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Retraction

Retracted: Application of Web 2.0 Technology to Cooperative Learning Environment System Design of Football Teaching

Wireless Communications and Mobile Computing

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1].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.

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[1] H. Lin, "Application of Web 2.0 Technology to Cooperative Learning Environment System Design of Football Teaching," *Wireless Communications and Mobile Computing*, vol. 2022, Article ID 5132618, 9 pages, 2022.

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Research Article

Application of Web 2.0 Technology to Cooperative Learning Environment System Design of Football Teaching

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In general, web 2.0 technology serves as an educational tool for teaching and learning aspects. The study is aimed at exploring the interactive system of football teaching in the information technology era. The coach and players will utilize the mobile learning resources to get effective learning about the fun. Using mobile learning technology, the coach has to implement different modes to make the players learn about the game. The study implemented the convolutional neural network (CNN) algorithm to evaluate the accuracy of using web 2.0 technology to cooperative learning environment system design of football teaching. The results show that the network teaching interactive learning system of football courses based on web 2.0 can achieve the intended function of the college educational administration management system.

1. Introduction

Based on Internet technology, web (World Wide Web) 2.0 is widely used in many industries, such as finance, education, medicine, and network education. As an essential branch of physical education, football teaching also attempts to break through the teaching mode by employing web 2.0 technology [1]. Designing an interactive teacher-student cooperative education system can promote the informatization of education. Establishing an efficient, fast, and user-friendly educational application information system becomes essential by using modern network technology and educational technology. "Digital campus" based on current information network technology and communication technology is a new teaching method [2]. In particular, the development of web 2.0 technology provides technical support for strengthening the function of the educational application information system and improving the system experience. Numerous studies have examined the academic potential of various web 2.0 tools. There is evidence that blogs are student-centered learning aids, claiming that blogs allow students to access course content, write reflections on learning assignments, and respond to each other's contributions. He concluded that blogs have the potential to help students and teachers learn and educate [3]. Online diaries, discussion forums, and communication channels are all examples of blogs that could use in the classroom for educational purposes. Tweets are short messages that can include images and videos that can share on the Internet. Quotes, photographs, videos, music, news, IT news, and magazine news are the most often shared items on Twitter [4]. Cite various advantages of using Twitter in the classroom, including developing a classroom community, fostering education and sharing best practices, acquiring helpful information, and making short announcements. Twitter was a useful teaching tool in the classroom [5]. Enhances student-teacher engagement; facilitates communication among students. And provides access to relevant lesson materials and information via the Internet [6] conducted. A comparison experiment in a higher education classroom to examine Twitter as an active, informal, outside-of-class learning tool for students. The study concluded that Twitter has advantages over traditional classroom venues in terms of learning and teaching. He concluded that Twitter could be beneficial to the higher

education e-learning community [7]. There are a few drawbacks to Twitter, such as the time it takes to use, the lack of social/educational value, the lack of privacy protection, and the problem of spamming, as [8] highlighted. Facebook is the most popular social network for students to communicate, interact, and share with other students. Students appear to have a great interest in using Facebook. According to a new study, students were more likely to use Facebook than faculty members were, while faculty members were more likely to use email than students. In addition, they discovered that students were more inclined to use Facebook and other social media platforms to assist them in their academic pursuits. Web 2.0 in education includes a third example: a discussion board. The researcher stated discussion boards have a beneficial impact on student grades and student satisfaction with the classroom atmosphere. They claim that well-designed online forums can promote students' activity, collaboration, reflection, motivation, and social constructivist aspects of learning [9].

