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Research Article

The Design of a Moral Education Evaluation System for College Students Based on a Deep Learning Model

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With the rapid development of deep learning, its application in the field of education has gradually attracted attention. This study introduces a deep learning-based moral education evaluation system for college students. The evaluation of the ideological and political education of college students is an important driving force to strengthen and improve the ideological and political education of college students, and its connotation is very rich. However, at present, there are many difficulties in the evaluation of ideological and political education in colleges and universities, such as narrow evaluation objectives, monotonous evaluation structures, lack of pertinence in the evaluation process, and subjective evaluation standards. The internal mechanism and external mechanism of the evaluation mechanism, the qualitative analysis and quantitative analysis of the evaluation method, the absoluteness and relativity of the evaluation standard, the dynamic and static evaluation process, and the systematic and specialized evaluation are combined to ensure the college students' thinking the objectivity and effectiveness of political education evaluation.

1. Introduction

As the evaluation of the ideological and political education of college students is an important evaluation [1] and feedback on the development of ideological and political education, it is effective for discovering, analyzing, and correcting the dilemma of ideological and political education and constructing [2, 3]. Carrying out ideological and political education is an important task in colleges and universities, and the sustainable development of ideological and political education is an important subject entrusted by the times. Under the new historical conditions, facing the complicated new situation at home and abroad, the ideological and political education of college students can only be strengthened and not weakened. It has become an urgent task of higher education to realize the sustainable development of ideological and political education for college students. A sustainable ideological and political education system for college students plays an important role in improving the overall effect of ideological and political education and promoting its in-depth development. The evaluation system of college students' ideological and political education is a systematic project, and its connotation is also rich [4–6]. Bloom regards evaluation as the most fundamental factor in a hierarchical model of human thinking and cognitive processes. According to his model, evaluation and thinking are the two most complex cognitive activities in the model of human cognitive processing. He believes that evaluation is the process of making value judgments on certain ideas, methods, and materials [7]. It is the process of using criteria to evaluate the accuracy, effectiveness, economy, and satisfaction of things. Taking various factors into consideration, evaluation refers to the process of quantitative and nonquantitative measurement of all aspects of the evaluation object by the evaluator according to the evaluation criteria and finally drawing a reliable and logical conclusion [8]. Among them, the so-called evaluator, who is also called an evaluator, is mainly a subjective agent who evaluates a certain object. The second is the system, which generally refers to the whole of a certain range or the same kind of things combined according to a certain order and internal connection, which is a system composed of

different systems. The content in the system should involve subjects, objects, laws, principles, standards, etc. The last is the ideological and political education of college students, which defines the scope and content; that is, the process of evaluation, analysis, and construction of the system should be carried out around the ideological and political education of college students [9]. When defining the evaluation system of ideological and political education for college students, it is necessary to base it on these keywords, and the key points should be considered from the following aspects.

First, there must be a definite subject in evaluating the ideological and political education of college students. To study the promoting effect of ideological and political education on the economy, we must first recognize the essence of ideological and political education and then explore at what level it can have a functional connection with the economy. It will clarify the nature of ideological and political education and study its effects on the economy from the macro- and microlevels. This subject should include both macro- and microaspects. Judging from the current domestic specific participation in the evaluation, the subjects are mainly the relevant national education administrative departments, education supervisory and scientific research institutions, and ideological and political educators in colleges and universities [10].

Second, the ideological and political education of college students must have a definite object. The object of ideological and political education evaluation of college students is throughout the whole process of ideological and political education [11, 12]. There is content at the top of the ideological and political education system, such as educational policies, educational principles, and educational goals, as well as ideological and political education. The middle end is the content of the process, such as educational content, educational methods, forms, and means of education, and the content of the lower end of ideological and political education, such as the evaluation of ideological and political educators, and the evaluation of college students receiving ideological and political education [13].

The third is the method of ideological and political education for college students [14]. The methods and means of ideological and political education for college students should be diverse, which is a combination of qualitative and quantitative analysis. Especially with the upgrading of modern statistics and analysis methods, the means and methods of evaluation should also keep pace with the times, using advanced measurement methods. Statistical technology uses the latest theoretical and practical achievements in natural science and social science to scientifically analyze the collected data. The current ideological and political education evaluation system lacks a clear line in the operation process, and there is no unified standard. The ideological and political education evaluation system that has been recognized in practice has not yet been established. Educational measurement believes that the essence of educational evaluation lies in value judgment, and the object threshold lies in the development and change of the educated and various factors that constitute the change [15]. The evaluation process of ideological and political education of college students reflects the process and nodes of evaluating the implementation of ideological and political education of college students. Whether the evaluation process is smooth, orderly, and scientific directly determines the final evaluation result. At present, the evaluation process of the ideological and political education of college students in my country involves a wide range of aspects, and the system is too large. Especially, in the connection between evaluation and the definition of responsibilities, there is a disordered state to a certain extent, which leads to rupture and blurred boundaries in the evaluation process. At the same time, the evaluation relies too much on quantitative methods, emphasizes too much on the application of scientific methods and technical methods of evaluation, and integrates some comprehensive educational issues and in-depth activities of ideological and political education that cannot be quantified and activities that reflect changes in college students' ideological and political education. The final purpose of the evaluation is to formulate corresponding policies and systems based on this [16].

