Hindawi
Journal of Mathematics
Volume 2023, Article ID 9783969, 1 page
https://doi.org/10.1155/2023/9783969

Retraction

Retracted: The Application of the Internet of Things Framework in the Ideological and Political Teaching System

Journal of Mathematics

Received 13 September 2023; Accepted 13 September 2023; Published 14 September 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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1].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] B. Qiu and P. Ikram, "The Application of the Internet of Things Framework in the Ideological and Political Teaching System," *Journal of Mathematics*, vol. 2022, Article ID 2846103, 9 pages, 2022.

Hindawi
Journal of Mathematics
Volume 2022, Article ID 2846103, 9 pages
https://doi.org/10.1155/2022/2846103

Research Article

The Application of the Internet of Things Framework in the Ideological and Political Teaching System

Bei Qiu[1] and Pakiza Ikram[2]

[1]*School of Marxism, Jiangsu Agri-Animal Husbandry Vocational College, Taizhou City, Jiangsu 215300, China*
[2]*Department of Computer Science, Superior University Lahore, Lahore, Pakistan*

Correspondence should be addressed to Pakiza Ikram; pakizaikram01@gmail.com

Received 9 April 2022; Revised 16 May 2022; Accepted 23 May 2022; Published 10 June 2022

Academic Editor: Naeem Jan

This study uses Internet of Things technology to build a smart system for ideological and political education in order to remove several flaws in present ideological and political teaching. Furthermore, to achieve intelligent monitoring of the ideological and political classroom, this research uses a technique based on IGHT edge feature matching and the ideological and political classroom monitoring image monitoring calculation formula to compute the image light reflection angle. In addition, this paper adopts the method of adaptively obtaining segmentation threshold (OTSU algorithm) to binarize the differenced image. After constructing the smart teaching system, this paper conducts a systematic evaluation based on the simulation experiment. The research results show that the ideological and political teaching system based on the Internet of Things technology proposed in this paper has a good simulation teaching effect, and the system can be used in the follow-up ideological and political teaching to improve the teaching effect.

1. Introduction

Information technology with computer multimedia and computer network as the core has changed all aspects of social life and has also had a profound impact on the ideological and political teaching system. Generally speaking, the four elements of ideological and political teaching resources, such as teachers, students, ideological and political teaching content, and ideological and political teaching media, constitute a static ideological and political teaching system, and the ideological and political teaching process is the movement form of the system. Moreover, ideological and political teaching resources are the material basis of the ideological and political teaching process, and different material bases constitute different ideological and political teaching processes and their teacher-student (social) relationships.

Instructors continue to teach information and skills, and pupils progressively attain the same cognitive understanding as teachers as a result of frequent stimulation [1]. The "central" and "authority" position of instructors in the educational process are the most visible manifestations of the teacher-student interaction [2]. Instructors' words and acts infect pupils quietly in the face-to-face education process, and teachers' expertise and charisma have earned students' respect and adoration. Teachers' teaching, educating, answering inquiries, and resolving doubts functions, as well as their leadership position in the teaching process, may be thoroughly shown at this time. The teaching process oriented on student learning has progressively become a reality as information technology has advanced, resulting in a new "learning-centered teaching system model" and a new teacher-student interaction [3].

Information technology not only changes the content, methods, and means of ideological and political teaching, but also affects the structural model of the entire ideological and political teaching system, centered system model. The two ideological and political teaching system models have their own advantages and disadvantages: systematic academic education, especially the ideological and political teaching of knowledge with strong logic and abstract concepts, requires an ideological and political teaching system centered on teacher teaching, while vocational education and adult continuing education are suitable. An ideological and political teaching system centered on student learning: In particular, the advantages of the ideological and political teaching system model centered on teacher teaching in the basic functions of teaching and educating people and the high-efficiency overall ideological and political teaching make the information technology so developed today; the traditional ideological and political teaching system model still dominates, mainstream. The two ideological and political teaching models have their own merits. For the same ideological and political teaching resources, people can adopt different organizational forms to implement different ideological and political teaching processes; the two ideological and political teaching models complement each other and penetrate each other. Only then can we adapt to the information age and vigorously develop education for all. The education career of lifelong education: it is necessary to expand quality skills, but also to systematically learn professional knowledge; it is necessary to develop vocational skills education, but also to improve the quality of professional academic education. The ideological and political teaching system is a large system dominated by people. Although different ideological and political teaching system models have their own strengths, the final ideological and political teaching effect is determined by the joint action of teachers and students.

This paper combines the Internet of Things technology to construct an ideological and political teaching system, improve the intelligence of ideological and political teaching, and promote the interactive teaching of teachers and students.