However, there are certain drawbacks, such as their time-consuming nature and tendency to discourage readers if there are too many long postings. Using YouTube as a teaching tool has been proven to be beneficial to students and teachers alike. Using YouTube as a teaching tool can improve student engagement and lessen classroom management concerns. According to [10], YouTube can be a valuable tool for anatomy instruction if the videos are carefully vetted, diverse, and geared toward the course's objectives, according to [11], who conducted this study. Wikis have been around for more than two decades. Numerous scholars believe that wikis can be a valuable tool for facilitating communication, collaboration, and the exchange of information. The cooperative/collaborative learning paradigm and the constructivist paradigm are two of the most widely stated learning paradigms that wiki systems can support. When it came to developing new teaching tactics and creating more explicit science information [12], the use of wikis in the classroom aided teachers in both of these areas. Teachers also collaborated using wikis to develop tasks and write collaboratively, according to a recent study by [13]. Using a well-planned wiki-based learning experience helped young pupils strengthen their Internet searching skills, collaborative problem-solving competencies, and critical inquiry abilities.

Today's football player requires a thorough and deliberate approach to education and guidance. There has never been a more significant impact on our young boys and girls outside of their families, schools, and football teams than there is currently. Having a positive impact on the world does not necessarily involve "face-to-face" interaction. As a trainer or a communicator, you are probably already using some web 2.0. Just a few of the many web 2.0 sites available are Twitter, Instagram, and Snapchat. Performance trainers have been using this notion for decades on web 2.0 sites [14]. Teachers began posting training videos, performance reports, career concerns, and subjective inquiries on the Charlie Francis forums in 2003. Teachers of strength and conditioning are increasingly using YouTube, Google+, and Dartfish in their daily continuing education routines.

For professional development, staff across the country use teleconferencing technology such as Facebook and Skype. A safe atmosphere for teachers to communicate information, discuss ideas, and develop intra- and achieve interprofessional networks through the usage of all of the examples I have presented. As a teacher, you need to find a space where your students feel comfortable and free to express themselves. Teachers who dismiss web 2.0 by saying "It's not for me" are "respectfully disagreeable." For example, Twitter was built to empower users to express what they consider most important [15]. Everything that concerns our personal lives that we conduct outside of work is considered "personal interaction" in our context. It is common for friends and relatives to chat about their hobbies and interests as a way to get to know each other better. A significant distinction exists between your personal and professional lives. The researcher stated that social lives are increasingly centered on web 2.0. To continue influencing the athlete's life outside the gym, the professional mentor keeps a reasonable distance from their social circles [16]. As Bandura's theory of observant learning dictates, teachers should lead by example from within, rather than evasion or deprivation methods, in the unique dynamic of social networking. Students, parents, and administrators can use web 2.0 to create and expand the brand of your programmer both on and off-campus. As a result, it serves as a worldwide platform to showcase our own distinct personal brand. A network profile is a living, breathing résumé that you can update daily, allowing you to convey yourself and the things you care about [17]. Performance teachers have access to a wealth of reliable resources, including web 2.0. To avoid missing out on one of the most potent tools at your disposal as a performance teacher, use it.

Social networks in higher education can improve students' academic performance based on joint analysis and mapping social media functions according to students' preferences. Mapping social media functions to higher education, establishing social learning systems, building intimacy and immediacy can increase the effectiveness of learning processes. The researcher analyzed the representative online learning platform, emphasized the existing problems, attempted to build a model based on the personalized learning system and online learning content, and proposed improved optimization strategies to make the personalized learning system [18]. The methods and techniques for effectively improving the overall quality of students and cultivating tactical awareness in football education and training are to promote the reform of football education [19]. The above studies show many studies on the application of web 2.0 technology to teaching systems. However, there are few studies on the direction of football teaching. In this case, an interactive teaching system based on web 2.0 technology is proposed, and it can provide new inspiration for football teaching. web 2.0 technology is applied to football teaching through demand analysis, functional analysis, and time sequence diagram analysis. The innovation lies in the top-down and hierarchical decomposition design method, making the teaching system a collaborative learning and communication platform for teachers and students and

breaking the traditional network teaching mode, and providing new ideas for network teaching. This study evaluates how web 2.0 technology helps in Cooperative Learning Environment System Design of Football Teaching.

