*Retraction*

# Retracted: Analysis on the Application of Mobile Information System in the 5G Era in the Transformation of Ethnic PE Teaching in Colleges and Universities

## Scientific Programming

This article has been retracted by Hindawi following an investigation undertaken by the publisher [1].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

In addition, our investigation has also shown that one or more of the following human-subject reporting requirements has not been met in this article: ethical approval by an Institutional Review Board (IRB) committee or equivalent, patient/participant consent to participate, and/or agreement to publish patient/participant details (where relevant).

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] D. Song, C. Peng, G. Zhan, Z. Yuan, and Q. Zhang, "Analysis on the Application of Mobile Information System in the 5G Era in the Transformation of Ethnic PE Teaching in Colleges and Universities," *Scientific Programming*, vol. 2022, Article ID 9584151, 11 pages, 2022.

*Research Article*

# Analysis on the Application of Mobile Information System in the 5G Era in the Transformation of Ethnic PE Teaching in Colleges and Universities

**Ditao Song [ID],[1] Chenggen Peng [ID],[2] Guiling Zhan,[3] Zhichao Yuan,[4] and Qing Zhang[4]**

[1]*College of Physical Education, Guangxi Science & Technology Normal University, Laibin 546199, Guangxi, China*
[2]*College of Sports, Hunan Agricultural University, Changsha 410128, Hunan, China*
[3]*School of Culture and Communication, Guangxi Science & Technology Normal University, Laibin 546199, Guangxi, China*
[4]*Woosuk University, 443 Samnye-ro, Samnye-eup, Wanju-gun, Jeollabuk-do 55338, Republic of Korea*

Correspondence should be addressed to Chenggen Peng; pengchenggen@hunau.edu.cn

In order to solve the problem of the application of mobile information system in the transformation of ethnic physical education in colleges and universities in the 5G era, an analysis method based on the application of mobile information system in the transformation of ethnic physical education in colleges and universities in the 5G era is proposed. This method discusses the path of the transformation of ethnic physical education in colleges and universities through the analysis of the technological advantages in the 5G era. The experimental results show that: at present, under the influence of 5G technology, an important development path of ethnic physical education in colleges and universities is the modernization of education informatization. Through the construction and application of mobile information system, it can meet the increasing diversified sports needs of college students and promote the reform of college physical education. The mean value of competition video of film and television works related to classroom teaching content played before class is 4.576 standard deviation 0.673. *Conclusion.* On the basis of full use of 5G technology, teaching elements should be optimized, teaching resources should be enriched, and teaching mode should be reconstructed to promote the transformation of PHYSICAL education to digital information teaching.

## 1. Introduction

3D printing, virtual simulation, intelligent robots, and other new technologies are emerging with each new day. Information and digitalization have quietly changed our way of production, life and learning, and have a significant impact on the efficient management of people's life quality in countries with rapid economic development, as shown in Figure 1.

## 2. Literature Review

As Yu et al. overcome and adopt 5G chip technology, the digital future is full of possibilities [1]. On June 6, 2019, the Ministry of Industry and Information Technology issued 5G licenses to companies such as China Telecom, China Mobile, China Unicom, and China Radio and Television, entering the stage of 5G technology application [2]. Qi et al. said that 5G technology has attracted the attention of many industries, and related industries are developing rapidly. Today, many information systems are widely used in many fields and have achieved unique results. The rapid development of today's information technology has driven the development of the digital economy [3]. Zhang et al. and some people say that digital technology innovation represented by big data and artificial intelligence has brought subversive changes and innovations to all walks of life. As a key stage in the empowerment of the digital economy, smart cities have once again become the focus of attention [4]. Cloud computing is shown in Figure 2.

Dai et al. said that with the continuous advancement of China's Internet + development plan, all walks of life in China began to get closer to the Internet, and education Internet + promoted the development of mobile education
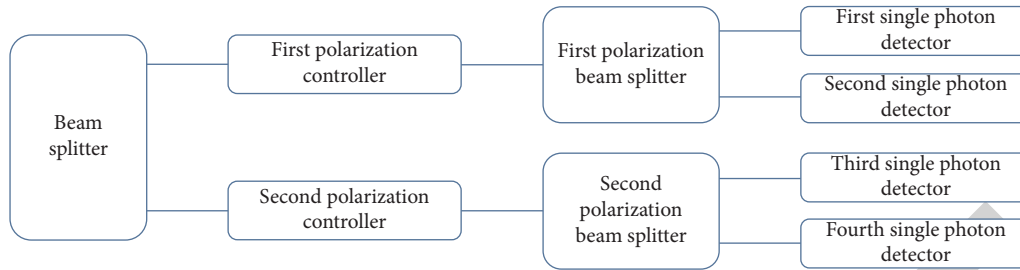
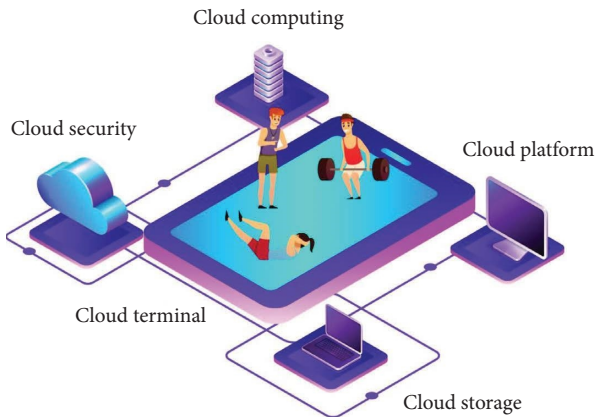FIGURE 1: Optical beam splitters in communications.



FIGURE 2: Cloud computing.

[5]. In practice, Li, and others say, there is a rush of programs that could pave the way for more mobile education [6]. Lau et al. stated that improving the level of urban intelligence makes the urban brain the only way to support the modernization and management capabilities of urban management [7]. Bai et al. said that the era of wisdom needs modern talents who understand and know smart technology well, and the smart transformation of education is also needed to serve the cultivation of smart talents [8]. Vakhrusheva et al. said that as a practical course, traditional physical education can also meet the needs of teaching in practice, but it cannot be done in all aspects [9]. Bernard et al. said that the learning resources provided by traditional physical education are relatively limited in the face of massive network resources and mobile terminal push resources [10]. Colleges and universities adapt to the development of the times and create a new era of intelligent information and information flow [11, 12]. The intelligent transformation of the national college education system is a key element in building a smart school, as shown in Figure 3.