2. Related Works

Most of the existing intelligent teaching systems use technologies such as image recognition, AR/VR, and speech recognition and rarely use deep learning.

The design of deep learning evaluation is a process of reasonably selecting evaluation methods and organizing evaluation content according to learning objectives. Bloom's educational goal classification theory, which is the most influential and widely used in the world today, divides educational goals into three areas: cognition, motor skills, and emotion. The specific classification rules commonly used in the corresponding fields are Bloom's cognitive goals. The taxonomies used are Simpson's Motor Skill Target Taxonomy, and Kraswall's Affective Target Taxonomy. These three classification methods are also the theoretical basis for the design of deep learning evaluation, according to which a deep learning evaluation system of cognition, motor skills, and emotion can be constructed, and the goal level to be achieved by deep learners can be comprehensively clarified.

Although Bloom has made a detailed division and elaboration of cognitive goals, there are still some limitations: the change in learner behavior is the evaluation goal, but the description of behavior goals is not clear enough, especially when the target is relatively high. When thinking activities of higher order, take the linear accumulation of thinking complexity as the classification clue, simply use the transfer to explain the transformation from low-level target learning to high-level target learning, and artificially distinguish the knowledge content from the process, ignoring the high-level target learning, a way to evaluate thinking ability. Famous educational psychologists Biggs and Chris put forward the SOLO taxonomy, aiming at the complexity of thinking structure in their reflection on Bloom's taxonomy, in order to make up for the deficiency of Bloom's taxonomy in the evaluation of higher-order thinking ability. The development of higher-order thinking is closely related to the realization of deep learning. Deep learning is to learn

the inherent laws and representation levels of sample data, and the information obtained during these learning processes is of great help to the interpretation of data such as text, images, and sounds. Its ultimate goal is to enable machines to have the ability to analyze and learn like humans and to recognize data such as words, images, and sounds. Deep learning is a complex machine learning algorithm that has achieved results in speech and image recognition far exceeding previous related technologies. Deep learning is higher-order learning with higher-order thinking as its core feature. Therefore, in the evaluation of deep learning, the evaluation of learners' thinking quality, especially the level of higher-order thinking ability, is particularly important.

To sum up, since deep learning has the commonality of general learning forms, the evaluation of deep learning can be based on the three perspectives of traditional cognition, motor skills, and emotion. The theoretical basis of the motor skills target classification and Kraswall's affective target classification, and the achievement of expected goals such as unstructured deep knowledge, higher-order cognitive skills, and high-level motor skills is the realistic standard. However, considering the particularity of deep learning, with higher-order thinking as the core feature, it is obvious that the evaluation of deep learning should pay more attention to the development of learners' higher-order thinking, that is, based on Biggs' SOLO classification method, to evaluate the level of the learner's thinking structure, which then determines the level of cognitive development. Therefore, in the traditional three-dimensional learning evaluation system of cognition, motor skills, and emotion, the SOLO taxonomy, which pays more attention to the development of higher-order thinking, should be incorporated to construct a theoretical system of deep learning evaluation, as shown in Figure 1. The learning objectives of these four dimensions of cognition, thinking structure, motor skills, and emotion are not isolated and mechanically segmented individuals, but an interconnected organic whole, which together provides theoretical guidance for comprehensive evaluation of the effect of deep learning. However, in practice, free combination, organic integration, and flexible application should be carried out according to the nature and objectives of the curriculum.

Bloom's classification of educational goals and educational evaluation theory has had a huge impact on the field of education since they were put forward, and his classification of cognitive goals is still widely used today. According to the level of thinking and the cognitive level attained by the learner, he divides cognitive goals into six levels from low to high: knowing, comprehending, applying, analyzing, synthesizing, and evaluating. This taxonomy defines knowledge and cognitive skills at the operational level, which can better guide the measurement and evaluation of learning outcomes, but does not clarify how to convert knowledge into skills. To address the relationship between knowledge and cognitive skills, Anderson et al. revised the taxonomy, classifying learning outcomes in the cognitive domain into factual knowledge, conceptual knowledge, procedural knowledge, and metacognitive knowledge. There are four types of knowledge, and the cognitive process of acquiring this knowledge is divided into six levels from low to high: memory, understanding, application, analysis, evaluation, and creation.