2. Methods and Data

It evaluates machine learning in real-time analysis of football sports data using research methods such as a scientific report, audio/video analysis, research methods, and mathematical statistics. The proposed football position on the activity recognition and analysis system is split into two interconnected pieces. To find the joint locations in the first segment, the bottom-up position estimate method is used, which is then had to extract the user's body position sequence as from video. The second component is the analysis of a CNN machine algorithm based on the space-time graph. The set classification's football activity is recognized and extracted from the segmentation is performed viewpoint sequence.

In comparison to conventional training, the other method is a supplementary method for increasing accuracy even while correcting player errors in a timely way. The technique can assist players in correcting technical errors, developing muscle memory, and improving with these skills. Higher education faces both an opportunity and a challenge as web 2.0 techniques and applications gain popularity. Higher education faces both a challenge and an opportunity as web 2.0 techniques and applications gain popularity. While attempting to incorporate some of the positive aspects of web 2.0, education faces various challenges, along with having standards and providing adequate support and guidance. It is suggested that user-generated and shared recognition systems are two possible methods for bridging the difference between these two cultures while also addressing educational fears.

3. Proposed System

The study's goal is to investigate the interactive system of football instruction within the information technology era. Nowadays, football player requires a thorough approach to education and guidance. There has never been a more significant impact on our young boys and girls outside of their families, schools, and football teams than there is currently. Having a positive impact on the world does not necessarily involve "face-to-face" interaction. The game's players and coaching staff will use mobile learning information and knowledge more effectively. Utilizing mobile learning technology, the coach must incorporate various modes to help the players learn well about the game. The research uses the convolutional neural network (CNN) algorithm to assess the accuracy of using web 2.0 technology in the design of a collaborative learning environment system for football teaching. The online teaching platform has to strengthen the security issues of course content. The online teaching platform has a diverse user base. The online teaching platform system is built on web 2.0 technology to improve user experience and performance.

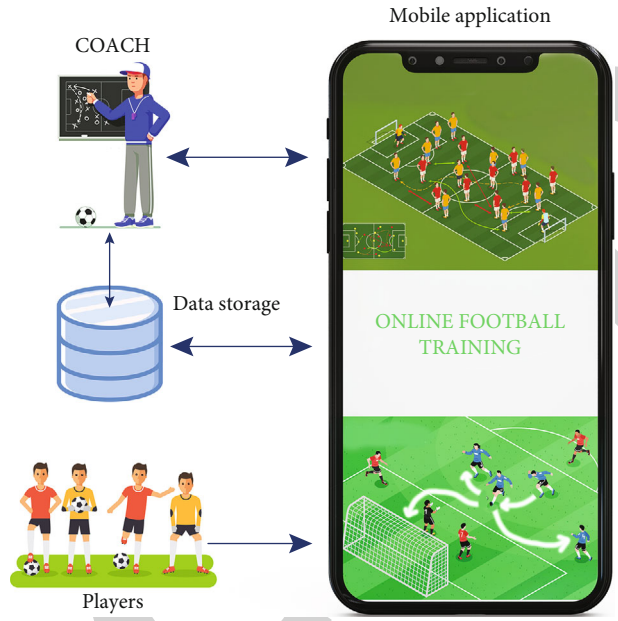

Figure 1: Architecture for application of web 2.0 in Online Football Education.

The architectural diagram of the Online Football Education with web 2.0 is represented in Figure 1. In this figure, the significant role is played by the coach, football player, mobile technology, and also the database. Though football is a physical activity-based game, the epidemic circumstances have made the games' coaches make practical usage of the technology. From this architecture, the coach will be utilizing a mobile application to teach the players about the game. They can teach the players about the playground, their physical fitness, and the diet to be followed. In the coach's residing location, he can explain the tricks using chalk and board with the aid of either video recording or live sessions. The first case will upload the recorded videos in the database, and the players will be given user privileges to access the records. Also, the coach can recommend some mobile applications to make the players self-learn and gain information about it. This method will attract the players to apply the theoretical learned concepts to check their performance. It will aid the players to get better knowledge about the game and easier to work in the field. Player's movement is recorded with the implementation of various monitoring cameras attached at the training area and mobile applications aids in data extraction and recording in the server. Using a convolutional neural network, the recorded data is acquired for supporting recognition, extracting the features for analysis, and training the model to support intelligent learning. The quality and features of a footballer's body position image are obtained first, and a dual-channel CNN is built. Every attribute is derived individually, and the dual output of the network is merged. Finally, its result obtained is fed into a connected CNN to evaluate and establish the footballer's body position image. This overall evaluates the experimental testing as well as comparative evaluation on a variety of data sets.