## 3. Method

In the 5G era, how to use the characteristics of 5G communication technology in the learning process, use and transfer learning materials, facilitate classroom learning, and meet the needs of different students, 5G came into being era. Greatly contributed to college athletics [13]. College sports resources are shown in Figure 4.

With the rapid development of the Internet and the popularization of mobile phones, some professional sports event websites and platforms offer free physical education classes [14], for example, Sina Sports Storm, LetV Sports, Tencent Sports, NetEase Sports, Octopus TV, PPTV, and other Internet sports event websites. Tencent Sports website is shown in Figure 5.

These websites mainly broadcast and publicize football, basketball, volleyball, billiards, table tennis, badminton, track and field, swimming, gymnastics, shooting, sailing, equestrian, boxing, boxing, NFL, outdoor snow and ice, bodybuilding, golf, fishing, and other sports competitions in China, which can provide audiences with the widest coverage of the competition schedule and diversified live broadcast experience [15, 16]. In physical education, 5G technology has the characteristics of fast transmission speed and instant access to game information. According to the actual situation of our school's sports programs, more textbooks can be obtained and the use time can be increased, and expand the learning process and classroom learning capabilities.

Since 2012, as a combination of the Internet and education, open online courses, or MOOC, have sprung up rapidly [17]. With the active promotion of MOOCs by the Ministry of Education and the active participation of universities, MOOCs in Chinese universities have achieved remarkable results in construction and application after nearly ten years of development [18]. As from the age of the Internet information technology into the digital age, 5G big data cloud computing IoT, virtual simulation technology, artificial intelligence, and so on, all kinds of digital technology to further promote the lesson for mass arose, whether it is currently in construction in subject teaching mode, or in class teaching subjects and teaching content are presented the characteristics of diversification [19]. Sports MOOC is shown in Figure 6.

Sports and fitness classes keep up with the times and continue to grow. By teaching knowledge in the classroom, changing the traditional teaching method, enriching the content and form of learning, and overcoming the limitations of learning space, environment, time, and the number of students. It has played an important role in expanding cooperation in high-quality educational resources, alleviating the current shortage of educational resources, and achieving educational equity. In the 5G era, Sports MOOCs are no longer simply taught through pictures and videos, but integrated into MOOCs with various teaching methods such as video courses, homework, exercises, tutoring, and group exercises. More interactive teaching mode between teachers and students is adopted to further enhance the
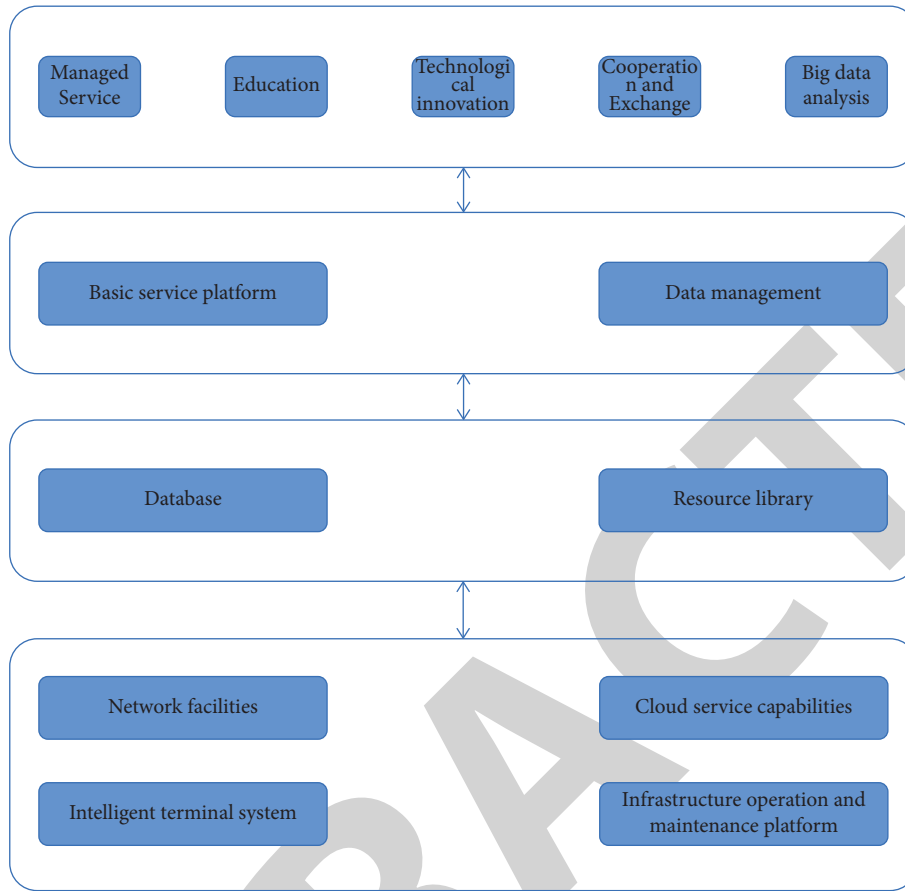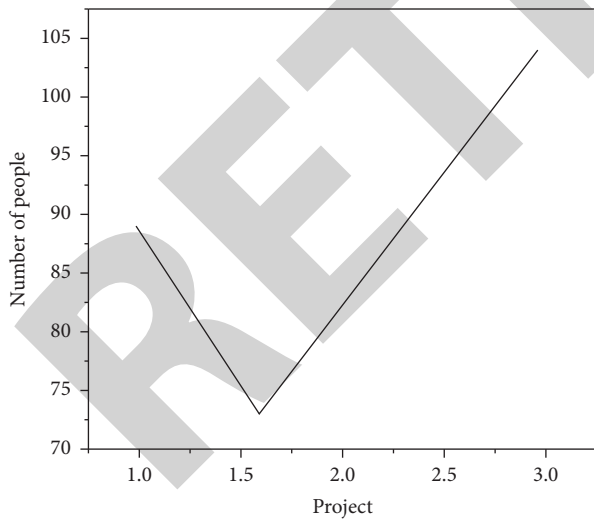
FIGURE 3: Smart campus.



FIGURE 4: College sports resources are shown.



FIGURE 5: Internet + sports.

communication and interaction between students and teachers, so as to realize the supervision and detection of students' online learning practice [20].

