

Retraction

Retracted: Impact of Sports Wearable Testing Equipment Based on Vision Sensors on the Sports Industry

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1].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] L. Chen and S. Yang, "Impact of Sports Wearable Testing Equipment Based on Vision Sensors on the Sports Industry," *Journal of Sensors*, vol. 2021, Article ID 2598721, 10 pages, 2021.

Research Article

Impact of Sports Wearable Testing Equipment Based on Vision Sensors on the Sports Industry

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Sports wearable monitoring equipment is an intelligent device that collects many physiological signals of the human body through multiple sensors. It has a very active role in promoting data testing in the field of sports. This article is aimed at studying the impact of sports wearable detection devices based on vision sensors on the sports industry and at proposing effective strategies for the development of sports wearable devices in the sports industry. This paper proposes an azimuth integration algorithm based on wearable sensor data. This goal establishes a new feature based on azimuth angle information for a reliable human behavior recognition system based on acceleration data. Based on summarizing and comparing the advantages and disadvantages of existing azimuth conversion algorithms, this paper develops an azimuth code conversion algorithm based on the combination of additional processing and Kalman processing to explore the impact of wearable devices on the sports industry. The experimental results of this article show that in the current sports industry, more than 19.74 million sports wearable testing devices have been put into use normally, which also means that the industry is about to enter a significant stage of development.

1. Introduction

Industrialization development is an important part of our country's national economic development plan, which can expand the scale of economic development and increase the benefits of the plan [1]. Therefore, our country attaches great importance to the development of the manufacturing industry. Sports are the main business of our country, and the development of the industry has a great influence on the development of sports to some extent. However, due to the effects of many policies, rules, products, people's understanding, and other factors, the development stage of our country's sports industry is very small, and the development mode of the sports industry needs to be explored urgently. Exploring the role of manufacturing in the development of sports in our country can not only improve the sports market and increase the sales of sports products but also directly increase the production level of the sports industry. Industrial production also has a certain impact on the political environ-

ment of sports development. With the development of the industry, our country's sports political structure has undergone major changes. Sports politics has become increasingly prominent and has become an important way to deal with international relations. In addition, with the development of sports, countries around the world pay more and more attention, and the influence of sports continues to spread around the world, as well as sports, professional work, and sports equipment. Athletes related to this sport began to flood all over the world, which led to global development.

The impact of production is on the economic environment for sports development. Production not only improves the economic performance and value of sports events but also has a major impact on the development of the global economy and the development of our country's national economic system and has changed the economic environment. Its performance is as follows: production is an organic whole of the national economy, and without a production guarantee system, there can be no economic benefits for

enterprises; without the economic benefits of enterprises, the national economic goals cannot be achieved. Therefore, production is the main way and cornerstone to achieve national economic goals. In fact, sport is an important part of the sports industry, and its economic value is getting more and more attention in sports. People pay attention to the economic value of sports and the development of program discourse space by holding sports events, support the development of tourism, and play an important role in promoting the local communication industry, transportation industry, and even the national economic development. The wearable sports detection system is developed using wearable technology. Among them, the wearable motion detection system can usually be used for clothing wear and so on. It uses many microsensors to make many wearable devices, such as mobile phones and other devices. Adults wear this device on their bodies or live with them. When there is a situation in the body's functions, the system will see the changes in the human body. Sensors used in wearable fall detection systems usually include speed sensors, acceleration sensors, pressure sensors, and pressure sensors [2]. In practical applications, the sensor can be used as a system loading device or combined with other sensors to affect the human body and collect characteristic data to complete sports detection. For this reason, it is necessary to conduct experiments to prove it. The result of the demonstration showed that the sensor combined with other sensors can effectively collect the characteristic data of the human body with an accuracy rate of 97%.

