource data of all broadcasting and hosting professional courses is completed to realize the construction of feature tree.

3.3.2. Feature Node Grouping. Select the characteristic leaf node constructed by grouping the hierarchical aggregation algorithm. The operation process of the algorithm is as follows.

The continuous variable measurement is realized by the square root of the Euclidean square distance. The Euclidean distance measurement formula is as follows:

$$d_{ij} = \sqrt[2]{\sum_{i=1}^{m} \left(x_{ik} - x_{jk}\right)^2}. \tag{21}$$

The processing of continuous variables and classified variables is realized by likelihood log distance, which is the probability value obtained based on distance. The likelihood logarithm decreases when different categories are combined into the same category, and the distance between different categories changes.

Continuous variables and classified variables shall conform to normal distribution and polynomial distribution in the process of likelihood logarithm operation. When applying likelihood logarithm distance to the combination and classification of ideological and political resources of broadcasting and hosting professional courses, set different variables as independent states.

Define the distance $d(j,s)$ between category j and category j as follows:

$$d(j,s) = x_j + x_S - x_{\langle j,s\rangle}. \tag{22}$$

In formula (11), $\langle j,s\rangle$ represents the category obtained by merging processing.

Using the classification operation results of the above process of BIC criterion, the number of classifications obtained is initially estimated. The number of clusters with the largest growth distance, that is, the number of final clusters, is the most similar ratio between the two species in the initial classification.

The number of clusters is expressed by R, and the calculation formula of final merging classification is as follows:

$$\begin{aligned} BIC(R) &= -2\sum_{j=1}^{j} x_j + m_j \log(N), \\ m_j &= R\left\{2H^A + \sum_{H=1}^{H^B}\left(L_H - 1\right)\right\}. \end{aligned} \tag{23}$$

In the above formula, H^A and N, respectively, represent the total number of continuous variables and the total number of observations and measurements in the process of merging and classification, m_j represents the number of leaf nodes, L_H and H^B, respectively, represent the k-th variable number of the merging and classification of ideological and political resources of broadcasting and hosting professional courses to be classified and the total number of all classification variables used in the process of merging and classification, so as to realize the ideological and political resources classification method of broadcasting and hosting professional courses based on SOM artificial neural network.

4. Experiment

4.1. Experimental Data Set. Experiments are carried out on three widely used public text data sets, including R8, R52, and TREC.

R8 and R52 are two subsets of the multiclass and multilabel dataset Reuters-21578. Among them, the R8 data set is divided into 5485 training documents, 2189 test documents, and 8 labels, while the R52 data set contains 52 labels, which are divided into 6532 training documents and 2568 test documents.

Table 1: Data set information statistics.

Data set	Number of R8	Number of R52	Number of TREC
Training samples	5485	6532	5452
Test samples	2189	2568	500
Nodes	15362	17992	7189
Documents	7674	9100	5952
Words	7688	8892	1237
Classes	8	52	6

It is divided into 545 test entities (abbreviated as "TREC"), which are divided into 6 test data sets (abbreviated as "TREC") and 6 test data sets.

Firstly, all data sets are preprocessed by cleaning and marking text, and then the stop words defined in nltk6 and low-frequency words that appear less than 5 times in R8, R52, and TREC are deleted. The statistical results of the preprocessed data set are shown in Table 1.

Parameter setting: for dcgcn, a 256-dimensional word embedding algorithm is used in this paper. Considering the robustness of the model in long text and short text data, the window size is set to 20, the learning rate is set to 0.05, and dropout is set to 0.6, 0.55, and 0.8 in R8, R52, and TREC, respectively. In terms of data set, the experiment randomly selects 10% of the training set as the verification set and sets the maximum training batch of the model to 1800. In order to prevent overfitting problems and obtain better generalization effect, the early stop method is adopted. If the loss of the model in the verification set does not decrease in 20 consecutive batches, the model will terminate the training in advance.