2. Related Work

The teaching information mining system based on the Internet of Things technology is an important part of building a smart campus, and there are many related studies. The use of invisible methods to collect students' classroom attendance information instead of the traditional teacher's roll call and the current card swiping method fully respects the students' privacy. Through the smart camera, not only the face information of a single student can be collected and compared with the student information stored in the database to accurately identify the student's identity, but also the image of the entire classroom scene can be collected to identify the attendance rate of the students in the classroom [4]. Literature [5] only makes big data statistics of classroom student attendance, and the results are presented in the form of percentage and overall data.

Using the images collected by the smart camera, the attendance rate of students in a certain course in a certain period of time can be counted. There is a lot of information hidden behind the big data of attendance [6]. The changes in the attendance of students in the whole semester of the course can reflect the changes in the quality of teachers' teaching, the degree of attraction of the course to students in different chapters, and the test scores of the students in the course, and so on [7].

Using the images collected by the smart camera, it is convenient to count the occupancy of the seats in the study room and push it to the students in a variety of ways to help the students reasonably arrange and utilize the resources of the study room [8].

It is possible to determine the pace at which pupils glance up in class, as well as their tiredness condition, using photos acquired by smart cameras (such as whether they are dozing off or sleeping). The teacher's authority over the whole classroom and the appeal of the course material to the students are reflected in the student rise rate. Students' tiredness levels might be connected to their work and rest environments. These data may be connected and excavated by comparing them to other educational material. Provide a wealth of relevant information and provide some positive recommendations for the school's teaching management efforts [9]. Design a user-interactive information service software, which can run on mobile phones, PCs, and public information query terminals, so that students, teachers, and managers can query relevant information and data, efficiently share campus resources, and enrich campus culture [10]. Infrared photoelectric through-beam sensors are widely used in public transportation systems to count the number of passengers. Although this method is simple to install and has a low cost, it requires a certain length of the detection channel, which has low accuracy and is easily affected by pedestrians staying and carrying items. Infrared photoelectric through-beam sensors cannot record images, which brings difficulties to real-time on-site observation. The false detection rate is high, and only rough traffic statistics can be performed. The method of reading student cards is more accurate. The biggest problem is that this method needs to obtain the personal information of classmates. In essence, like signing in by name, it will leak the privacy of students, which is not conducive to the development of teaching management [11]. The multicamera stereo vision people counting system accomplishes the task of people counting by segmenting the pedestrians present in the image. This method requires the application of a stereo depth algorithm to calculate the depth map of the scene, and the stereo vision people counting system in the depth map is suitable for cross-sectional and regional environments [12]. Due to the use of three-dimensional depth information, the multicamera is less affected by the mutual occlusion of pedestrians, and the segmentation of pedestrians in the image is accurate. However, the multicamera stereo vision system uses multiple accurately calibrated cameras, which is bulky and expensive. The single-camera people counting system is applicable to the cross-sectional and regional environments as well as the stereo vision system, and computer vision and artificial intelligence methods are also applied [13]. The main features of this technology are high accuracy, easy installation, and seamless compatibility with existing monitoring systems in classrooms. During installation, the camera can be adjusted to an angle close to vertical downward, with less occlusion, improving statistical accuracy, making the task of people counting easier, and greatly reducing system costs [14]. Considering factors such as cost, accuracy, information security, and students' personal privacy, this design finally selects a single-camera people counting method. The video-based people counting algorithm and program built into the smart camera can obtain the accurate number of people at the scene [15]. Currently, surveillance cameras are installed in classrooms, and the basic lines of surveillance cameras can be borrowed. The surveillance cameras only need to be updated to smart cameras with the function of counting people based on video images and capturing the rate of student head-up. A well-performing people counting system can be used in cameras [16]. Accurate counting in the case of vertical angles: In addition, when the width of the human body is less than 30 pixels, it is difficult to distinguish pedestrians one by one when there are many occlusions by the crowd. Using an optical zoom camera can magnify the size of the target on the screen and obtain more accurate data. Another advantage of smart cameras is that they can reduce the computational pressure and communication pressure on the background server [17]. The traditional camera directly transmits the picture to the background server with stronger computing power, and the server runs the algorithm to process the image information, but this method has high requirements on the communication link; it requires a large bandwidth to transmit the picture information, and requires a large number of pictures. The image data of the data brings great pressure to the background computer [18].

3. Ideological and Political Teaching Monitoring Algorithm Based on Internet of Things Framework

In this paper, two methods based on IGHT edge feature matching and ideological and political classroom monitoring image monitoring calculation formula are used to calculate the image light reflection angle. These two methods cooperate with each other to achieve the purpose of accurately measuring the reflection angle of image light.

The steps of the edge feature matching algorithm are shown in Figure 1.