Therefore, it is an inevitable trend for all kinds of Sports MOOCs to provide physical education teachers and college students with fitness knowledge sharing, personalized fitness service ,and exercise communication platform [11, 21].
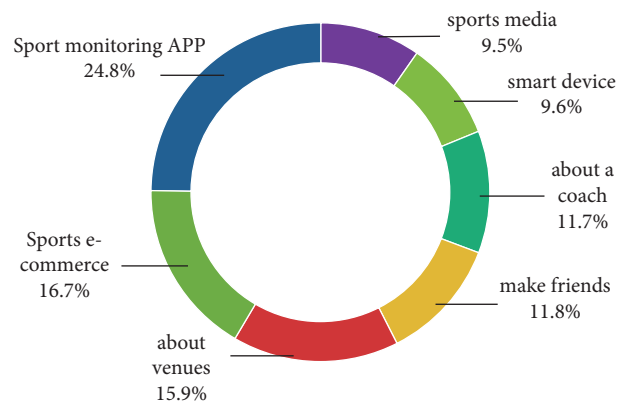
Information technology is widely used in physical education. In the process of reform and development of physical education in colleges and universities, training resources are shared among college sports, strong schools drive weak colleges, and ordinary colleges drive professional colleges, to drive small colleges and universities to achieve common development of physical education, improve training efficiency, and improve the situation.

WeChat public platform is a cooperative promotion business for celebrities, government media enterprises, and other institutions, as shown in Figure 7.
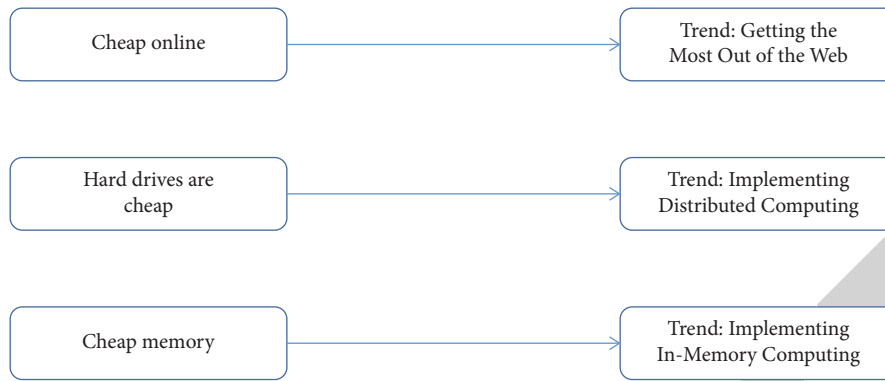
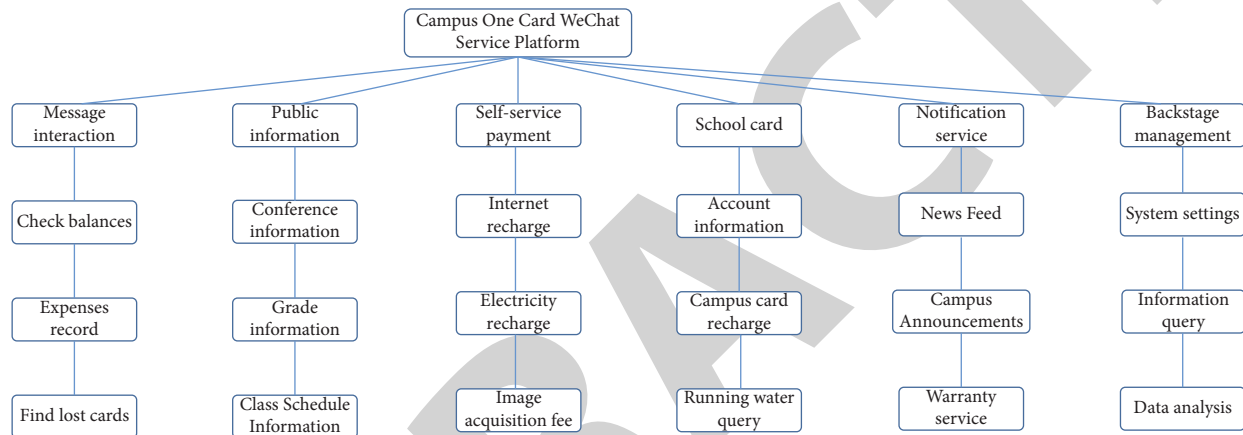FIGURE 6: Advantages of college physical education MOOC.



FIGURE 7: WeChat official platform.

Through WeChat public platform, we can not only provide various information and services to the public, such as releasing news, convening events, disseminating resources and sharing, but also use WeChat public platform as an important part of our physical education resources in physical education teaching [22]. In view of the powerful functions of WeChat public platform and the extensive development of national fitness activities in China, some professional sports institutions and sports associations and even some sports departments of universities have launched their own WeChat public platforms [23].

These official WeChat platforms not only have columns such as relevant news, dynamic events and reports, but also home health project promotion online courses and other contents [24]. Some professional sports courses launched by these professional associations and sports organizations on their official WeChat platforms are indeed a supplement to the physical education teaching resources of colleges and universities [25]. Students do not need to pay any fees, just follow the official account to enjoy the physical education course resources they need for free.

It also directly affects the improvement of classroom teaching effect and the completion of teaching objectives. With the arrival of 5G era, some high-tech sports equipment in college physical education has been constantly appearing and widely used.

Sports apps are widely used in college sports teaching. According to statistics, the active users of sports and fitness apps in China reached 98 million in 2019, and 90% of colleges and universities in China used various fitness apps in sports teaching.

Since all sports apps only need a smartphone, they are simple, professional, and highly interactive, so that the time and place of school sports are in the school sports teaching, providing new ideas for college sports education. See Table 1 for the use of college sports.

At present, there are nearly 100 fitness apps. In the campus where smart phones are popular, these apps related to education and sports will regularly or irregularly release videos and courses on sports teaching, scientific exercise, reasonable diet, rehabilitation, and other aspects.

The basic concept of IoT is shown in Figure 8.

It collects a large amount of user health and behavior data in real time, so it is sought after by customers, especially college students. In the first quarter of 2019 alone, global smartwatch shipments reached 14 million. At present, there are many kinds of smart wearable sports devices and related products have been published for all parts of the body that can be worn from head to foot. These products have been widely used in sports and fitness events broadcast, defense, military, medical and health, fashion and entertainment, and other fields. Intelligent wearable devices are characterized by

TABLE 1: College students' use of sports apps.