4.2. Clustering Processing of Ideological and Political Resources of Broadcasting and Hosting Professional Courses. After the design of the classification method of ideological and political resources of broadcasting and hosting professional courses is completed, experiments need to be carried out in order to prove its feasibility. Considering that the research content of this paper is mainly aimed at the classification of ideological and political resources of broadcasting and hosting professional courses, movie lens site is selected as the data collection center to collect the scoring information of 1650 ideological and political resources of broadcasting and hosting professional courses by 850 users in the site, which can be used as the data set required for the experiment.

The classification method of ideological and political resources of broadcasting and hosting professional courses based on SOM artificial neural network is mainly to establish the probability prediction model of users' selection of resources. Therefore, before the experiment, the scoring information in the experimental data set is counted, and the statistical results of the classification times of ideological and political resources of broadcasting and hosting professional courses shown in Figure 4 are obtained from the perspective of the project.

According to the data statistical results shown in Figure 4, draw the corresponding community network and

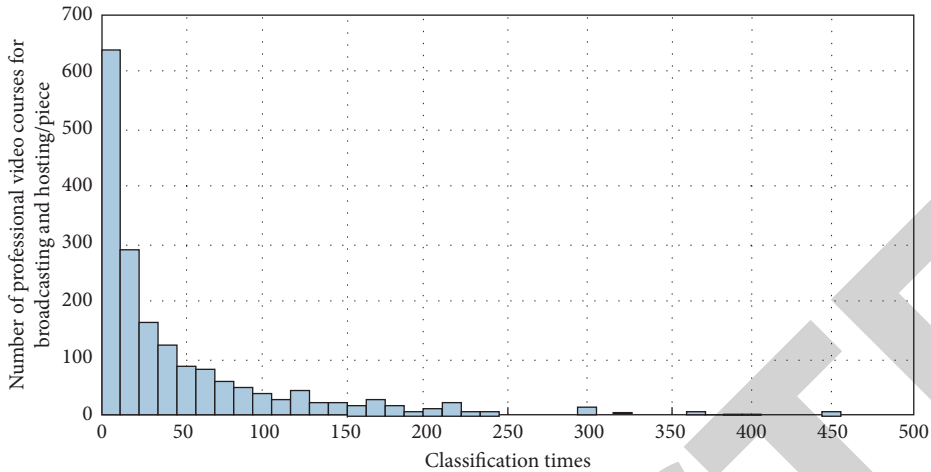

Figure 4: Classification and statistics of ideological and political resources of broadcasting and hosting professional courses.

Table 2: Automatic clustering results.

Number of categories	BIC standard	BIC change rate	Distance measurement ratio
1	1118956.52	0.073	1.867
2	69524.13	0.056	1.849
3	71526.45	0.026	1.652
4	72354.65	1	8.594
5	73245.52	−0.025	1.542
6	75645.82	−0.015	1.668
7	76845.25	−0.085	1.452
8	78945.62	−0.062	1.325
9	80456.25	−0.089	1.845
10	82648.22	−0.094	1.468

place it in the SQL Server database as the experimental basis of resource classification method.

The method of collecting the broadcasting resources of the major of ideological and political science in a university is used to host the experiment, and the broadcasting resources of the major of ideological and political science are collected and verified.

Set the ideological and political resources of broadcasting and hosting professional courses as the test variable, and use the BIC results to determine the best classification. The automatic clustering results of BIC are shown in Table 2.

Generally, the smaller the BIC value obtained by the clustering algorithm, the better the clustering performance of the clustering algorithm and the higher the quality of the generated clustering data. It can be seen from Table 2 that when the number of clusters increases, the BIC value obtained decreases. Therefore, it is necessary to measure the distance measurement ratio and BIC change rate to determine the best number of clusters. When the cluster measurement ratio is higher and the change rate of BIC is also higher, the clustering scheme is the best. Table 1 experimental results show that when the obtained cluster categories are 4, the cluster measurement ratio obtained by clustering is the highest, and the change rate of BIC is the highest. Therefore, the ideological and political resources of broadcasting and hosting professional courses are classified into four categories.