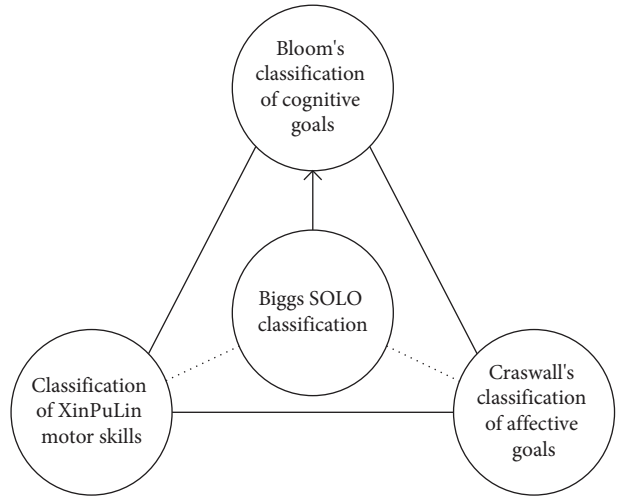

Figure 1: Deep learning evaluation of the multidimensional theoretical system.

According to the understanding of deep learning and shallow learning, shallow learning focuses on scattered, isolated, and currently learned knowledge and is all structured shallow knowledge such as specific facts, information, details, and concepts; deep learning requires learners to establish connections between old and new knowledge in order to master unstructured knowledge such as tacit knowledge, complex concepts, and deep knowledge. Therefore, shallow learning is a simple description, memory, or copy of shallow knowledge, and its cognitive level stays at the lower level of "memory and understanding," which involves low-level mechanical memory, simple retrieval, and shallow understanding. On the contrary, deep learning is a deep understanding and transfer application of knowledge, and its cognitive level is at a higher level of "application, analysis, evaluation, and creation," and most of the activities involved are ill-structured problem-solving metacognition, creative thinking, and other higher-order thinking activities, which require the acquisition of higher-order cognitive skills.

3. The Design of the Student Moral Education Evaluation System

3.1. Research on the Classification of Students' Moral Education Based on the CHAID Decision Tree. CHAID analysis, chi-square automatic interactive detection, is a classification method that uses chi-square statistics to determine the best segmentation and build decision trees. CHAID is a commonly used decision tree, which can automatically search for multiple independent variables, generate the scheme of the maximum difference variable, and finally, output an intuitive tree structure graph. This topic is to find multiple variables (disciplinary items) in the moral education data of students and use chi-square statistics to find the best

segmentation and subcase to build a tree in several moral education periods (normal period, education period, dangerous period, and semester processing period), a framework for reshaping the structure. Through the results of the decision tree, we find out the factors that affect the variables (disciplinary items), finally classify the moral education period (normal period, education period, dangerous period, and semester processing period), and finally get the corresponding rules for each semester through the CHAID decision tree.

3.2. System Architecture Design. Today, the mainstream system architectures are C/S and B/S[17]. These two structural technologies are very mature and have their own characteristics. The B/S system is the abbreviation of Browser/Server. Customers only need to install a browser (Browser) on their personal computer, and the server-side (Server) installs the database. The B/S architecture is a network-based architecture. A C/S distributed mode is a computer term. C refers to Client, S refers to Server, and C/S mode refers to client/server mode. It is a mode in which computer software works together, usually with a two-layer structure. The server is responsible for data management, and the client is responsible for completing the task of interacting with the user. The server side is maintained by professional managers, and the client side is the browser on the client. All operations of the user are sent by the client's browser and then sent to the server through the network. The server processes the client's request accordingly and then returns the request to the client. The structure of the B/S mode is shown in Figure 2.

The advantages of the B/S architecture are that the server side is managed and maintained by professionals, the client side only needs a browser to complete the corresponding request operation, and the technical difficulty is low. Based on the B/S architecture, schools do not need to purchase new equipment, and the moral education system is applied to the local area network, so the ease of use and security are improved.

3.2.1. Theoretical Knowledge of Frame Design.

(1) Performance prediction based on the BP neural network model: the BP neural network algorithm is a supervised classification method. The main idea of the performance prediction model is to input learning samples and use the backpropagation algorithm to determine the weights and biases of the network. Repeated adjustments and training are performed to make the output vector as close to the expected vector as possible. When the sum of squared errors of the output layer of the network is less than the specified error, the training is completed, the weights and deviations of the network are saved, and the classification model is trained. The BP neural network can be used to predict the corresponding offline learning performance by analyzing the characteristics of online learning behavior. A fully connected network is a feedforward network consisting of an input layer, an output layer, and several hidden layers. As shown in the figure below, the input layer is composed of ddd neurons, which are used to input each feature value of the sample; the network can have several hidden layers, and the number of neurons in each hidden layer is also uncertain. Compared with the current fully connected networks of deep learning, the simple BP neural network can maintain a lower computational complexity under the condition of achieving the same effect.