Many scholars at home and abroad have conducted in-depth research on the topic of the impact of visual sensor-based sports wearable detection equipment on the sports industry. They have published many insights on this research project. Ash et al. mentioned that the recent explosive growth of wearable technology and related issues have prompted the International Federation of Sports Medicine (FIMS) to develop a quality assurance standard for wearable devices, which provides commissioned testing of marketing statements and good commercial availability for testing and approval of wearable devices [3]. Cai et al. proposed a method to collect electric vehicle parameters using smart wearable devices; finally, a method of rationally using electric vehicles as energy storage resources is proposed. It can prevent unstable operation of the power grid after a large number of electric vehicle charging piles are entered, and improve the reliability and robustness of the power grid system. [4]. Barshan and Yurtman proposed a technology that realizes the positioning invariance of wearable motion sensor units on the body to identify daily and sports activities. The use of two sequence sets based on sensory data allows each unit to be placed anywhere on a given rigid body part. When the unit shifts from its ideal position by a larger displacement, the activity recognition accuracy of the system using these sequence sets will slowly decrease, while the activity recognition accuracy of the reference system (not intended to achieve position invariance) decreases very much fast [5]. Muniz-Pardos and his team believe that the rapid development of wearable technology and real-time monitoring has made significant progress in the field of lei-

sure and elite sports. One of the innovations is the application of real-time monitoring, which includes smart watch applications and ecosystems, designed to use cloud-based services to collect, process, and transmit a wide range of physiological, biomechanical, bioenergy, and environmental data [6]. Naseri et al. mentioned that in the past few decades, the sustainability of higher education institutions has attracted more and more attention from policy makers. This can be said to be due to the increased level of society's awareness of sustainability issues and the significant impact of campus activities on the environment and the community. In addition, young people can now use digital technologies such as websites, online forums, social media, content sharing platforms, mobile applications, and wearable devices to understand and promote their physical fitness and health [7]. In order to realize the visualization of the school's physical education classroom, Wang B created a visual sports management system to efficiently record the student's sports data and store the data in the database so that the virtual reality client can call it. Through the combination of wearable devices, virtual reality, and network technology, real-time acquisition of student motion data drives the role model in the virtual scene and visualizes the motion data [8]. Gurubasavaraja and Syed's paper intends to study the impact of technology on sports performance on athletes. One of the most authoritative tests of human athletic ability is exercise, but this does not mean that technology cannot promote it. When managing and hosting sports, technology can succeed where humans cannot make; this guarantees a fair judgment of performance and ensures that the athlete wins fairly [9].

The abovementioned scholars have done extensive research on the role and application of wearable devices based on vision sensors. However, there are still some shortcomings. For example, only a few of them combine wearable devices with sports analysis together. Therefore, this article will conduct in-depth research on the principles and functions of visual sensor-based sports wearable detection equipment and strive to explore the application of the equipment in the sports industry, revealing its positive influence and promoting role in the sports industry.

The innovations of this article are as follows: (1) introduced vision sensors and sports wearable testing equipment and proposed algorithms for sports wearable testing equipment based on vision sensors; (2) at the same time, the impact of the motion wearable detection equipment based on the vision sensor on the sports industry was investigated experimentally.

2. Sports Wearable Detection Equipment Based on Visual Sensor Method

2.1. Vision Sensor. The fusion of visual sensor information combines different measurement details of the same state from different sensors to obtain a unified state description. The most commonly used methods include Kalman processing, balance, psychological stability, Bayesian calculations, and neural networks. The Kalman algorithm uses the statistical characteristics of the measurement model. Its idea is to find the minimum value of the error coefficient to obtain more accurate results, and its adaptability is stronger. The

Bayer algorithm uses multisensor observations to construct a total array, reducing the probability of the total array receiving the Bayesian algorithm; the logic widget uses the uncertainty of multiple measurements in the inference model and combines multiple suggestions by calculating the confusion process set composite results; the network array uses multisensor data as a single network input to design a multisensor network through a network method. After proper training, the network can obtain stable integration results. As an advanced information processing tool, the computer has provided information services for people since its birth. In recent years, with the continuous improvement of material production and software development technology, the services provided by computers have changed from physical and intermediate operations to flexible and adaptable services based on human needs. Closely monitor computer systems and human users through physical interaction. In this type of computer system, the most fundamental supporting technology is to understand and recognize human behavior, so as to provide services based on human behavior. To understand the recognition of human behavior, it is necessary to solve many problems such as human behavior theory, behavior model, and identity. Once discovered, it can not only introduce human behavior data but also provide a better user experience. In modeling and identification, the complexity of human behavior must be fully considered, and the performance must meet the material requirements.