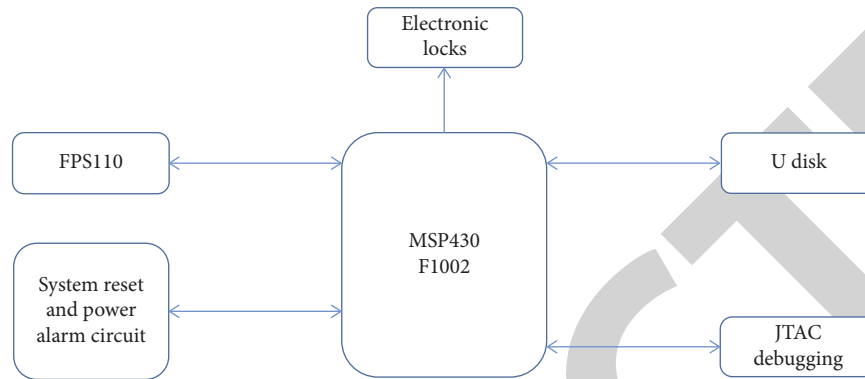| Whether (or not)to use | Number of people | Percentage | How is the feeling |
|---|---|---|---|
| Use | 54 | 54 | Feels good |
| Use | 28 | 28 | Feels normal |
| Not used | 18 | 18 | |



FIGURE 8: Principles of the Internet of Things.

good interactivity, portability, and perception. With powerful functions such as heart rate detection, GPS positioning, blood pressure reading, sweat analysis, temperature measurement, sleep quality evaluation, calorie consumption, glucose parameter reading, and motion capture, it will gradually become a powerful assistant for our healthy life, as shown in Figure 9.

With the rapid development of smart wearable devices in fields such as virtual reality, they are effectively combined with modern information technologies such as cloud computing and big data social platforms [26]. These wearable devices will be widely applied to the near to the national sports teaching of college sports teachers according to the feedback of intelligent wearable equipment data, real-time monitoring of students' exercise intensity, standard techniques, stimulate students interest, adjust the teaching schedule and difficulty, prevent sports injuries, and form a scientific rational evaluation system. Therefore, before smart wearable devices are transformed into regular physical education equipment, each physical education teacher should learn relevant knowledge and skills in advance to prepare for the realization of digital, scientific, and visual physical education classroom.

As a new generation of human–computer interaction, somatosensory interaction is a revolutionary revolution of human–computer interaction methods. Somatosensory interaction perceives the physical changes of participants through hardware, hardware, somatosensory interaction system software, 3D digital content, real-time dynamic imaging, and microphone input voice recognition, as shown in Figure 10.

At present, somatosensory interaction technology mainly enhances the sense of entity through VR AR and MR technology and other interactive ways. New interactive forms such as motion-sensing interactive games can interact with the main screen, breaking through the traditional man–machine interactive operation mode of gamepad, mouse, and wearable devices, and achieving the effect of interaction between real characters and virtual characters through the green-screen image processing technology, as shown in Figure 11.

At present, it has been widely used in game recreation rehabilitation training and competitive sports training. In college sports teaching, some colleges and universities in China have customized the interactive content of rock climbing, boxing, golf, table tennis, badminton, volleyball, tennis, hurdle, skiing, skateboarding, archery, aerobics, and other more than a dozen projects through professional technology companies according to the teaching needs of the school, giving students a new display and experience in daily sports teaching [27].

The party and state policies are the guidelines for the development of various types of enterprises determined by the party and the state, and are the legal basis and strong guarantee for our activities. The guiding opinions emphasize that colleges and universities should focus on integrating Chinese scientific and technological achievements into the teaching of important disciplines as soon as possible; encourage schools to explore new models of educational networks and expand high-quality educational services. Support the use of information technology, introduce flipped classroom, blended learning, and other methods, effectively use digital resources, improve teaching quality, and adapt to new teaching methods; the construction of smart schools will support schools at all levels and types, using Internet big data intelligence and virtual technology, and explore new learning and teaching models for the future. By 2022, the teachers of the whole school will be responsible for informatization, and the students of the whole school will be responsible for the construction of digital schools in the whole school, so as to improve the level of information literacy and the teachers and students of the application schools.
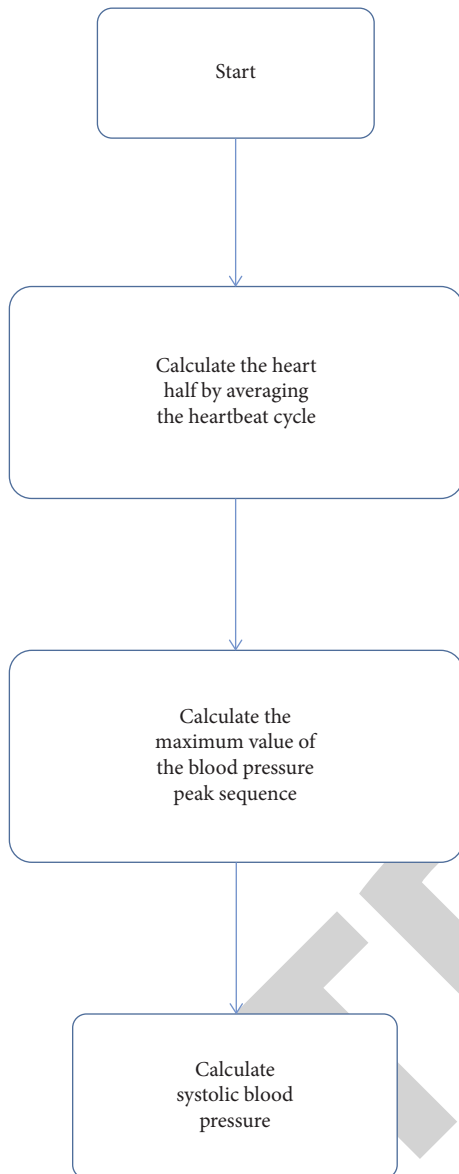
Figure 9: Monitoring of blood pressure.

## 4. Experiments and Analysis

At present, information technology has got a certain application in sports teaching in colleges and universities, but due to the restriction of the data flow, limited to text images and capacity of the smaller sports practice teaching video resources is to use more video motion transmission play collection and analysis, etc., need more data flow per unit time, higher requirements for the transmission speed. This restriction of data flow rate makes some high-tech technologies, such as AI AR fast dynamic technology analysis, difficult to be really widely used in physical education practice because of the limitation of data flow rate. The dynamic analysis technique is shown in Figure 12.