4.3. Experimental Result

4.3.1. Classification Sequence Comparison. In order to obtain the application performance of the classification method designed in this paper, a user and 50 resources to be classified are randomly selected for resource classification experiment. The selected resources are sorted and the resource order remains unchanged. The classification method proposed in this paper is applied to classify the resources to the user. In addition, the classification method based on adaptive multitask convolution neural network and the classification method based on efficient neural network are used to obtain the resource classification results. The resource classification results of the three methods are presented in the form of classification sequence to form the comparison diagram of classification sequence shown in Figure 5.

(a) Design method in this paper.

(b) Classification method of adaptive multitask convolution neural network.

(c) Classification method based on efficient neural network.

In the schematic diagram of resource classification sequence, the vertical axis is composed of 0 and 1. 0 indicates that the resource is classified and 1 indicates that the resource has been classified. As shown in Figure 5, there is only

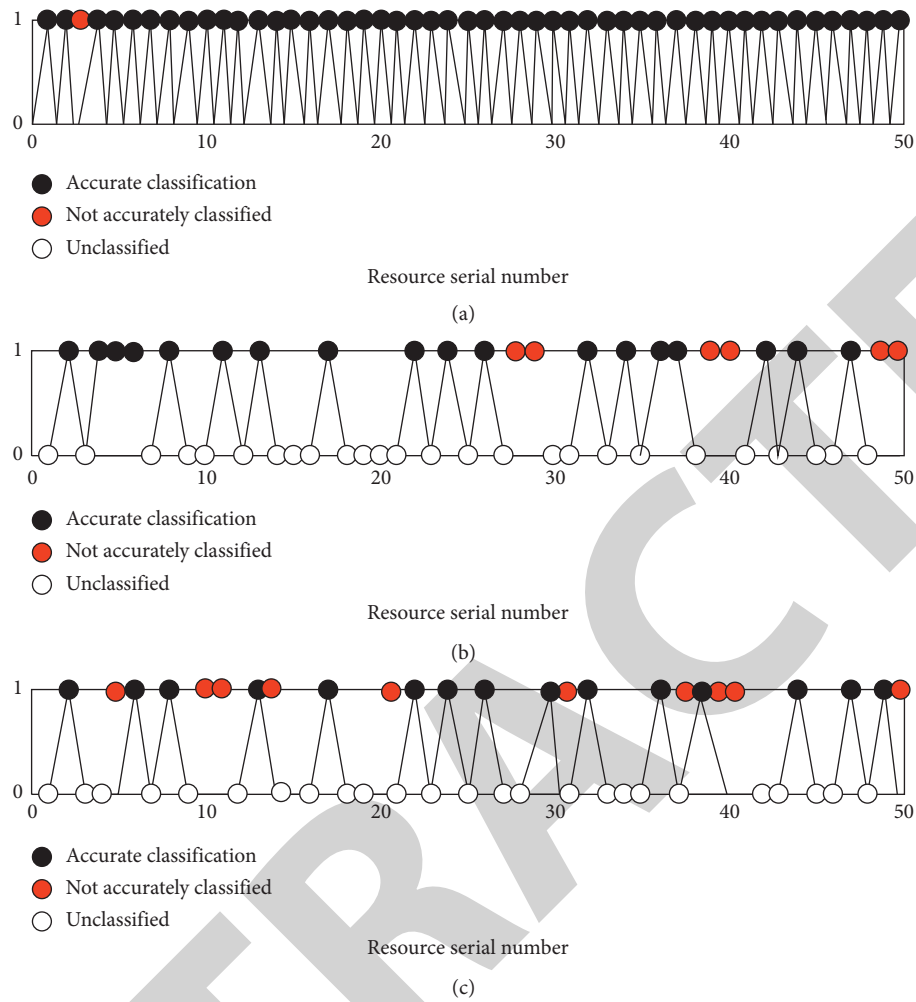

Figure 5: Comparison of resource classification sequences of different methods. (a) Design method in this paper. (b) Classification method of adaptive multitask convolution neural network. (c) Classification method based on efficient neural network.