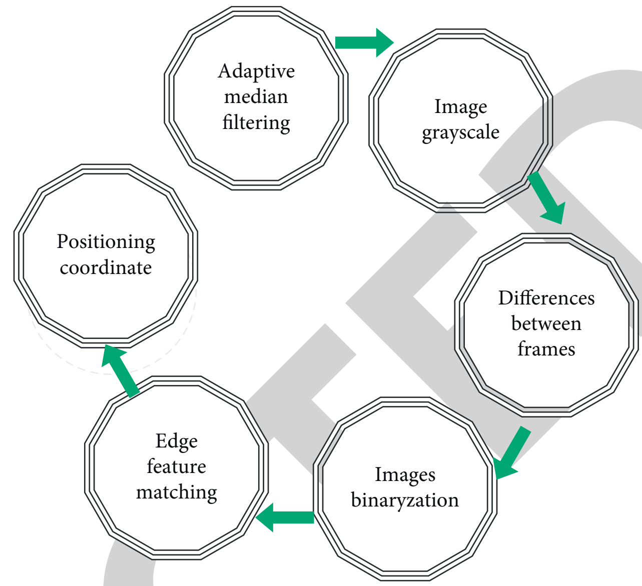

Figure 1: Steps of edge feature matching algorithm.

First, the algorithm performs median adaptive filtering on the collected color images to filter out noise. The programme then turns the color picture to a grayscale image by grayscaling it. The programme then extracts the edge characteristics of the monitoring image string in the ideological and political classroom by performing interframe difference and binarization processing on three successive frames of pictures. The algorithm then matches the local features of the ideological and political classroom monitoring image string to the edge feature template of the ideological and political classroom monitoring image string recorded in the database using the invariant generalised Hough transform. Finally, the algorithm calculates the image light reflection angle of the ideological and political classroom monitoring image string by determining the coordinates of both ends of the ideological and political classroom monitoring image string. Due to the different climate and weather conditions and the acquisition of images in different time periods, false edges may be generated during edge extraction, which reduces the detection accuracy of edges. Taking into account the difference of image characteristics between different locations, we filter the image with an adaptive median filter that can change the window size according to the image characteristics of the filtered area.

The image collected by the tower is a color image. If the color image is directly processed, the R, G, and B components need to be processed separately, which greatly increases the complexity and time of processing the image. Therefore, according to formula (1), the RGB image is converted into a grayscale image as follows:

$$Y = 0.299 * R + 0.587 * G + 0.114 * B. \quad (1)$$

Among them, Y is the brightness, that is, the gray value of the grayscale image pixel, and R, G, and B are the red, green, and blue components of the color image, respectively.

In this paper, the interframe difference method is used to extract the edge feature information of the monitoring image string in the ideological and political classroom. The interframe difference method is a fast, low-computation, and easy-to-implement algorithm, which can effectively adapt to changes in external conditions such as illumination. The main idea of using the interframe difference method in this paper is to use the adjacent three frames of images in the buccal frame as a group to perform symmetric difference. This method is more complete than the traditional frame difference method to detect the edge feature information of moving objects. The specific algorithm is described as follows:

Three consecutive frames of images $f_{k-1}(x, y)$, $f_k(x, y)$, and $f_{k+1}(x, y)$ are selected, where $f_{k-1}(x, y)$ represents the k-th frame image, and $D_k(x, y)$ represents the difference result of the $k-1$, k, and $k+1$-th frame images.

$$D_k(x, y) = f_{k-1}(x, y) - f_k(x, y) + f_{k+1}(x, y) - f_k(x, y),$$
$$D_k(x, y) = f_{k-1}(x, y) + f_{k+1}(x, y) - 2f_k(x, y). \tag{2}$$

In this paper, the method of adaptively obtaining segmentation threshold (OTSU algorithm) is used to binarize the differenced image, and the algorithm can automatically calculate the optimal segmentation reading value. The pixels whose gray value of the edge image is greater than the optimal threshold are white, otherwise they are black, and the image is converted into a binary image to obtain the target edge feature. The specific algorithm is as follows:

The gray level $G = \{0, 1, \ldots, L-1\}, t \in G$ is the selected segmentation threshold. Among them, $R_k(x, y)$ is the image after binarizing $D_k(x, y)$, and the expression is shown in formula

$$R_k(x, y) = \begin{cases} 0, & R_k(x, y) < t \\ 1, & R_k(x, y) \geq t. \end{cases} \tag{3}$$

If the number of pixels with gray level i is assumed to be N_i, the total number of pixels in a frame of image is

$$M = \sum_{i=0}^{L-1} N_i. \tag{4}$$

The probability of occurrence of a pixel with gray level i is

$$P_i = \frac{N_i}{M},$$
$$\sum_{i=0}^{L-1} P_i = 1. \tag{5}$$

Taking the segmentation threshold t as the boundary, the gray level is divided into two categories: background area {0.1,...,t} and target area {t+1,t+2...,L−1}. Then, the ratio of background pixels is P($t = c$), and the average gray levels of the background and target objects are, respectively,

$$u_0 = \frac{\sum_{i=0}^{t} iP_i}{P(t)},$$
$$u_1 = \frac{\sum_{i=t+1}^{L-1} iP_i}{1 - P(t)}. \tag{6}$$

The variance between the background and the target object is

$$\sigma^2 = P(t)(1 - p(t))(u_1 - u_0). \tag{7}$$

When the variance σ^2 takes the maximum value, the variable t is the optimal threshold value.