(2) Online learning behavior regularity is analysed by analyzing the user's online learning behavior definition and calculating the corresponding actual entropy value to evaluate the individual's learning behavior regularity and analyze the relationship between the regularity and the user's performance. Theoretically, by calculating the number of days between each time a student logs in, plus the number of logins in an experimental period, the online learning time distribution can be accurately depicted. The user's learning time characteristics are mapped to a two-dimensional coordinate system for visualization, and a user's learning time scatter diagram is made. The maximum, minimum, and average time intervals of each user's login time interval and the truncated average value of the maximum and minimum values are separately counted, and the relationship between them and the performance is analyzed. The most relevant ones are selected and added to the model to enhance the prediction accuracy of the model.

(3) Student sentiment analysis based on microexpression recognition and clustering of the article recognizes the facial microexpressions of users during online learning, including 6 categories of anger, doubt, happiness, fear, dullness, and sadness, to clarify the students' learning emotions and network links between online learning behaviors. Users with different emotions and learning habits are classified by the clustering algorithm. This study proposes an offline classroom quality two-way evaluation system based on classroom information, which has good interactivity and practicability and can provide teaching feedback, classroom discipline supervision, intelligent attendance, and other functions.

3.2.2. System Architecture. The schematic diagram of the structure of the offline classroom quality two-way evaluation system designed in this study is shown in Figure 3, including student terminals, classroom terminals, educational affairs terminals, and cloud servers, in which each terminal and cloud server are connected through mobile network communication.

The industry name for cloud servers is actually called computing units. The so-called computing unit means that

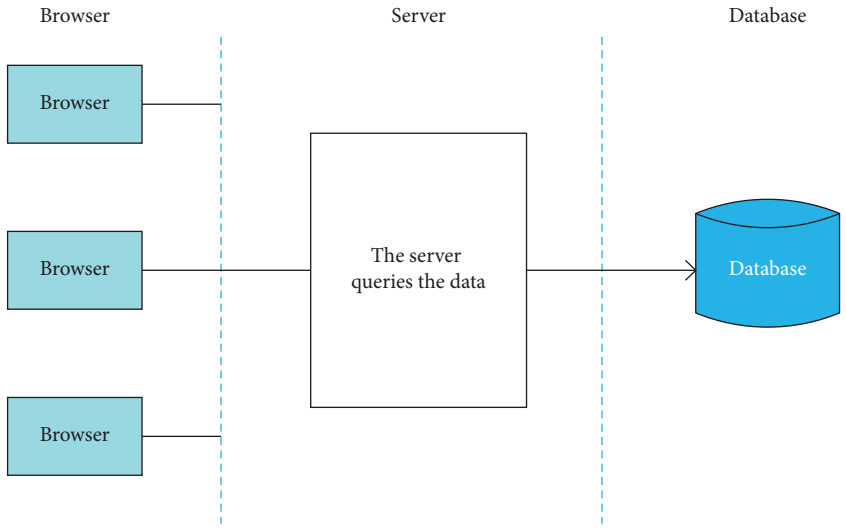

Figure 2: B/S mode.

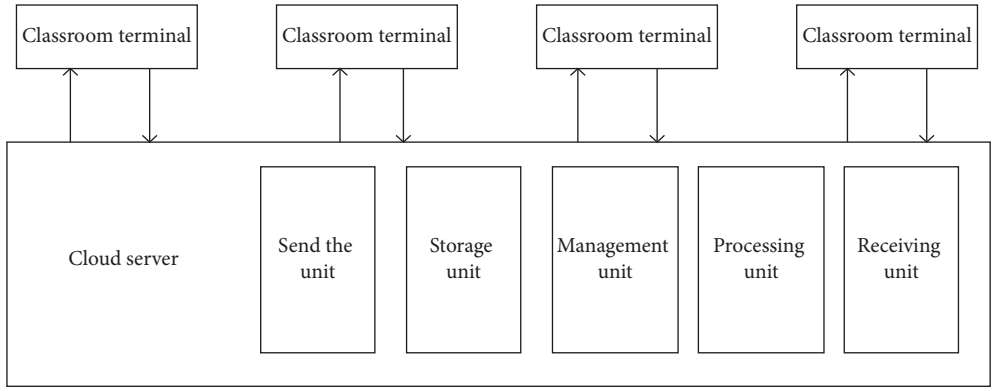

Figure 3: Structure diagram of the two-way assessment system for classroom quality.

this server can only be regarded as a person's brain, which is equivalent to the CPU of an ordinary computer, and the resources inside are limited. If you want to get better performance, one solution is to upgrade the cloud server, and the other is to deploy other software that consumes computing unit resources on the corresponding cloud service. For example, the database has a dedicated cloud database service, and static web pages and pictures have a dedicated file storage service. In this study, through the development of the front-end client of the mobile intelligent terminal and the classroom terminal, combined with the construction of the cloud server and the establishment of the background database, a two-way evaluation system is formed. The use of the client and the data collection of the classroom terminal are based on image processing technology, and classroom data are collected by using a camera and through frame processing. At the same time, a cloud server is built based on deep learning technology, and the collected classroom information is identified and analyzed through the image target detection model, face segmentation, and face detection models, so as to improve and update the stored information and feedback information. In addition, the cloud server is also used for data transmission between clients, classroom terminals, and databases, forming a two-way evaluation system.