2.2. Sports Wearable Testing Equipment. With the continuous development of microelectronics technology, human behavior recognition systems based on wearable sensors have important applications in many fields such as health management, medical assistance, sports analysis, military, and industry. Aiming at the problems of high data noise of acceleration sensor and accumulation of error of gyroscope sensor, this paper takes the azimuth information capture in the inertial navigation system as the starting point and deeply discusses the usefulness of azimuth information to improve the accuracy of human behavior. Sports wearable detection equipment designs a sensor with vital sign information collection function to be easy to wear [10], and after the detection is completed, the data is sent to the control terminal through the wireless Bluetooth function of the sensor to complete the digital signal processing and realize sports data test. The built-in wearable detection system is easy to design and implement and is more flexible and easy to use. It can be used in many fields without space requirements [11]. The algorithm is simple and easy to implement. It handles user privacy issues. Its weakness is that it requires users to wear it. Physically, the human body may feel some discomfort when it is worn [12]. A multisensor-based fall detection system should include the following key functions: real-time fall detection and judgment function, fall status detection function, and alarm and auxiliary delivery function [13]. When the microprocessor takes measurements from the 3D acceleration sensor and gyroscope sensor, it calculates and evaluates the position of the clock by applying a fall detection algorithm on the controller. Among them, the gyroscope sensor is a simple and easy-to-use control system

based on free-space movement and gesture positioning. It was originally applied to helicopter models and has now been widely used in mobile and portable devices such as mobile phones. The basic principle is that the direction pointed by the axis of rotation of a rotating object will not change when it is not affected by external forces. If a fall is detected, a fall alarm device will be triggered. When a sports athlete falls, he can reach the specific position of the protective device within the normal range. Regardless of whether the user is indoors or outdoors, as long as an accidental fall occurs, after the fall is confirmed and an alarm signal is generated, an alarm notification can be sent to the terminal through the help information containing the fall status. In the performance recognition of sports wearable devices, sensor data is time series data, and it is difficult to directly extract features from these data [14]. At present, many active systems use partitioning methods to divide sensor signals into smaller time periods, extract the characteristics of each time period, and then use isolation algorithms for training. Since different operation times have different behaviors, determining the size of the sliding window and the length of each slide is the key to this technology. Due to the limitations of wearable sensors and external environmental interference, the collected sensor data is always very noisy. The devices we wear are easy to use in daily life; however, current algorithms are closely related to the location and methods of mobile devices [15]. For this reason, it is currently one of the research and problem areas in the process of feature extraction that is not related to machine transfer and can distinguish different behaviors. The differences in behavior between individuals lead to the low definition of traditional static models. How to effectively eliminate individual differences and make the isolation model widely available is also a difficult problem to solve. Affected by the planned economy [9], in the development process of the sports industry, humans did not grow long enough to find the connection between sports development and the development of the phonetic system, which led to the separation of important links in game development exercises. Furthermore, in the process of sports development, government support is closely related to investment, while ignoring the development of sports finance [16, 17]. Even when holding some large-scale international sports events, our country has always avoided the commercial value of sports, does not regard sports as commercial activities, and lacks the marketing direction and monetization of sports. Although the economic situation has changed people's understanding and attitudes towards the economy to a certain extent, our country has begun to realize the promotion of economic development and cooperation in the field of sports, but it is difficult to get rid of the limitations of the development of thinking and culture in the sports industry, but there is no need to worry about it. Vigorous reform hinders the vibrant development of the sports industry [18].

2.3. Algorithm of Sports Wearable Detection Equipment Based on Visual Sensor. The simple Kalman filter is suitable for linear systems. The power system is linear, the probability distribution is Gaussian, and the process noise and