The online education textbooks in China a few years ago were only some video courseware released online for students to learn and use. They rarely thought that the communication and feedback of primary school students were

very important, and it was impossible to know the real-time interaction between teachers and students. Related to life, the teaching results cannot be evaluated online in real time, and physical education classes should be taught loudly in schools [28]. More than 24,000 online courses such as national quality products are provided free of charge, and more than 20 online learning platforms have been built to create. A variety of online courses have been developed, as shown in Figure 13.

It shows the powerful function of artificial intelligence means in the 5G era, and also brings infinite possibilities for online physical exercise in remote physical education. However, from the point of the current quality of online resources, because there is no standard education plan as the instruction, resources appear less material, a variety of conditions. Although some schools are free for the national colleges and universities provide high-quality teaching resources platform for use, but due to many teachers is a first-time online teaching, to a certain extent the quality of the utilization of resources [29]. Therefore, in the digital transformation of physical education in colleges and universities in the future, physical education should build standardized and unified digital teaching resources, speed up the construction of big data analysis database that includes the needs of physical education and serves the diverse needs of the vast number of sports participants, such as the database required by technical analysis, health analysis, and industrial analysis. Artificial intelligence is shown in Figure 14.

First, students are no longer limited by the time and space of the classroom and can interact with teachers anytime and anywhere. However, in this situation, how can teachers give answers to students anytime and anywhere, their personal space is squeezed and their working hours are extended, and how can they give policy guidance. Second, individual schools provide high-quality teaching resources to share their invisible labor how to give affirmation. Third, when students choose online courses from other schools, how should their credits be calculated and who will supervise them. Such as the above problems, in the future college physical education digital transformation should have a set of standard system to guarantee [30]. Many universities have carried out the construction of information management system, as shown in Figures 15 and 16.

During the epidemic prevention and control period in 2019, robots were used to deliver and distribute medical supplies and inspect hospitals instead of manual workers in severely affected areas. In isolated communities, drones are used to complete the purchase of daily necessities by express delivery. Big data of artificial intelligence in epidemic prevention and control work 5G technology played an important role. Development and construction of high-end sports terminal equipment is an advanced technology in the teaching and an important part of the real ground application. Therefore, the digital transformation of PE of universities and colleges, sources of funding or become critical, increase capital investment, the use of the rational allocation of funds, and solve the following several aspects. First, physical education in colleges and universities is different
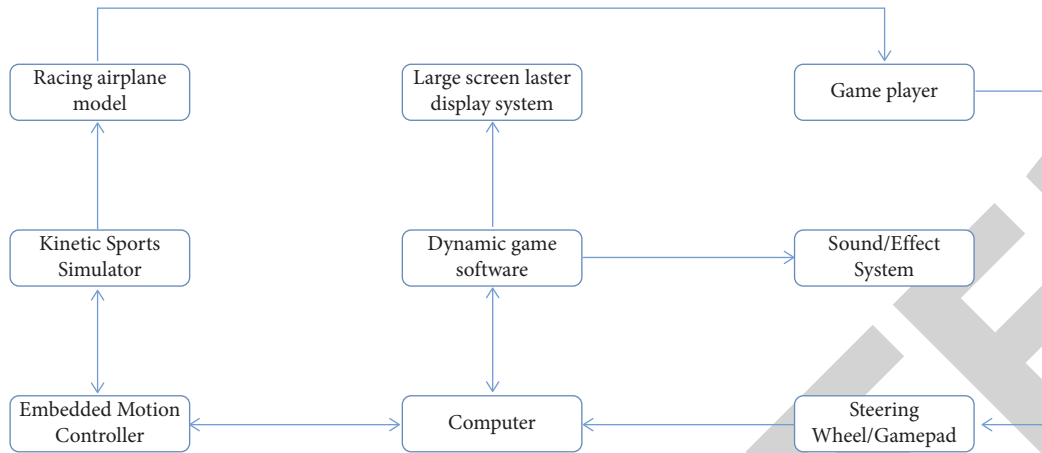
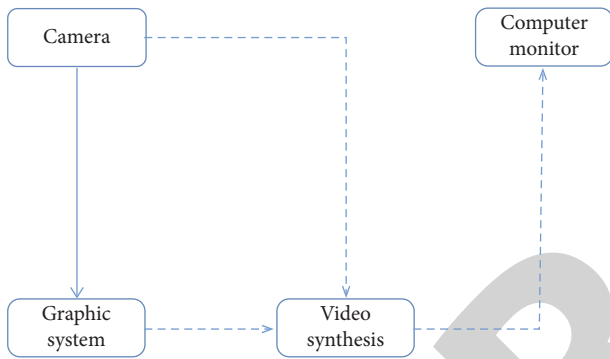Figure 10: Somatosensory interaction technology.



Figure 11: AR technology.

from high-level training in that it is faced with a large number of ordinary students in school. If in addition to mobile phone terminals, additional sports equipment such as electronic bracelets needs to be purchased, who should bear the cost. Second, as a front-line physical education teacher, if they need to develop the sports equipment required for teaching, how should they get the corresponding financial support.

This paper makes a multilevel and multiangle investigation on the willingness of college PE teachers to informationized teaching management, and its variables mainly revolve around the various forms of application of informationized teaching means in PE class, covering the whole classroom teaching process. For example, in basketball teaching, is it willing to use editing methods to clip the technical action videos of athletes in professional sports events for classroom situation cutting? Whether you are willing to use mobile playback equipment to explain and demonstrate the essentials of action; Are you willing to use mobile devices to supervise students' sports training outside the classroom; see Table 2.

The specific calculation method is as follows.

The calculation formula of average value is shown as follows:

$$\frac{(1 + 2 + 3 + \ldots + n)}{n}. \tag{1}$$

The standard deviation calculation formula is shown as

$$s = \mathrm{sqrt}\left(\frac{((x1 - x)\hat{2} + (x2 - x)\hat{2} + \ldots \ldots (xn - x)\hat{2})}{(n - 1)}\right). \tag{2}$$

The formula for calculating the overall standard deviation is shown in the following formula:

$$\sigma = \mathrm{sqrt}\left(\frac{((x1 - x)\hat{2} + (x2 - x)\hat{2} + \ldots \ldots (xn - x)\hat{2})}{n}\right). \tag{3}$$

In the era of mobile Internet, people acquire knowledge not only through classroom and teachers but also through the Internet. Our PE teaching goal is not only to let students know all kinds of sports skills, but also to let students understand and master as much as possible sports related background common sense theory knowledge, so as to stimulate students' interest in learning and active learning. Teachers should change their role from knowledge imparting to learning organizer, create a learning environment for students to search and analyze problems independently, give students the initiative to acquire knowledge, stimulate students' thirst for knowledge, and cultivate students' ability to acquire and process information independently. In addition, the physical education teacher's information literacy is also the key to the success of college physical education information teaching, and it is urgent to learn and improve.