The classroom terminal is setup in the classroom; as shown in Figure 4, it consists of a network communication unit, a data acquisition unit, a terminal control unit, and a frame processing unit. The network communication unit communicates with the cloud server and receives the control signal sent by the cloud server. The terminal control unit controls the data acquisition unit to collect classroom data according to the control signal received by the network communication unit, and the classroom data include images and videos. The frame processing unit cuts the collected video into frame images in chronological order and judges the current frame image. If the similarity between the current frame image and the previous frame image is greater than the set similarity threshold, the current frame image is deleted. Implement frame acceleration and processing of video streams. The network communication unit sends the video frames processed by the frame processing unit and the collected images and videos to the cloud server for storage and processing.

As mobile clients, the teacher terminal, educational affairs terminal, and student terminal mainly have the

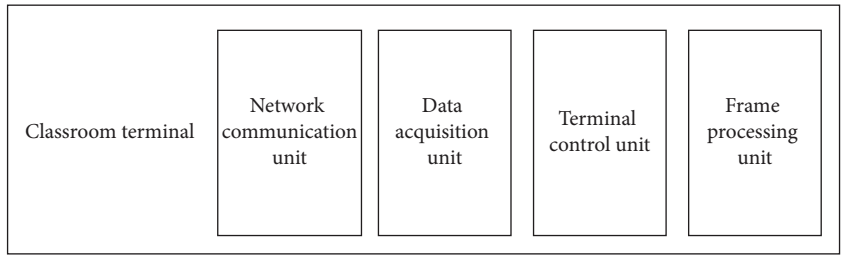

Figure 4: Schematic diagram of the composition of the teacher's terminal.

functions of sending, receiving, and displaying, that is, sending image and text information to the cloud server and receiving and displaying the data returned by the cloud server. The cloud server is mainly used to perform attendance analysis, class attendance analysis, classroom behavior analysis, classroom expression analysis, classroom seat analysis, etc., on the received data, and feedback the analysis results to the mobile client terminal. Among them, the subunit composition of the processing unit is shown in Figure 5, including the attendance analysis and feedback subunit, class attendance analysis and feedback subunit, classroom behavior analysis and feedback subunit, classroom expression analysis and feedback subunit, and classroom seat analysis and feedback subunit. These five subunits all use deep learning models to analyze and provide feedback on classroom data.

3.2.3. System Modules. Fast R-CNN takes the entire image and a series of candidate boxes generated on the image as input and calculates the feature map through the convolutional layer and the pooling layer. For each candidate box, a fixed-length feature vector is extracted from the feature map region corresponding to each candidate box using the ROI pooling layer described below. After the fixed-length feature vector is calculated by several fully connected layers, it is divided into two branches. One branch uses the SoftMax method to classify the images in the candidate frame, and the other branch returns the offset and scaling of the target frame relative to the candidate frame.

(1) Target detection module based on FastR-CNN: the main function of the target detection module in the offline system is to detect and identify students' classroom behavior and students facial expressions in classroom video frame images. The steps of using the FastR-CNN network to identify objects include

(1) Extract features using the CNN model [18, 19].
(2) Selection and mapping of candidate regions.
(3) Target classification and boundary regression. The schematic diagram of the structure of FastR-CNN used in this study is shown in Figure 6.

The image is input into the CNN network, and the feature map is obtained through a series of convolution and pooling operations [17, 20–22]. Then, the selection and mapping of candidate regions are carried out. The selection of candidate regions refers to prefinding the position of possible targets from the original image, that is, the region of interest (RoI). FastR-CNN uses the selective search method to select about 2000 candidate regions. This method combines exhaustive search and segmentation methods, which greatly reduces the search time of candidate regions and improves selection accuracy. The mapping of the candidate region refers to mapping the position of the candidate region in the original image to the feature map. FastR-CNN achieves a reduction in computational complexity by adding an RoI pooling layer after the convolutional layer to map each candidate region into a single fixed-scale feature vector.

Finally, target classification and boundary regression are performed. FastR-CNN uses SVD decomposition to calculate the feature vectors obtained in the previous step through their respective fully connected layers to obtain two output vectors for classification and regression. [23].

(2) Face detection module based on FaceNet.

The main functions of the face detection module in the offline system are the detection and recognition of students' faces in-classroom images. Based on the high cohesion of the same face photos and low coupling of different face photos, FaceNet uses the CNN network model and the TripleLoss function for face detection [24]. Firstly, CNN feature extraction is performed, the face image is input into the CNN network, the feature vector is obtained after convolution and pooling operations, and the mapping of the face to the Euclidean space is realized. The network is trained on the condition that the distance between the face and the object is always smaller than the distance between different individual faces.