The invariant generalised Hough transform is used in this study to match the edge features of the monitoring image string in the ideological and political classroom. The method is simpler than the extended Hough transform and is invariant in translation, scaling, and rotation. When the feature rotation varies, utilizing the invariant generalised Hough transform to find the picture provides substantial benefits. The implementation steps of this algorithm are as follows:

(1) The algorithm determines the index angle β and ω_j of the edge point ω_i.

The algorithm assumes point ω_i and a fixed characteristic angle α, then the point ω_j can be determined, and then the angle β between the tangent at ω_j and the tangent connecting point ω_j can be determined. Here, α takes the element $\pi/4$, as shown in Figure 2.

(2) The algorithm selects the eigenvalues of the edge point ω_i.

To locate the center point $b = (x_0, y_0)$, the algorithm calculates the distance d from ω_i to the location point b and defines the angle k as the difference between the angle ϕ_i' of point ω_i and the slope ϕ_i'' of the straight line formed by edge points ω_i and b, that is, $k = \phi_i' - \phi_i''$. It is independent of rotation, where ϕ_i'' is expressed as the slope of the straight line (8), as shown in Figure 3.

$$y_0 = \phi_i''(x_0 - \omega_{xi}) + \omega_{yi}. \tag{8}$$

(3) Store eigenvalues.

The algorithm repeats steps (1) and (2) and determines the eigenvalues (β, k, d) of each edge point ω_i one by one and stores them to construct an invariant R-table.

Since the monitoring image string in the ideological and political classroom will bend and deform when the wind deflection occurs, the geometric features in Figure 4 are very unique. The ideological and political classroom monitoring image string can be replaced by the feature information shown in Figure 4, and the amount of calculation can be greatly reduced. Therefore, we only establish the invariant R-table of the local features of the ideological and political classroom monitoring image string shown in Figure 4 to match the ideological and political classroom monitoring image string, where (x, y) are the coordinate points to be located.

For each edge point ω_j' in the processed image, the algorithm obtains the corresponding edge angle ω_j' according to the given characteristic angle $\alpha = \pi/4$ and then calculates the corresponding index angle β'. The algorithm then indexes the corresponding eigenvalues k, d in the invariant R-table according to the index angle. Then, the algorithm collects evidence according to the definition of these eigenvalues according to the straight line defined by formula (6) and calculates the voting point of the edge point ω_j' in the two-dimensional cumulative space. This procedure is repeated until all edge points have voted. Finally, discover the local extreme points whose votes surpass the threshold in the voted Hough space. The number and location of local extreme points in the picture signify the number and location of target matches. There are two matching points in the image to be detected. After the coordinates of the two matching points are determined, a geometric analysis of the image light reflection angle is performed on them, as shown in Figure 5.

As shown in Figure 5, the coordinates of the pixel positions at both ends of the ideological and political

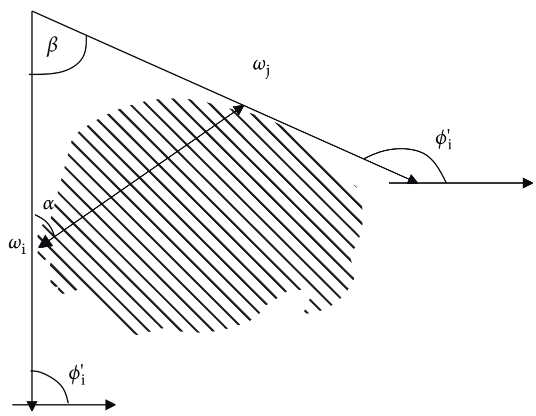

Figure 2: Invariant generalised Hough transform displacement vector.

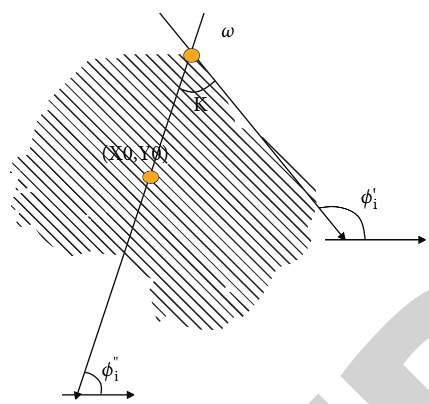

Figure 3: Invariant generalised Hough transform angle definition.