In the era of mobile Internet, campus wireless network covers all mobile terminals owned by everyone; this paves the way for the development of sports information. We should make full use of the social software that is popular in students, such as QQ, WeChat, Weibo, and so on. To build a platform for interaction between teachers and students, teachers can put materials required by students' independent learning as well as key points and difficulties in teaching into the platform for students' independent learning according to the requirements of teaching progress and teaching objectives. At the same time, teachers can know the learning status of students through the platform and get teaching feedback in time, so as to improve the teaching quality. Students can not only conduct independent learning according to the
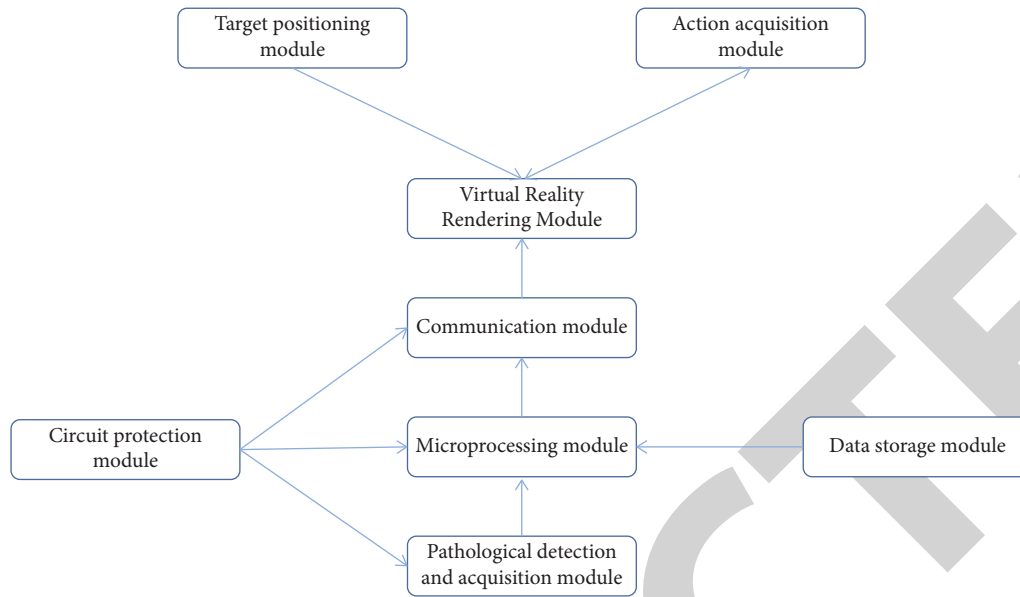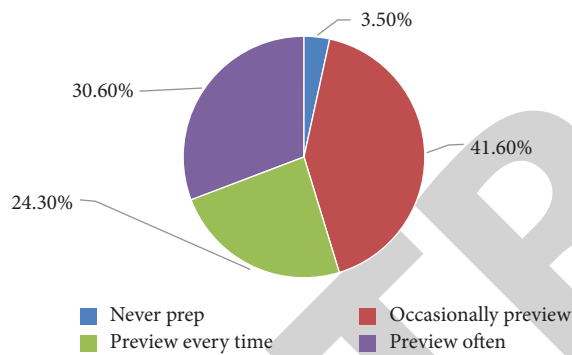
Figure 12: Dynamic analysis technology.



Figure 13: Online teaching.



Figure 14: Artificial intelligence.

teaching resources provided by teachers, but also feedback the doubts of the harvest of independent learning to teachers through the platform, so that teachers can achieve targeted teaching. At the same time, students have a clearer understanding of their own cognitive level and learning ability through autonomous learning on the platform, which encourages them to attend lectures more specifically in the physical classroom and improve the efficiency of listening to lectures.

The development and use of physical education resources is at the heart of college physical education by spreading the way people get information from classrooms, libraries, and laboratories to any networked location. There is always a lack of physical resources, such as girls who like yoga to lose weight; the Internet is full of cartoons about the Olympics, World Cup, NBA, and basketball games that boys are interested in. But in the face of massive resources, we need to take the essence to discard the dregs, eliminate the false and retain the true, and select the excellent resources, so that teachers and students can easily and quickly find their own sports learning resources through the information resource library and actively use sports app.
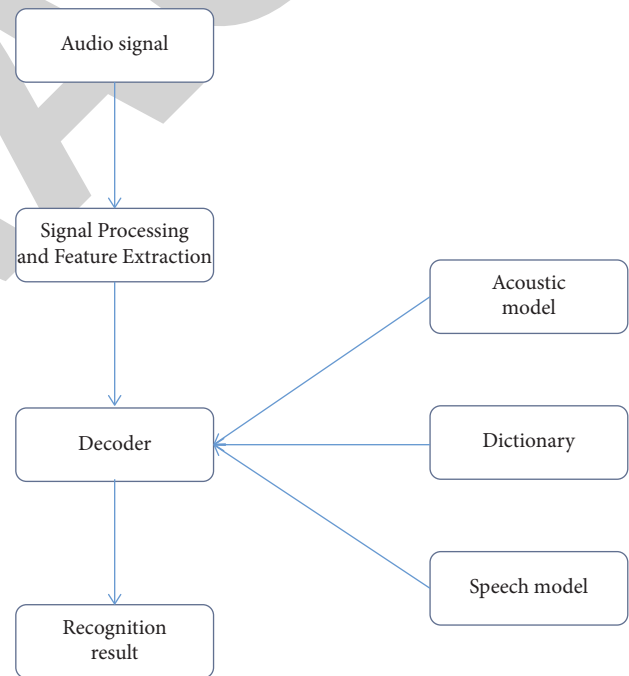
You can also level your users or give them MEDALS based on that content, which gives them a sense of accomplishment in some way. All in all, the function of personal record and social interaction of sports app can make college students more addicted to the exercises.