The goal of the TripleLoss function is to map the face features of the same individual to the same area of space so that the distance between the faces of the same individual is smaller than the distance between different individuals; that is, the intraclass distance is smaller than the interclass distance. Specifically, the triplet consists of Anchor, Positive, and Negative. Anchor represents a random sample in the dataset, Positive represents a sample belonging to the same class as the Anchor, and Negative represents a sample belonging to a different class from the Anchor. In the training process, the ternary loss

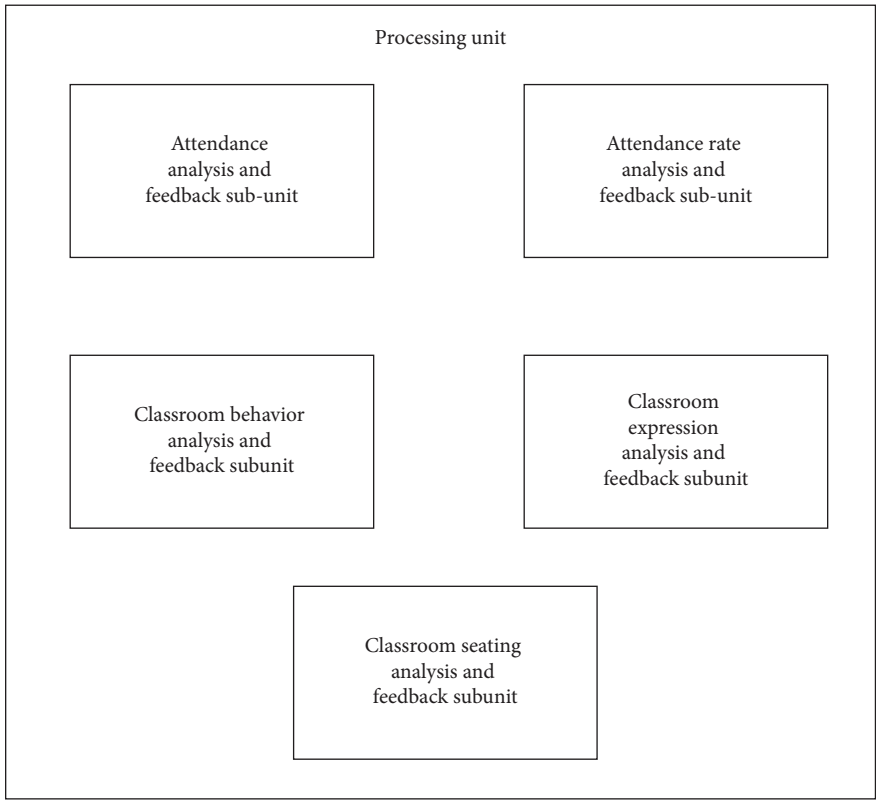

Figure 5: Schematic diagram of the subunit composition of the processing unit.