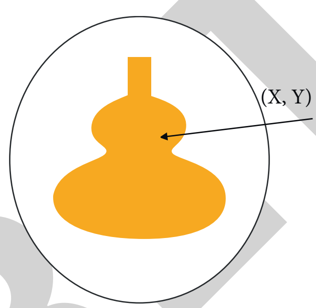

Figure 4: Local features of monitoring image strings in ideological and political classrooms.

classroom monitoring image string are (x_1, y_1) and (x_2, y_2), respectively, and d is the offset of the ideological and political classroom monitoring image string. Then, the calculation formula of the image light reflection angle of the monitoring image string in the ideological and political classroom is

$$\theta = \arctan\left(\frac{(x_1 - x_2)}{(y_1 - y_2)}\right). \tag{9}$$

Now, the more mature wind deflection calculation is based on the force diagram of the ideological and political classroom monitoring image string shown in Figure 6. From

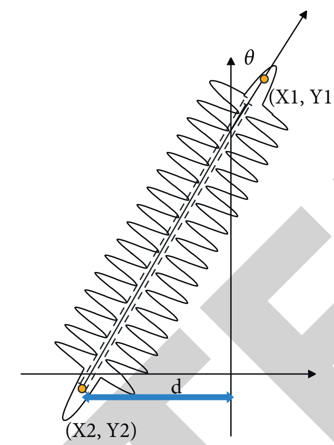

Figure 5: Geometric analysis of image ray reflection angle calculation.

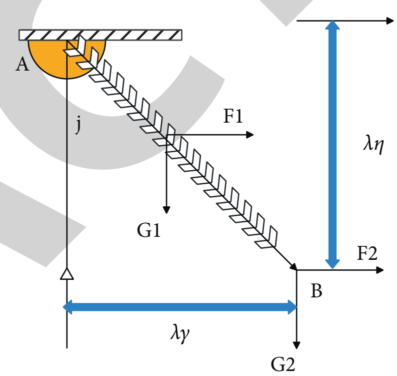

Figure 6: The force diagram of the monitoring image string in the ideological and political classroom.

the figure, the formula for the image light reflection angle can be obtained:

$$\theta = \arctan\left(\frac{0.5F_1 + F_2}{0.5G_1 + G_2}\right). \tag{10}$$

In the formula, F1 is the wind load of the ideological and political classroom monitoring image string, F2 is the wind load of the wire, G1 is the vertical load and gravity of the ideological and political classroom monitoring image string, and G2 is the vertical load of the wire. Among them,

$$F_1 = 9.80665v^2/16, \tag{11}$$

$$F_2 = \alpha KAF_0 \sin^2\theta, \tag{12}$$

$$F_0 = pv^2/2, \tag{13}$$

$$G_2 = Lqn. \tag{14}$$

The image light reflection angle is

$$\varphi = \arctan\left(\frac{0.5 \times 9.80665Sv^2 + \alpha pv^2 KA \sin^2\theta/2}{0.5G_1 + Lqn}\right). \tag{15}$$

The formula for density is

$$\rho = \frac{1.29305 \times (p - 0.3779h)}{(1 + 0.00367T) \times 1013.25}. \tag{16}$$

In formula (15), S is the cross-sectional area of the hanging ideological and political classroom monitoring image string perpendicular to the wind direction. Generally, after the model of the monitoring image string in the ideological and political classroom is determined, S is the determined value. α is the wind pressure uneven coefficient, generally taken as 0.61. K is the shape coefficient of the wire. When the diameter of the wire is less than 17 mm or covered with ice, $K = 1.2$, and in other cases, $K = 1.1$. A is the cross-sectional area of the wire connecting the hanging ideological and political classroom monitoring image string perpendicular to the wind direction, and L is the vertical span of the hanging ideological and political classroom monitoring image string. q is the gravity per unit length of the wire connecting the hanging ideological and political classroom monitoring image string, n is the number of wires in each phase, which determines the image light reflection angle of the hanging ideological and political classroom monitoring image string, and A, L, and q are the determined values. V is the wind speed around the hanging ideological and political classroom monitoring image string at that time. θ is the angle between the wire connecting the hanging ideological and political classroom monitoring image string and the wind direction, and v and v can be measured by the wind speed and direction sensor installed on the tower. p is the atmospheric pressure of the air around the hanging ideological and political classroom monitoring image string, which can be measured by the atmospheric pressure sensor WJ-3A installed on the tower. T is the atmospheric temperature of the air around the hanging ideological and political classroom monitoring image string; h is the atmospheric humidity of the air surrounding the hanging ideological and political classroom monitoring image string, which can be measured by the temperature and humidity sensor SHT11 installed on the tower. p is the density of the air around the monitoring image string of the hanging ideological and political classroom. After p, h, and T are measured, they can be calculated by formula (16). Therefore, to calculate the image light reflection angle p, we only need to measure the wind speed v, wind direction, atmospheric pressure p, temperature T, and humidity h.