one inaccurate classification data in the sample resources under the research method, and the rest of the resource data have completed the accurate classification. In contrast, when the classification method based on adaptive multitask convolution neural network and the classification method based on efficient neural network are used, there are more inaccurate and unclassified resource data. Comparing the classification results, we can see that there are some differences in the classification sequences generated by the three methods, indicating that the resource classification performance of different methods is different.

4.3.2. F-Measure Value Comparison. Through in-depth analysis of resource classification, it can be found that the solution of this problem includes classification and unclassified, and classification includes two results: accurate classification and incorrect classification. In the process of performance analysis of classification method, F-measure value is selected as the performance evaluation index of classification method in this experiment, and its calculation formula is

$$F - Measure = \frac{2 \times P \times R}{P + R}. \tag{24}$$

In the formula, P represents the accuracy rate and R represents the recall rate. According to the calculation results of F-measure value, the higher the calculated value, the higher the classification quality of this method.

In order to accurately show the advantages of the method proposed in this paper, six groups of recommendation experiments are carried out by using three methods. The number of resources to be classified is set to 50, 100, 200, 300, 500, and 1000, respectively. According to the classification results, the comparison diagram of F-measure values of different methods shown in Figure 6 is obtained.

According to Figure 6, the average F-measure value of the resource classification method designed in this paper is 0.92, while the average F-measure values of the other two classification methods are 0.51 and 0.59, respectively. To sum up, the ideological and political resources classification method of broadcasting and hosting professional courses based on SOM artificial neural network has increased the F-measure value by 41% and 33%. Using the resource classification

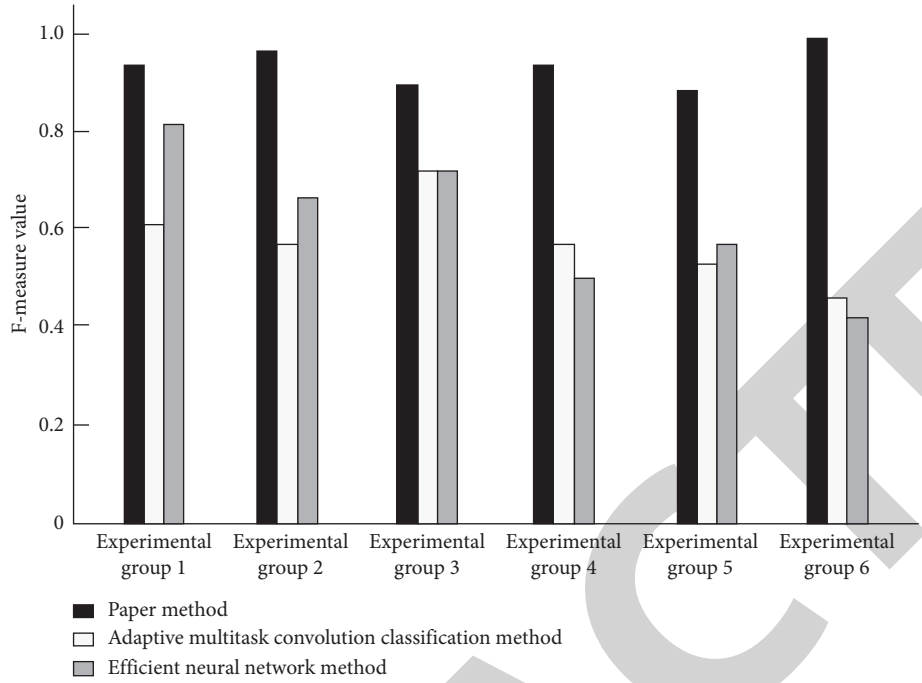

Figure 6: Comparison of F-measure values of different classification methods.

method proposed in this paper can better grasp and realize the resource classification method and improve the effect of resource classification.