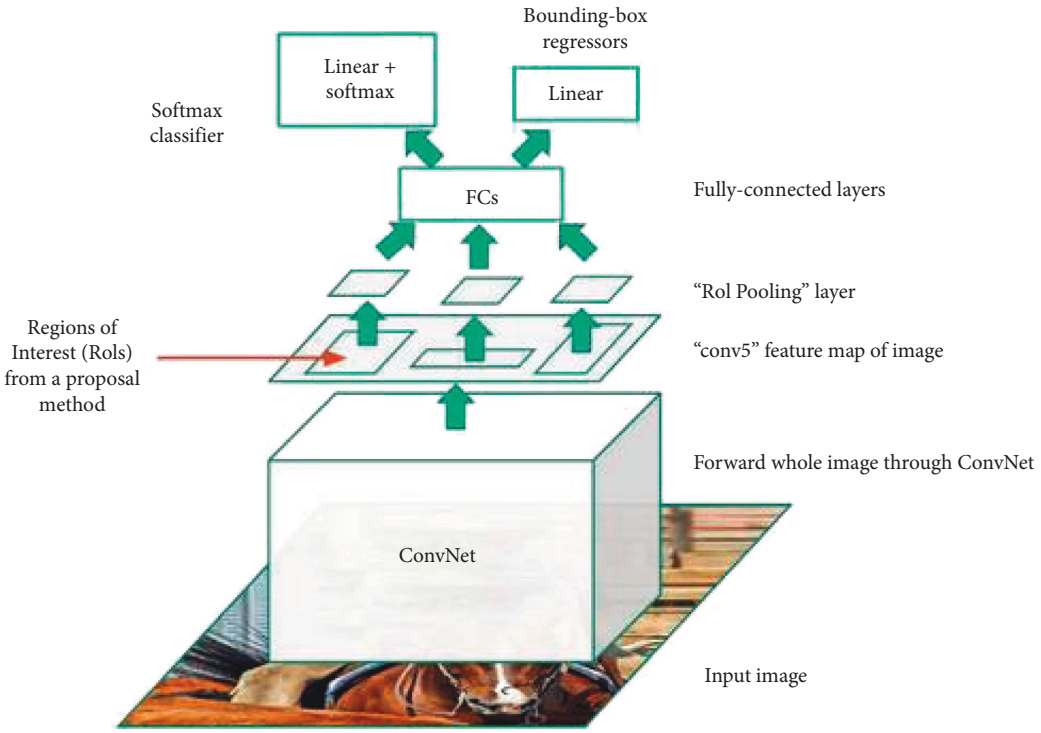

Figure 6: Schematic diagram of the structure of FastR-CNN.

function makes the distance between Anchor and Positive as small as possible and the distance between Anchor and Negative as large as possible and makes a gap between intraclass and interclass distances [25].

(3) Face segmentation module: The main function of the face segmentation module in the offline system is to detect the number of faces in the classroom images and combine them with the face detection module for data analysis. The specific process of the face segmentation model to achieve face segmentation is to input the original image, create an image pyramid based on a certain scaling factor, and obtain scaled images of different scales and resolutions. The Resnet-101 network is used for feature extraction and candidate frame boundary regression for all zoomed images, and the frame that best matches the face position is obtained.

Then, the nonmaximum suppression method (NMS) is used to fuse the bounding boxes corresponding to all the zoomed images to obtain the final detection result, that is, the coordinate value of the face. And according to the returned coordinate values, the cv2 module in OpenCV is used to crop, segment, and temporarily store the face.

For group photos of a class, too many people will lead to smaller faces or too little information. In order to minimize the impact of these situations on the results, the surrounding information (such as shoulders and hair) is positioned for auxiliary positioning and returns the position coordinates of each face.

3.3. Experimental Results and Analysis.

(1) Analysis of online learning regularity: after obtaining the maximum, minimum, and average values of each user's online learning time interval and the truncated average value after removing the extreme values at both ends, each experimental object is divided into 4 values. The rank-ordering. At the same time, the user's real evaluation results are sorted.

Calculate the user's actual entropy function, give the corresponding ranking, and then draw the Spearman correlation scatter diagram between the actual entropy and the score ranking according to the user's actual score, as shown in Figure 7.

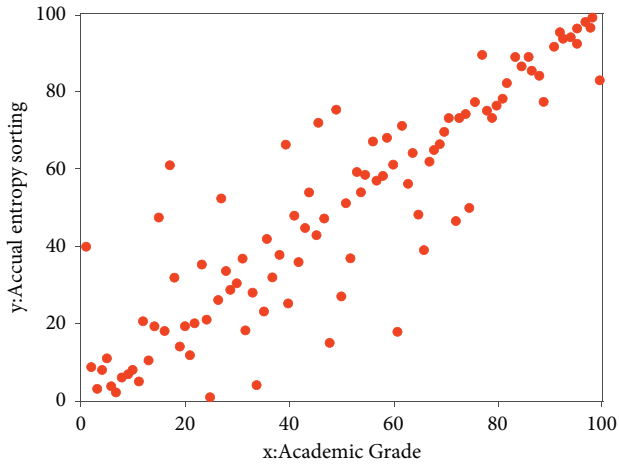

Figure 7: Actual spearman correlation scatter plot.

It can be calculated that the Spearman correlation has obvious positive correlation characteristics. Intuitively, users with more regular learning time periods are more self-disciplined. In learning, users periodically review the knowledge they have learned, and their performance in performance evaluation is better. Combining the abovementioned rank correlation of time difference and the rank correlation of actual entropy function, the study adds the score of actual entropy function as the dimension of time regularity into the model, conducts relevant training on the BP neural network, and finally makes the test set's score. The accuracy rate rose to 74.7900%, achieving the purpose of enhancing the prediction accuracy of the model by fully mining the learning log records of online users.

(2) Sentiment analysis based on microexpression recognition and clustering: according to the microexpression analysis of users during online learning, the number and proportion of various expressions were counted, and the emotional scores of 101 users in four dimensions were obtained in the experiment. The k-means clustering algorithm is an iterative clustering analysis algorithm. The steps are as follows: predivide the data into K groups, randomly select K objects as the initial clustering centers, and then calculate the clustering of each object and each seed. Cluster centers and the objects assigned to them represent a cluster. Each time a sample is assigned, the cluster center of the cluster is recalculated based on the existing objects in the cluster. This process will repeat until a certain termination condition is met. Termination conditions can be that number (or a minimum number) of objects is reassigned to different clusters, number (or a minimum number) of cluster centers changes again, and the sum of squared errors is locally minimized. The emotional dimension data obtained by processing are subjected to K-means clustering analysis to obtain the emotional classification results. The K-means clustering results show that when $K = 3$, the clustering results are the best, that is, the measurement function values of the distances between each point and various centroids. Minimum: according to the emotional data, the emotional attributes of 101 users are divided into three categories. Through the processing of the similarity matrix, the users are exchanged for the rows and columns of the matrix, and the users who are in the same category are exchanged together. In this way, users of the three categories are all concentrated together, and in the visualization of the heat map, you will see that there