4. Ideological and Political Teaching System Based on Internet of Things System

The course management module provides the foundation for other modules such as course selection, course layout, and grade management. As illustrated in Figure 7, the whole process includes creating a semester teaching plan, maintaining course information, querying course information, and scheduling teaching responsibilities throughout the semester. The system administrator is in charge of the teaching plan formulation module. In colleges and universities, system administrators may determine grades, departments, majors, courses, and other information and build public professional and quality plans based on student-created training plans. The system administrator also controls the course information administration module, which includes establishing course start and finish times, appointing professors, determining course hours and credits, and so on. The class scheduling management module is the most functional and complex module in the system, as shown in Figure 8. The administrators in this module are divided into academic administrators and department administrators. Among them, the academic administrator can manage the courses of the whole school in a unified way and can divide the course arrangement campus, course arrangement time period, and course arrangement teachers according to the information of the college. Department administrators can only participate in the scheduling tasks of their own courses. After the course arrangement is completed, both students and teachers can log in to the system to view the course arrangement results. If the teacher role needs to adjust the timetable for special reasons and needs to fill in the application for class adjustment, partial adjustments can be made after the system administrator approves; otherwise the teacher role has no authority to operate the class scheduling system.

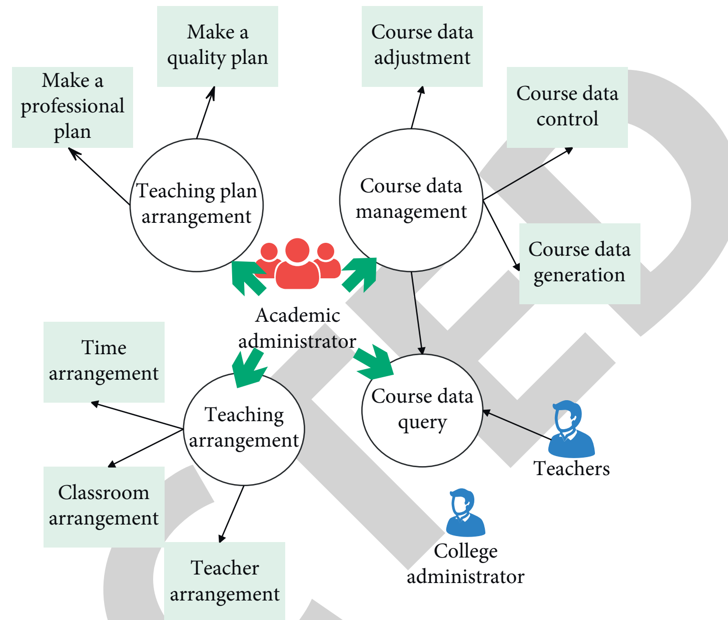

Figure 7: Use case diagram of course management module.

The edge network for smart classroom big data applications should be designed as shown in Figure 9. The control node in the edge network uses SDN/NFV technology to manage and control the resources of the global network and process user requests from outside the edge network. The controller corresponding to the connection to N6 in Figure 9 is C1. Moreover, a corresponding control server is also deployed on the network node closest to the user's access, which manages and controls the terminal equipment and data flow within the range of the access point. Corresponding to the connection with N1 : N2:N3 in Figure 9 are C2 : C3:C4, respectively. It is worth noting that C1, C2, C3, and C4 are logical controllers with nodes in the network, not necessarily directly connected to the corresponding network