During the first stage, we use the differential between both the statistical features of all around it frames, F_h, as those of the feature, which is also explained as in the following equation.

$$\forall i, s_i \in s, s_i \neq x_i^* : v_i(s_i^*, s_{-i}^*) > v_i(s_i, s_{-1}^*). \quad (1)$$

Each player i can obtain their utility for different modes $v_i(x_1, x_2, \cdots x_m)$ of strategy.

A profile of $\{s_1^*, s_2^*, \cdots, s_m^*\} \in s$ strategy is a Nash equilibrium point if no change of strategy by a player leads to high, low, etc… increase of other players.

$H = (H_1, H_2, \cdots H_n)$ and the amount of execution time-step based prediction of each task on each resource is demonstrated through equation L_{ij}.

Assume that U_n is the sum of task bids for the resource as the price of one resource at that instant, and the following equation is obtained.

$$H_h = \frac{\sum_{i=0}^{p} |U_n(i) - U_{n-1}((i)|}{\text{Width.Heigth}} > R_y, \quad (2)$$

where p denotes the number of colour histogram bins, D_n as well as D_{n-1} signify the colour histograms of clips n with $n-1$, respectively, Width.Height signifies the pixel counts in every frame, and T_g denotes the thresholds for recognizing a single maximum activity in a series of F_h discontinuities values.

$$\text{SHU}_n = \frac{EH_{n-1}}{Ci_{n-1}} \quad \text{for } I - \text{frame}, \quad (3)$$

$$\text{SHU}_n = \frac{Ip_n}{EH_n} \quad \text{for } b \text{ frame}, \quad (4)$$

$$\text{SHU}_n = \frac{|EH_n - Ck_n|}{Ci_n} \quad \text{for } H \text{ frame}, \quad (5)$$

where Ip, EH, Ck, and Ci are the CBs in Equations (3)–(5) represent intracoded, forward forecasted, backward predicted, as well as bi directionally predicted frames, correspondingly, and n is the frame size. We changed the SHU by (1) establishing a b-frame SHU formulation to provide more precise providing excellent when the boundary occurs at I-frames and (2) changing the H-frame RFD expression to reduce false alarms if CH_n and Ck_n but they are all significantly greater than Bin. Analyze the frame construction below Equations (6)–(8).

$$\text{UCB}_n(0) = \text{if } (Ck_{n-1} - EH_{n-1}) > 0, (Ck_{n+1} - EH_{n+1}) \leq 0 \quad \text{for } I \text{ frame}, \quad (6)$$

$$\text{UCB}_n(1) = \text{if } (Ck_n - EH_n) \times (Ck_{n-1} - EH_{n-1}) \leq 0 \quad \text{for } H \text{ frame}, \quad (7)$$

$$\text{UCB}_n(0) = \text{if } (Ck_n - EH_n) \times (Ck_{n-1} - EH_{n-1}) > 0 \quad \text{for } H \text{ frame}, \quad (8)$$

$$dms_i = b_1 s_i + b_2 y_i + b_{3,}, \quad (9)$$

where dms_i and dmy_i are the interpolation components for a specific bounding box.

$$dmy_i = b_4 s_i + b_5 y_i + b_{6,}. \quad (10)$$

$b_i's$ are the linear parameters that we term interpolation linear parameters, while s_i and y_i are the locations of the CB's centroid.