APP includes KEEP, millet movement, gudong, yue dongli, yue dongquan, and yue paoquan. By analyzing the service features of sports apps, we can learn the innovation points and highlights of these sports apps, clarify the development direction of sports apps, and facilitate users to promote fitness activities through the network. The wide
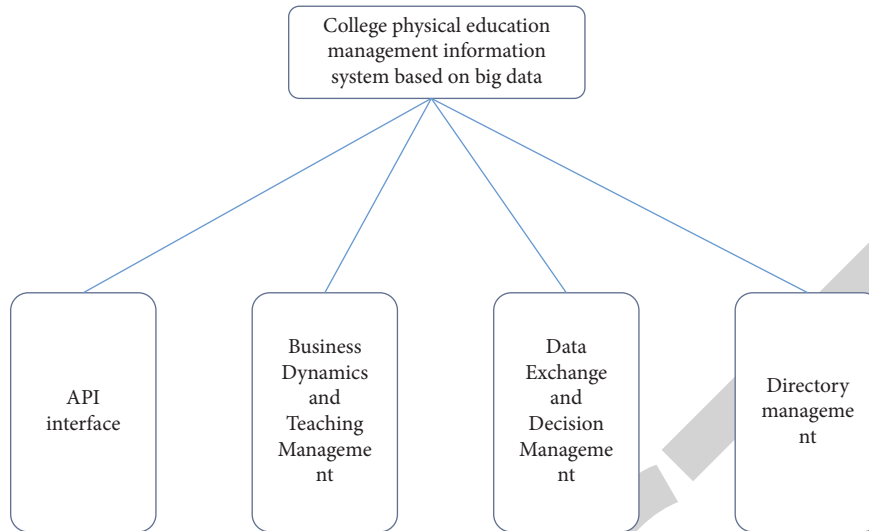
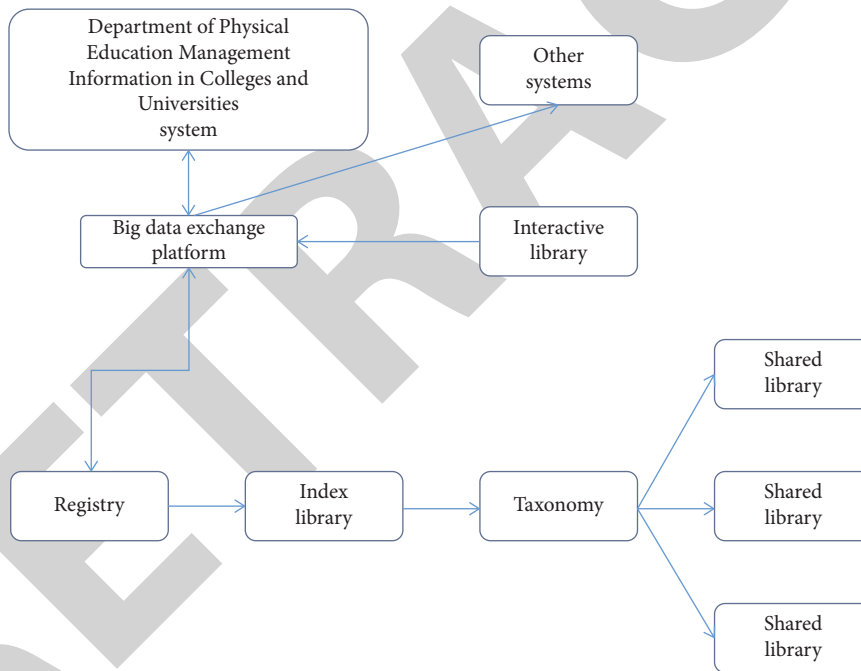Figure 15: The overall architecture of the information management system.



Figure 16: Data management architecture diagram.

Table 2: The willingness of college PE teachers to carry out informationized PE teaching management.

| Variate | Mean value | Standard deviation |
|---|---|---|
| The teaching content is elicited by playing the video of film and television works competition related to classroom teaching content before class as a starting point | 4.576 | 0.673 |
| Key movements are taught through multimedia equipment in the classroom | 4.234 | 0.713 |
| Monitor students' training load and intensity outside the classroom through mobile clients, such as wristbands and other testing devices | 4.213 | 0.625 |
| Introduce information courses such as MOOC into the classroom | 4.114 | 0.643 |
| Carry out information teaching and management training, and constantly improve their information skills through training or independent learning | 4.876 | 0.716 |

application of network products in the network era must have its characteristics of The Times and meet the development needs of today's society. After examining several representative sports programs, these sports programs have different characteristics in interface functions, portability, and complex functions. The distinctive features of sports app can meet various sports exercise needs and service needs of different users, and the interface operability and portability of sports app. The comprehensive feature of functions has become an important factor to attract college students to participate in physical exercise. Its colorful functions stimulate and motivate college students to take the initiative to use it. Meanwhile, the development process also promotes technological innovation and makes sports app more mature. Therefore, all kinds of sports apps should be rationally used to play the role of these information terminals in information-based teaching, and exert its application advantage in college PE teaching, making it the propeller of the PE teaching reform.

## 5. Conclusion

In the research process, I have learned the problems encountered by students and teachers in the application of mobile intelligent terminals in the teaching of college physical education, which provides a clear idea on how to carry out mobile intelligent terminal teaching from the perspective of students in the future. At the same time, people began to pay attention to the premise that modern mobile intelligent terminal is more and more widely used, whether teachers should also stand in the perspective of their own and students' common development, the knowledge about the mobile device should also be mastered. Thus, it can be analyzed according to the survey of students, the teaching data can be made based on the students' real condition and the teacher's expectation for the digital PE professional teaching resources. In terms of the utilization of mobile intelligent terminals, teachers and students still stay in the basic functions of smart phones, mainly using smart phones to chat on the Internet, work and study related to the use of mobile intelligent terminals in college sports teaching applications still have a considerable space.

## Data Availability

No data were used to support this study.

## Conflicts of Interest

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

## Acknowledgments

## References

[1] Y. Gong, X. Guo, Q. Liu, Y. Long, and Y. Li, "Monitoring and analysis of the current environmental situation of electromagnetic radiation from 5g application base stations," *Journal of Physics: Conference Series*, vol. 2242, no. 1, Article ID 012026, 2022.

[2] A. V. Tkachenko, I. E. Lysenko, A. V. Kovalev, and D. V. Vertyanov, "High-performance inline rf mems switch for application in 5g mobile networks," *Journal of Physics: Conference Series*, vol. 2086, no. 1, Article ID 012068, 2021.

[3] Q. Qiu, S. Liu, S. Xu, and S. Yu, "Study on security and privacy in 5g-enabled applications," *Wireless Communications and Mobile Computing*, vol. 2020, no. 1, pp. 1–15, Article ID 8856683, 2020.