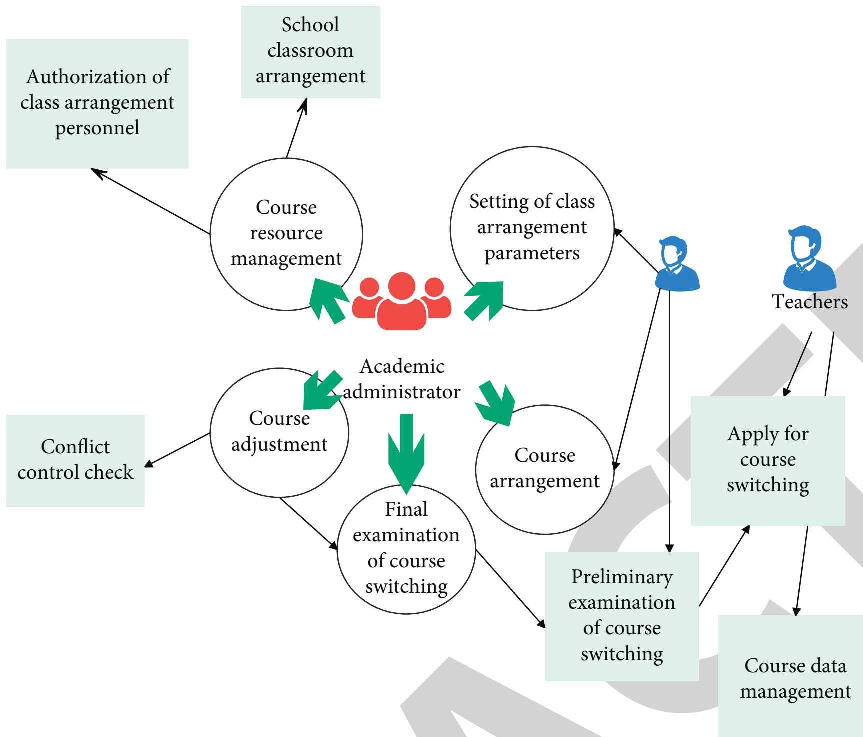

Figure 8: Use case diagram of course scheduling management module.

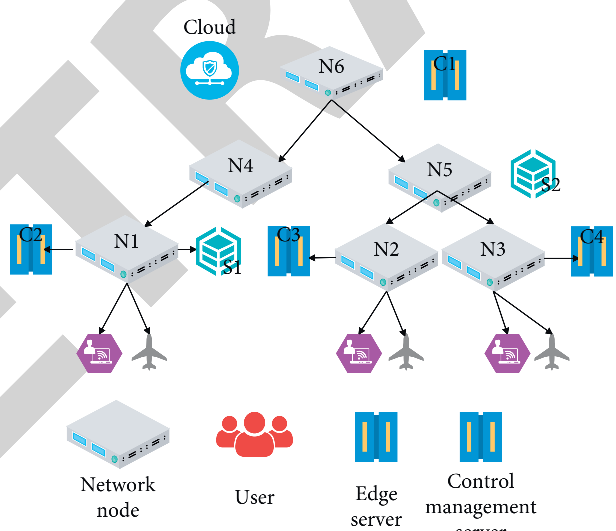

Figure 9: Design of edge network for smart classrooms.

nodes. On the other hand, S1 and S2 in Figure 9 are edge servers, which provide computing power for edge big data applications.

Figure 10 shows the simulation diagram of the ideological and political teaching system based on the Internet of Things framework, which is also the structure of the smart classroom. In this paper, Matlab is used to simulate the ideological and political teaching system based on the Internet of Things technology to explore its simulation teaching effect. The evaluation results are shown in Table 1.

From the above research, it can be seen that the ideological and political teaching system based on the Internet of Things technology proposed in this paper has a good simulation teaching effect, and the system can be used in

Figure 10: Simulation of ideological and political teaching based on the Internet of Things.

Table 1: Simulation evaluation of ideological and political teaching system based on Internet of Things technology.

Num	Simulation teaching	Num	Simulation teaching	Num	Simulation teaching
1	89.5	19	85.8	37	88.7
2	92.6	20	87.2	38	84.5
3	91.2	21	84.9	39	92.2
4	92.6	22	86.9	40	90.6
5	90.7	23	92.4	41	90.3
6	89.0	24	92.2	42	87.5
7	92.1	25	90.4	43	92.2
8	87.3	26	87.3	44	86.2
9	88.6	27	87.7	45	86.9
10	87.7	28	88.6	46	91.2
11	86.4	29	86.3	47	89.3
12	92.1	30	86.3	48	91.3
13	90.0	31	88.8	49	90.7
14	92.3	32	91.8	50	88.6
15	89.9	33	86.9	51	84.9
16	88.6	34	91.9	52	87.9
17	86.3	35	85.5	53	89.2
18	84.6	36	85.3	54	85.4

subsequent ideological and political teaching to improve the teaching effect.

5. Conclusion

On the contrary, under the premise of not violating the constraints of ideological and political teaching resources on the ideological and political teaching process, different organizational forms and ideological and political teaching processes for ideological and political teaching resources exist, depending on different ideological and political teaching goals. With the backward ideological and political teaching medium developed by humans for a long period, the traditional ideological and political teaching mode based on teachers' teaching is the most coordinated and efficient ideological and political teaching system. It is supported by the learning theory of behaviorism, the system resources are configured around teachers' ideological and political teaching, and the ideological and political teaching process is designed around teachers' teaching. The systematic ideological and political teaching resources and the ideological and political teaching process are completely controlled by teachers, while the students, who are the cognitive subjects, are in the position of passive acceptance. This paper combines the Internet of Things technology to construct a smart system for ideological and political teaching. Moreover, this paper adopts the method based on IGHT edge feature matching and the ideological and political classroom monitoring image monitoring calculation formula to calculate the image light reflection angle to realize the intelligent monitoring of the ideological and political classroom. It can be seen that the ideological and political teaching system based on the Internet of Things technology proposed in this paper has a good simulation teaching effect, and the system can be used in subsequent ideological and political teaching to improve the teaching effect.