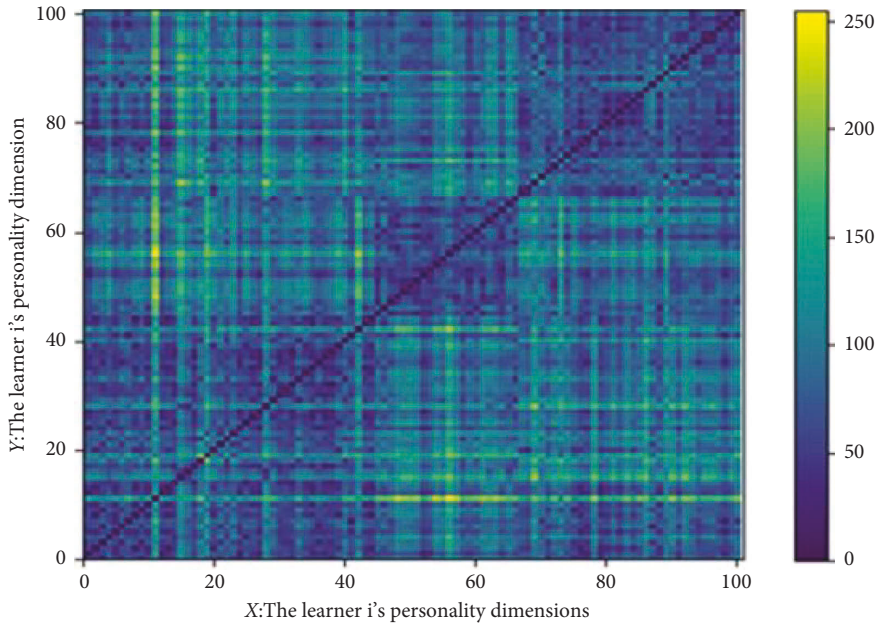

Figure 8: Visualization of the similarity matrix heatmap after clustering.

are three diagonal blocks on the diagonal, which indicates that the clustering effect is obvious. The similarity matrix heat map after clustering is shown in Figure 8.

In these three categories, students with higher academic performance are obtained; that is, students whose performance category is marked as level 1, and the union of their common online learning characteristics is extracted.

The classroom behavior analysis and feedback subunit retrieves and uses the trained image target detection model to detect classroom behaviors (such as students raising their hands, standing, sleeping, and teacher interaction) in the video frame images in the data storage module and uses face segmentation The detection model recognizes the location of students and counts the types and times of classroom behaviors, updates the student identity to the classroom behavior data and student feedback information; and updates the location of students with classroom behaviors and behavior types and times to the classroom behavior data. According to the classroom behavior, the total number of behaviors in the data calculates the interaction rate (the ratio of the number of interactions to the total number of people), evaluates the teaching quality of teachers, and updates the interaction rate and evaluation results to the classroom behavior data and teacher feedback information. Expression Analysis and Feedback Subunit uses the face segmentation and face detection models to identify the student's face in the video frame image in the data storage module and uses the image target detection model to identify and classify the student's expression, including angry, doubtful, happy, afraid, plain, and sad6. Class: Classify and count the recognition results of students' expressions, and calculate the proportion of each expression and further evaluate the teacher's teaching method according to the expression data so that the teacher can make corresponding adjustments to the teaching method according to the results. Students with a large number of times generate corresponding reminder suggestions for course preview, update the expression ratio results to the classroom student data and teacher feedback information, and update the reminder suggestions to the student feedback information.

4. Conclusion

"The assessment and evaluation system of the teaching of ideological and political theory courses in colleges and universities should focus on the unity of the internalization and externalization of the course content and the unity of knowledge and action." It is worth thinking about and exploring to solve the difficult problems in the construction of ideological and political education in colleges and universities. The innovation of the evaluation mechanism of the ideological and political theory course requires not only the research and development of technical personnel but also the cooperation of the ideological and political theory course educators and educated. However, no matter what kind of innovation, the focus is still "people-oriented." The most important thing about technological innovation is to help people's practice. Using deep learning technology to innovate the evaluation mechanism of ideological and political theory courses in colleges and universities will help educators fully understand the dynamic absorption of educated and educational content and will play an important role in improving the effectiveness of ideological and political theory courses in colleges and universities.

Data Availability

The dataset can be accessed upon request.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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