4.3.3. Classification and Performance of Ideological and Political Resources of Broadcasting and Hosting Professional Courses. The two indexes of completeness and accuracy are used to evaluate the classification effect of ideological and political resources of broadcasting and hosting professional courses. The specific results are shown in Tables 3–5.

By analyzing the above experimental results, it can be seen that the accuracy and completeness of ideological and political resources classification of broadcasting and hosting professional courses by using adaptive multitask convolution neural network classification method are the highest, 72.10% and 65.52%, respectively; The accuracy and completeness of classifying ideological and political resources of broadcasting and hosting professional courses by using efficient neural network method are 69.13% and 70.21%, respectively. Using this method, the accuracy and completeness of the classification of ideological and political resources of broadcasting and hosting professional courses are higher than 98%. The above results show that this method can effectively improve the classification accuracy of ideological and political resources of broadcasting and hosting courses and has high applicability.

According to this experiment, there is only one inaccurate classification data in the sample resources under the research method, which indicates that this method has the ideal function of accurate classification of resource data. The average F-measure value of the resource classification method designed in this paper is 0.92, and the accuracy and recall rate are higher than 98%, which shows that the ideological and political resource classification method of broadcasting and hosting professional courses based on SOM artificial neural network effectively improves the effect of resource classification.

Table 3: Classification performance of ideological and political resources of broadcasting and hosting professional courses under the method of this paper.

Category serial number	Accuracy/%	Recall rate/%
1	98.52	98.56
2	98.67	98.76
3	98.74	99.34
4	99.18	99.58

Table 4: Classification performance of ideological and political resources of broadcasting and hosting professional courses under adaptive multitask convolution neural network classification method.

Category serial number	Accuracy/%	Recall rate/%
1	67.09	51.53
2	72.10	48.78
3	49.25	37.30
4	55.33	65.52

Table 5: Classification performance of ideological and political resources of broadcasting and hosting professional courses under efficient neural network.

Category serial number	Accuracy/%	Recall rate/%
1	63.12	62.13
2	6076	70.21
3	58.54	59.32
4	69.13	69.58

5. Conclusion

This paper studies the classification of ideological and political resources of broadcasting and hosting professional courses. The adaptive sliding window mutual information method is used to extract the sample characteristics of ideological and political resources of broadcasting and hosting professional courses. Construct the ideological and political resources classification model of broadcasting and hosting professional courses through deep belief neural network, design the ideological and political resources classifier of broadcasting and hosting professional courses according to SOM artificial network, construct the ideological and political resources feature tree of broadcasting and hosting professional courses, obtain the leaf nodes of the feature tree through hierarchical aggregation algorithm, obtain the ideological and political resources category of broadcasting and hosting professional courses by merging processing method, and output the classification results of SOM artificial network classifier at this time, to realize the classification of ideological and political resources of broadcasting and hosting professional courses. The experimental results show that the accuracy and completeness of ideological and political resources classification of broadcasting and hosting professional courses by using this method are 99.18% and 99.58%, respectively. This method improves the F-measure value by 41% and 33%. Using the resource classification method proposed in this paper, we can better grasp and realize the resource classification method and improve the effect of resource classification.

Data Availability

The raw data supporting the conclusions of this article can be obtained from the author upon request.

Conflicts of Interest

The author declared that there are no conflicts of interest regarding this work.

Acknowledgments

This work was supported by 2021 Henan Higher Education Teaching Reform Research and Practice Project "Construction and Practice of Hybrid Teaching Mode of Broadcasting and Hosting Creation in Application-oriented Undergraduate Universities from the Perspective of Ideological and Political Education in Curriculum."

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