Data Availability

Data are available on request.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

References

[1] J. R. Mianroodi, N. H. Siboni, and D. Raabe, "Teaching solid mechanics to artificial intelligence—a fast solver for heterogeneous materials," *Npj Computational Materials*, vol. 7, no. 1, pp. 1–10, 2021.

[2] X. Li, "The construction of intelligent English teaching model based on artificial intelligence," *International Journal of Emerging Technologies in Learning (iJET)*, vol. 12, no. 12, pp. 35–44, 2017.

[3] S. Zou, "Designing and practice of a college English teaching platform based on artificial intelligence," *Journal of Computational and Theoretical Nanoscience*, vol. 14, no. 1, pp. 104–108, 2017.

[4] F. Kong, "Application of artificial intelligence in modern art teaching," *International Journal of Emerging Technologies in Learning (iJET)*, vol. 15, no. 13, p. 238, 2020.

[5] M. Pantic, R. Zwitserloot, and R. Grootjans, "Teaching introductory artificial intelligence using a simple agent framework," *IEEE Transactions on Education*, vol. 48, no. 3, pp. 382–390, 2005.

[6] C. Yang, S. Huan, and Y. Yang, "A practical teaching mode for colleges supported by artificial intelligence," *International Journal of Emerging Technologies in Learning (IJET)*, vol. 15, no. 17, p. 195, 2020.

[7] K. Kim and Y. Park, "A development and application of the teaching and learning model of artificial intelligence education for elementary students," *Journal of The Korean Association of Information Education*, vol. 21, no. 1, pp. 137–147, 2017.

[8] O. Zawacki-Richter, V. I. Marín, M. Bond, and F. Gouverneur, "Systematic review of research on artificial intelligence applications in higher education–where are the educators?" *International Journal of Educational Technology in Higher Education*, vol. 16, no. 1, pp. 1–27, 2019.

[9] S. C. H. Yang, W. K. Vong, R. B. Sojitra, T. Folke, and P. Shafto, "Mitigating belief projection in explainable artificial intelligence via Bayesian teaching," *Scientific Reports*, vol. 11, no. 1, p. 9863, 2021.

[10] Y. Lee, "An analysis of the influence of block-type programming language-based artificial intelligence education on the learner's attitude in artificial intelligence," *Journal of The Korean Association of Information Education*, vol. 23, no. 2, pp. 189–196, 2019.

[11] S. F. M. Alfalah, "Perceptions toward adopting virtual reality as a teaching aid in information technology," *Education and Information Technologies*, vol. 23, no. 6, pp. 2633–2653, 2018.

[12] G. Cooper, H. Park, Z. Nasr, L. P. Thong, and R. Johnson, "Using virtual reality in the classroom: preservice teachers' perceptions of its use as a teaching and learning tool," *Educational Media International*, vol. 56, no. 1, pp. 1–13, 2019.

[13] J. Zhao, X. Xu, H. Jiang, and Y. Ding, "The effectiveness of virtual reality-based technology on anatomy teaching: a meta-analysis of randomized controlled studies," *BMC Medical Education*, vol. 20, no. 1, p. 127, 2020.

[14] S. J. Bennie, K. E. Ranaghan, H. Deeks et al., "Teaching enzyme catalysis using interactive molecular dynamics in virtual reality," *Journal of Chemical Education*, vol. 96, no. 11, pp. 2488–2496, 2019.

[15] S. F. M. Alfalah, J. F. M. Falah, T. Alfalah, M. Elfalah, N. Muhaidat, and O. Falah, "A comparative study between a virtual reality heart anatomy system and traditional medical teaching modalities," *Virtual Reality*, vol. 23, no. 3, pp. 229–234, 2019.

[16] M. Reymus, A. Liebermann, and C. Diegritz, "Virtual reality: an effective tool for teaching root canal anatomy to undergraduate dental students–a preliminary study," *International Endodontic Journal*, vol. 53, no. 11, pp. 1581–1587, 2020.

[17] V. L. Dayarathna, S. Karam, R. Jaradat et al., "Assessment of the efficacy and effectiveness of virtual reality teaching module: a gender-based comparison," *International Journal of Engineering Education*, vol. 36, no. 6, pp. 1938–1955, 2020.

[18] O. Hernandez-Pozas and H. Carreon-Flores, "Teaching international business using virtual reality," *Journal of Teaching in International Business*, vol. 30, no. 2, pp. 196–212, 2019.