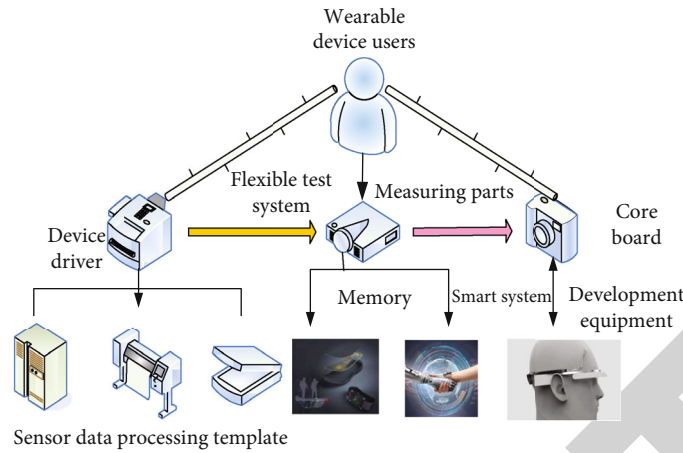


FIGURE 2: The core of the flexible vision measurement system.

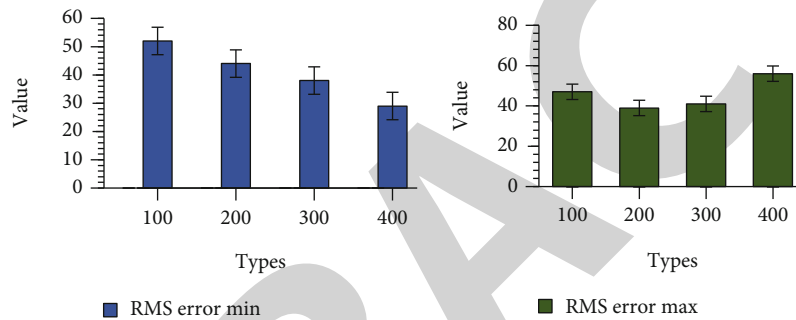


FIGURE 3: Mean square measurement error range.

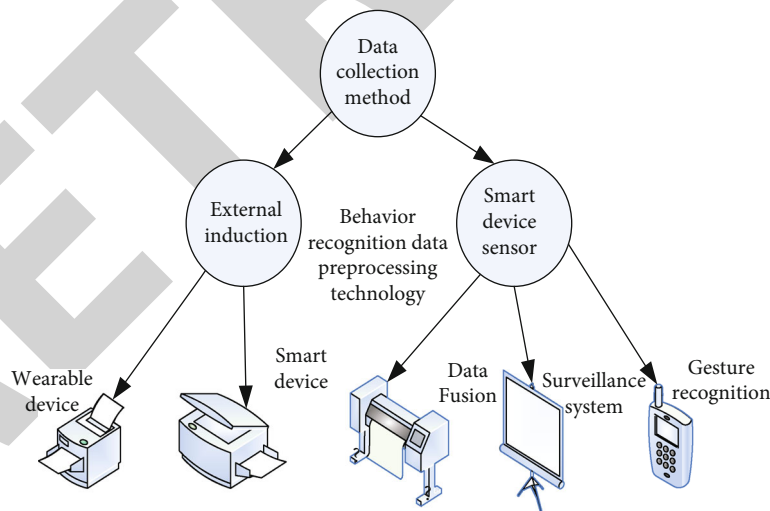


FIGURE 4: Behavior recognition data collection method.

density p of the state variable can be obtained by the above formula to obtain the equation of its true distribution.

$$p(x_k | z_{i:k}) = wq(x_k | z_{i,j})^{1/N},$$

$$E(x_k) = E[f(x_k) | z_{i:k}] + \frac{1}{N} \sum_{i=1}^N f(x_k^i) w_k^i, \tag{9}$$

3. Experiments on the Impact of Visual Sensor-Based Sports Wearable Detection Equipment on the Sports Industry

The acceleration visual sensor measures the physical acceleration and motion acceleration of the human body and converts the physical acceleration signal into an electrical signal of a suitable ratio, so as to test and analyze the physical

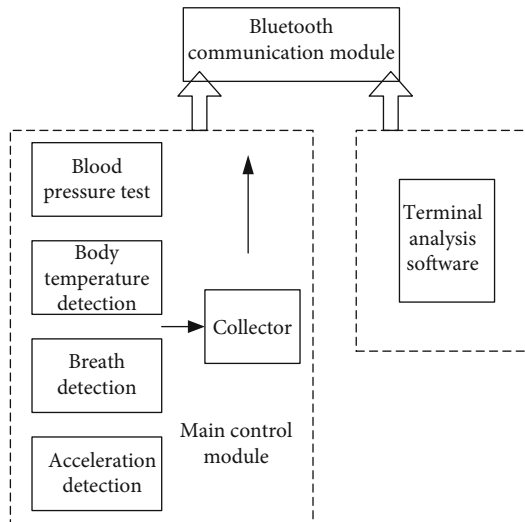


FIGURE 5: System composition for testing fatigue.