The proposed system describes the row vector. Then, for all blocks that aren't tagged as outliers, the coordinate matrix C is created by vertical concatenation of the row vectors. M is the number of macroblocks that aren't tagged as outliers, so R is a matrix. The vectors are created by adding all of HBs that aren't recognized as outliers. Finally, the interpolation linear parameters are combined together to analyze the student's performance. From these considerations, the vectors can be updated by making. These updations are then utilized to compute using R's formation matrix as in Equation (11) and Equation (12).

$$b_x = \left(R^T R\right)^{-1} R^T U_s, \quad (11)$$

$$b_y = \left(R^T R\right)^{-1} R^T U_y. \quad (12)$$

Horizontal motion of camera (HDC) is calculated using the following equation.

$$\text{HDC} = \frac{\sum_{i=0}^{M} b_{3i}}{M}. \quad (13)$$

Vertical motion of camera (VDC) is calculated using the following equation and zoom camera (ZDC).

$$\text{VDC} = \frac{\sum_{i=0}^{M} b_{6i}}{M}, \quad (14)$$

The above features are defined as is in the following equation.

$$\text{ZDC} = \sum_{i=0}^{M} \frac{b_{1i} + b_{5i}}{2}, \quad (15)$$

where N is the total number of frames in the picture frequency coefficient is represented in the following equation.

$$\text{Frequency}(f) = 3485 \times \log_{10}\left(1 + \frac{f}{800}\right), \quad (16)$$

where Frequency (f) is the standard frequency scale's logarithmic scale. Frequency scale covers the frequency range of 0–30130 Hz and also has a constant frequency spacing

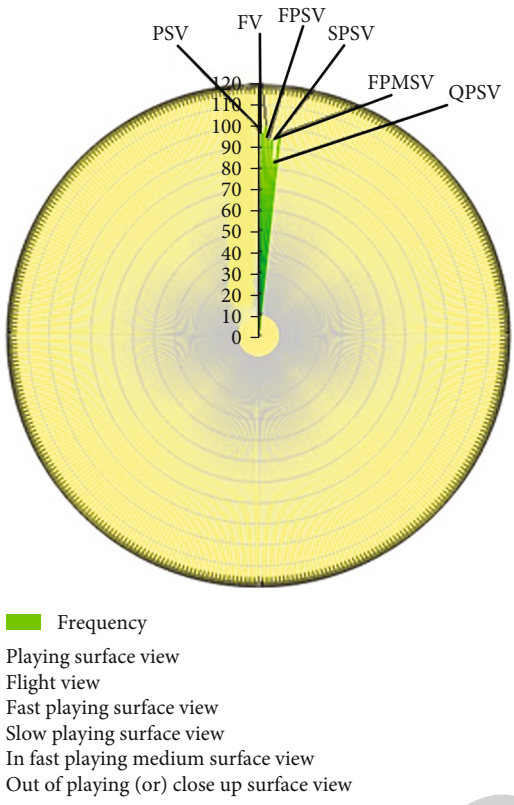

Figure 2: Web 2.0 using frequencies of classification for level 1 and level 2 categories.

Table 1: Web 2.0 using frequencies of classification for level 1 and level 2 categories result.

Categories	Frequencies of classification (%)
Playing surface view	95.7
Flight view	97.6
Fast playing surface view	92.1
Slow playing surface view	87.5
More than four fouls(penalty)	98.4
In fast playing medium surface view	83.9
Out of playing (or) close-up surface view	81.8
Others	91.4

as represented in the following equation.

$$S_n = \sqrt{\frac{2}{k}} \sum_{k=1}^{k} (\log S_k) \cos\left[n(k-0.5)\frac{\pi}{k}\right], \quad n = 1, 2, \cdots, M. \tag{17}$$

The changes of the voice signal are measured by the energy. With audio recordings S_n, where $n = 1, 2, \cdots, M$: the energy is determined as the log of a signal energy as in the following equation.