[4] H. H. Chang, L. Liu, and Y. Yi, "Deep echo state q-network (deqn) and its application in dynamic spectrum sharing for 5g and beyond," *IEEE Transactions on Neural Networks and Learning Systems*, vol. 99, pp. 1–11, 2020.

[5] Y. Dai, K. Zhang, S. Maharjan, and Y. Zhang, "Edge intelligence for energy-efficient computation offloading and resource allocation in 5g beyond," *IEEE Transactions on Vehicular Technology*, vol. 69, no. 10, pp. 12175–12186, 2020.

[6] J. Li, "Resource optimization scheduling and allocation for hierarchical distributed cloud service system in smart city," *Future Generation Computer Systems*, vol. 107, no. Jun, pp. 247–256, 2020.

[7] V. K. N. Lau, S. Cai, and M. Yu, "Decentralized state-driven multiple access and information fusion of mission-critical iot sensors for 5g wireless networks," *IEEE Journal on Selected Areas in Communications*, vol. 38, no. 5, pp. 869–884, 2020.

[8] S. Bai, D. Liao, M. Wang, and Y. Ma, "Application of cluster analysis in optimization problem of pricing of a mobile internet app," *Journal of Physics: Conference Series*, vol. 1978, no. 1, Article ID 012054, 2021.

[9] M. Yu Vakhrusheva, M. S. U. Khaliev, and E. O. Pokhomchikova, "Barclays' application of information system in manufacturing process," *Journal of Physics: Conference Series*, vol. 2032, no. 1, Article ID 012129, 2021.

[10] R. Bernard, G. Bowsher, and R. Sullivan, "Covid-19 and the rise of participatory sigint: an examination of the rise in government surveillance through mobile applications," *American Journal of Public Health*, vol. 110, no. 12, pp. 1780–1785, 2020.

[11] T. Chen, "Research on the dilemma and breakthrough path of ideological and political education in colleges and universities in the era of big data," *Journal of Higher Education Research*, vol. 3, no. 2, pp. 203–206, 2022.

[12] B. Kilic, "Turkish health system: from socialisation to privatisation," *BMJ*, vol. 342, no. 3, p. 40, 2020.

[13] R. Huang, S. Zhang, W. Zhang, and X. Yang, "Progress of zinc oxide-based nanocomposites in the textile industry," *IET Collaborative Intelligent Manufacturing*, vol. 3, no. 3, pp. 281–289, 2021.

[14] B. Peng and X. X. Zheng, "Exploring the training mode of engineering disciplines in Chinese colleges and universities to meet the needs of an innovative society," *International Core Journal of Engineering*, vol. 6, no. 5, pp. 149–151, 2020.

[15] S. Müller, "Temporal regimes in kenmu nitchū gyōji (daily observances of the kenmu era), with annotated translation," *Asiatische Studien - études Asiatiques*, vol. 75, no. 1, pp. 89–129, 2021.

[16] V. Scuotto, M. Nicotra, M. Del Giudice, N. Krueger, and G. L. Gregori, "A microfoundational perspective on smes' growth in the digital transformation era," *Journal of Business Research*, vol. 129, no. 10, pp. 382–392, 2021.

[17] L. Li, Y. Diao, and X. Liu, "Ce-Mn mixed oxides supported on glass-fiber for low-temperature selective catalytic reduction of NO with NH3," *Journal of Rare Earths*, vol. 32, no. 5, pp. 409–415, 2014.

[18] S. Proietti, F. Gaboardi, and G. Giusti, "Endourological stone management in the era of the COVID-19," *European Urology*, vol. 78, no. 2, pp. 131–133, 2020.

[19] M. S. K. Yelpale and K. Y. Sayali, "Security and privacy challenges in cloud computing: a review," *Journal of Cybersecurity and Information Management*, vol. 4, no. 1, pp. 36–45, 2020.

[20] Y. Hong, M. Wan, and Z. Li, "Understanding the health information sharing behavior of social media users: an empirical study on WeChat," *Journal of Organizational and End User Computing*, vol. 33, no. 5, pp. 180–203, 2021.

[21] S. P. Öztürk, "The era of digital transformation: visualizing the geography of e-commerce usage in Turkey," *Environment & Planning A: Economy and Space*, vol. 53, no. 6, pp. 1241–1243, 2021.

[22] A. Rajendran, N. Balakrishnan, and P. Ajay, "Deep embedded median clustering for routing misbehaviour and attacks detection in ad-hoc networks," *Ad Hoc Networks*, vol. 126, Article ID 102757, 2022.

[23] N. Ospina García, M. F. Diaz Velasquez, C. A. Tavera Romero, J. H. Ortiz Monedero, and O. I. Khalaf, "Remote academic platforms in times of a pandemic," *International Journal of Emerging Technologies in Learning*, vol. 16, no. 21, pp. 121–131, 2021.

[24] G. H. Shah, "Public health education and changing public health realities in the public health 3.0 era," *American Journal of Public Health*, vol. 111, no. 3, pp. 336–338, 2021.

[25] G. Tressia, L. H. Alves, A. Sinatora, H. Goldenstein, and M. Masoumi, "Effect of bainitic transformation on the microstructure and wear resistance of pearlitic rail steel," *Industrial Lubrication & Tribology*, vol. 72, no. 9, pp. 1095–1102, 2020.

[26] Q. Liu, W. Zhang, M. W. Bhatt, and A. Kumar, "Seismic nonlinear vibration control algorithm for high-rise buildings," *Nonlinear Engineering*, vol. 10, no. 1, pp. 574–582, 2021.

[27] N. Minallah, I. Ahmed, M. Ijaz, A. S. Khan, L. Hasan, and A. Rehman, "On the performance of self-concatenated coding for wireless mobile video transmission using dsts-sp-assisted smart antenna system," *Wireless Communications and Mobile Computing*, vol. 2021, no. 1, pp. 1–10, Article ID 8836808, 2021.

[28] P. S. Chiu, J. W. Chang, M. C. Lee, C. H. Chen, and D. S. Lee, "Enabling intelligent environment by the design of emotionally aware virtual assistant: a case of smart campus," *IEEE Access*, vol. 8, pp. 62032–62041, 2020.

[29] H. Liu and Y. Lin, "Methodology and trends of linguistic research in the era of big data," *Contemporary Social Science: Journal of the Academy of Social Sciences*, vol. 4, pp. 87–106, 2020.

[30] A. Sharma, G. Rathee, R. Kumar et al., "A secure, energy- and sla-efficient (sese) e-healthcare framework for quickest data transmission using cyber-physical system," *Sensors*, vol. 19, no. 9, p. 2119, 2019.