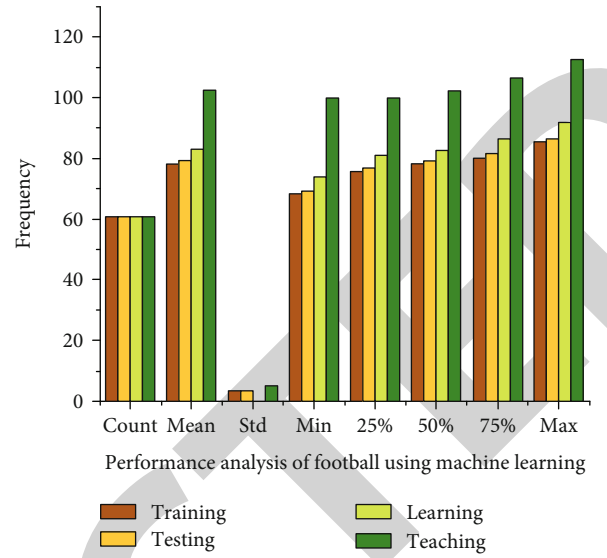

Figure 3: Performance analysis for height of football using machine learning.

Table 2: Performance analysis for height of football using machine learning result.

	Training statistics	Testing statistics	Learning	Teaching standing reach
Count	63.06	63.02	63.01	63.01
Mean	67.89	73.15	88.81	99.43
Std	4.44	4.41	4.79	3.92
Min	63.28	71.55	64.03	81.57
25%	79.72	79.01	71.04	100.01
50%	81.23	83.26	75.52	107.02
75%	85.28	87.52	89.51	119.54
Max	89.26	91.28	93.76	137.51

$$V = \log \sum_{k=1}^{k} S_n^2, \tag{18}$$

On the security of the network learning platform system, access rights are controlled by the system courseware information and curriculum information service scheme. Unauthorized users are not able to enter the system courseware. It is strictly forbidden for users to modify courseware simultaneously in more than two systems to avoid conflicts. Users cannot use the shared network to view the courseware of the system and cannot use this physical method to share the network. All requests to access the courseware information of the system must go through the system document service procedure. The courseware information server can choose to encrypt all recorded data. In terms of the data security of the online learning platform system, the database must be strictly controlled by the authorities. Users without authorization cannot enter the network teaching platform system, enter the system's data, or enter the system's database, nor

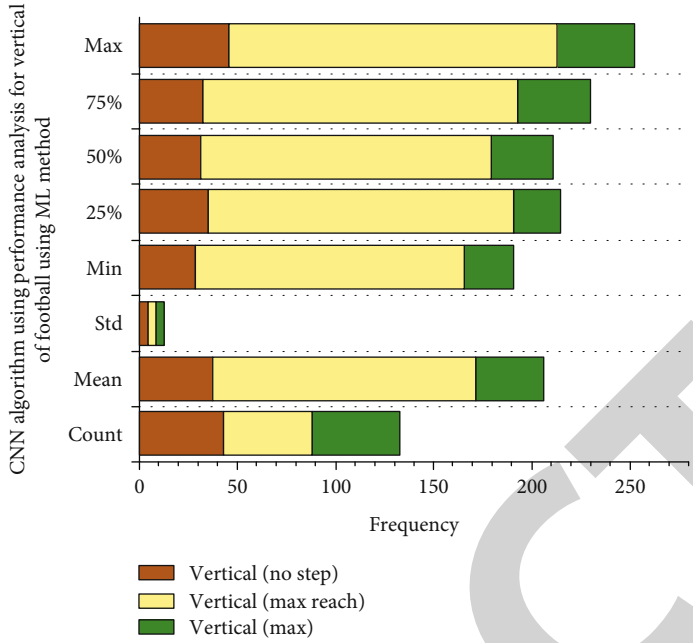

Figure 4: CNN algorithm using performance analysis for vertical of football using machine learning method.

modify or delete other operating systems' data through different systems. In addition, the system can encrypt some data.

4. Results and Discussion

The original platform of football teaching in colleges and universities mainly uses e-mail and BBS (Bulletin Board System) and other technologies. It can provide learning materials, discussions, information, and other functions to learners and promote the exchange of information. When each request page updates synchronous communication interaction mode, the whole page imposes tremendous pressure on network bandwidth and server, resulting in system performance degradation. From the perspective of the interaction between the system and the user, synchronous communication leads to the blank display of the user interface, makes the user network teaching more complex, and brings a bad visual experience to the user. Concerning the effectiveness of information use, educational information lacks effective organization, management, and contact with curriculum schedule, and users cannot consult educational details quickly and effectively. According to the current problems, the functional requirements of the online teaching platform for teachers and students are analyzed.

Figure 2 shows how the CNN technique performs data-level classification of various data types, filters them, and eliminates errors in conjunction with the judgment function within this procedure; second, it integrates the characteristics of different types of athletes. Arrays of various types are illustrated, and their data fit even further differentiated. Furthermore, the amount of machine learning methods used in analyzing different football training arrays varies, and it

Table 3: CNN algorithm using performance analysis for vertical of football using machine learning method result.

	Vertical (max)	Vertical (max reach)	Vertical (no step)
Count	43.00	45.00	45.00
Mean	37.70	134.08	34.35
Std	4.77	3.9	4.54
Min	29.00	136.50	25.50
25%	35.50	155.00	23.50
50%	31.50	148.00	31.50
75%	32.00	161.00	36.50
Max	46.00	167.00	39.50

differs from one type to another. The keep rising of internet services that can be categorized as web 2.0 has sparked a great deal of interest in education (Table 1).

Web 2.0 uses frequencies of classification for level 1 and level 2 categories. Also, there are essential distinctions between higher education values and those found in the web 2.0 collective. Web 2.0 methods share several key characteristics: one of the first is democracy; the other one is that this is based on an underside approach; the third, from the standpoint of education, is that they have been interactive.

The variables that have a more substantial effect on the sports training procedure can be identified in Figure 3 by combining several neural network analysis methodologies and selected superresolution elements to construct a successful relationship between pedestrian detection and different dynamic performances. Sports have a low-resolution difficulty during training and testing, which has been discovered. They conducted a series of control trials to finalize the

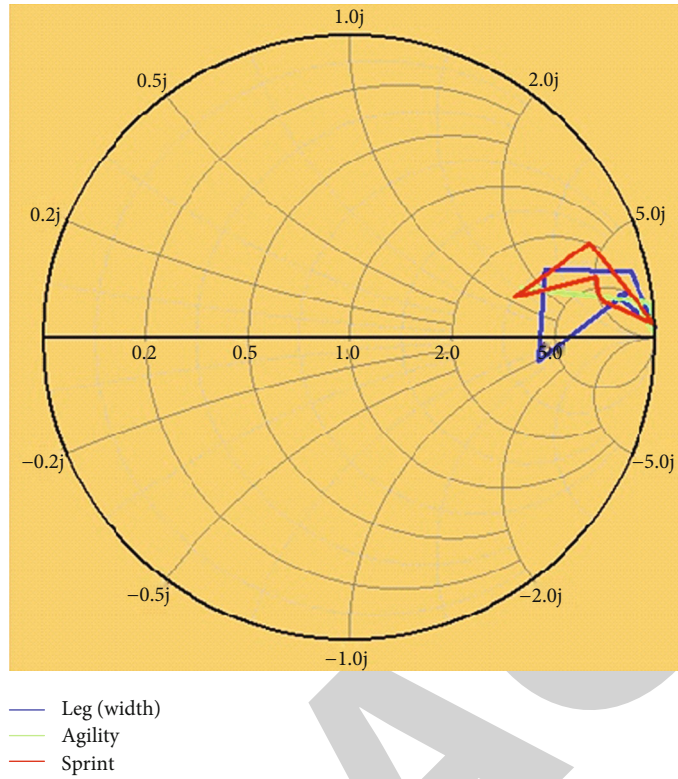

Figure 5: CNN algorithm using performance analysis for hand (width) and agility then sprint of football in machine learning method.

multifunctional implementation of different knowledge and statistics (Table 2).

In Figure 4, the implementation of CNN algorithms in sporting events is performed. It is observed that the distinction dialectical method is proposed based on the machine learning method used for information processing within training data analysis connection of football sports and realized that this method appears to have even more benefits. The removal of a significant filtration role played by a financial intermediary, which was previously a necessary part of the design, is what web 2.0 adds to this process (Table 3).

The technique of football players willing to accept different styles of training programmers was tried to introduce in Figure 5, as well as the particle swarm technique for optimization evaluation and a CNN algorithm based just on a random sampling matrix. The results show that the algorithm can aid in the possible solution of sports players' gait recognition while moving fluidly, albeit at the expenditure of selective recognition accuracy. After considering the various learning education and web 2.0 and some of the possible conflicts, we can now consider how we might cross the gap between different seemingly disparate worlds. We will focus on the potential role of learning design as such an instance as to how education may need to make adjustments, but some other bridging techniques, such as the development of suitable technologies, will unquestionably be required (Table 4).

The effects in Figure 6 indicate that its algorithm could indeed eliminate the problem of sports football gait recognition all through fluid movement, although at the expense of insufficient recognition accuracy. To enhance recognition accuracy, the authors proposed a machine learning method for deformation gait detection based on ant colony and CNN algorithms. It has a high degree of quality and can acknowledge a football stride while training. This analysis can determine the rotational movement of the heel joint and also the training effect (Table 5).

Web 2.0 quality—almost all of the consideration among educators about web 2.0 is about quality and how to ensure it. A set that allows users to share learning algorithms could help resolve this by supplying an educational structure based on resources that are then alterable. Users will see who created each learning design. However, some developers will be

Table 4: CNN algorithm using performance analysis for hand (width) and agility then sprint of football using machine learning method result.

	Leg (width)	Agility	Sprint
Count	65.00	45.00	49.01
Mean	8.04	17.27	4.35
Std	2.46	1.52	1.17
Min	-1.03	15.24	5.14
25%	9.75	15.85	5.22
50%	8.25	13.22	5.21
75%	8.50	13.68	5.46

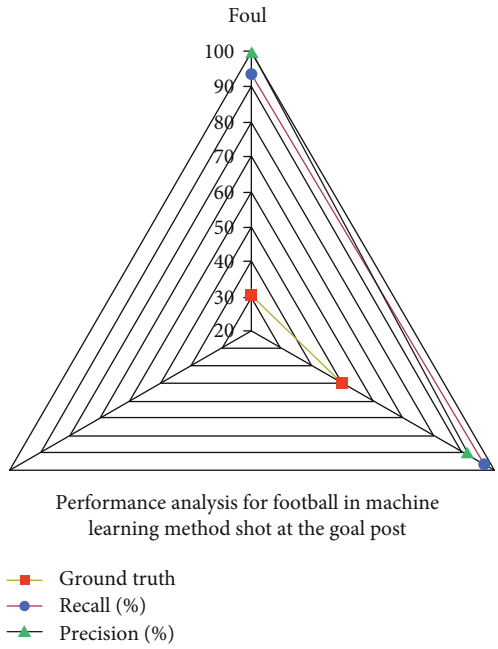

Figure 6: CNN algorithm using overall performance analysis for football in machine learning method.

Table 5: Overall performance analysis for football in machine learning method result.

Performance	Ground truth	Recall (%)	Precision (%)
Foul	31	93.5	99.6
Shot at the basket	52	95.7	92.4

much more respected than others. Football teaching may bridge a few of the contextual gaps that exist among both web 2.0 and higher education. Those who can accomplish this in a variety of ways, and yet supposedly they provide such a way of maintaining the structure, guidelines, and technicality necessary of higher education while also encompassing the viewer generated, dispersed, and personal approach discovered in web 2.0.

5. Conclusion

In response to the existing problems of the online teaching platform, an online teaching platform system is constructed based on Web 2.0 technology to improve the user experience and performance decline of the traditional online teaching platform system. The study employed the CNN algorithm for evaluating the effect of teaching platforms for football teaching. The system test is carried out, and the performance is expected. The online teaching platform has a wide range of users. The proposed system provides students with a large number of courses and practice resources for download. However, it is necessary to strengthen the security of the online teaching platform will be performed like a future work of this research paper.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare that there are no conflicts of interest regarding the publication of this article.

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