TABLE 1: Physiological parameters during exercise fatigue.

Group	Heart rate	Body temperature	Systolic blood pressure	Diastolic blood pressure	Respiration
1	60	35.5	120	80	35
2	64	36.1	122	69	40
3	71	36.5	116	78	43
4	69	35.4	127	71	39

condition of the athlete during sports. Although wearable devices are mainly used in sports and health fields, only a small part is used in social fields. In terms of the popularity of sports events, sports event information can be spread along with wearable devices. In the field of leisure sports, wearable devices can play an important role in recording environmental information, providing food for sports facilities, and providing data on sports activities. Wearable devices can monitor sports status, adjust sports status, correct actions, train efficiency, prevent athletes from sports injuries, and improve competitive sports levels. Wearable devices can have a very positive impact on youth sports activities. Wearable devices can promote the athletic ability of college students. Driven by the rapid development of science and technology, wearable devices will occupy a special position in the sports field, play an important role in the sports field, and promote the healthy development of sports.

3.1. Experimental Strategy and Experimental Description.

The Kalman algorithm is the most commonly used algorithm for predicting human conditions. It uses statistical prediction bases to predict the future system state based on the current system state, and input values, including extended Kalman filter, Kalman loss filter, and complementary Kalman Mann filters, are used in many studies to predict the position or orientation of human organs and

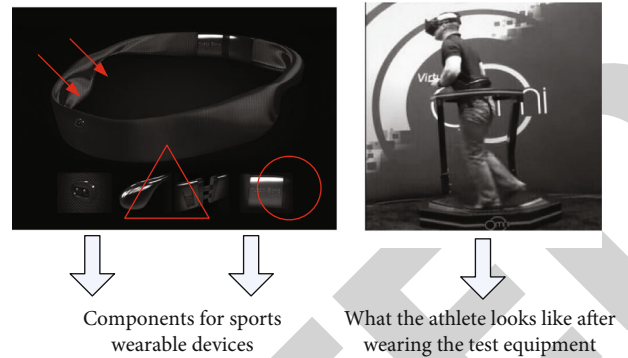


FIGURE 6: The appearance of the wearable device.

TABLE 2: Comparison of measurement and extraction results.

Pixel-level extraction results		Subpixel extraction results	
Row coordinates	Column coordinates	Row coordinates	Column coordinates
578	341	586.31	341.21
586	323	587.22	330.12
554	330	558.49	350.68
587	332	586.64	335.74

joints. Kalman's organization made numerous observations based on the assumption of minimum error. Compatibility algorithms collect data from inertial sensors and magnetic sensors to predict the location of human organs and joints. Two different methods are used to measure the same signal. These two measurement methods have different noise performances. The compatibility will combine the two types of data to obtain the best signal quality. This type of algorithm observes the noise mixing characteristics to calculate the final signal. The collection process of human body recognition technology based on wearable sensors is very complicated. First, the data acquisition system collects motion data from the sensors of the entire human body, where the sensor status is closely related to certain functions; then, the sensor data is noise and polishing, and then, the data is shared and the parts are extracted. Finally, the random training received by the sample test is used to determine the current human activity. In this work, the offline simulation of the architectural programming environment and the performance test of the visual material application are designed to confirm the feasibility and efficiency of the entire visual sensor system. Then, based on the analogy of the vision sensor, the application tests of Cartesian coordinate robots, mobile robots, and joint robots were carried out to confirm the data connection and operation inside the vision sensor, as well as the accuracy of the robot equipment. For Cartesian coordinate robots, a better effect can be achieved by using visual sensors to assist in visual alignment of the holes on the PCB board. For mobile robots, visual sensors are equipped to recognize two-dimensional codes and provide navigation data for them. Mobile robots can operate according to predetermined methods, and the recognition success rate is very high.

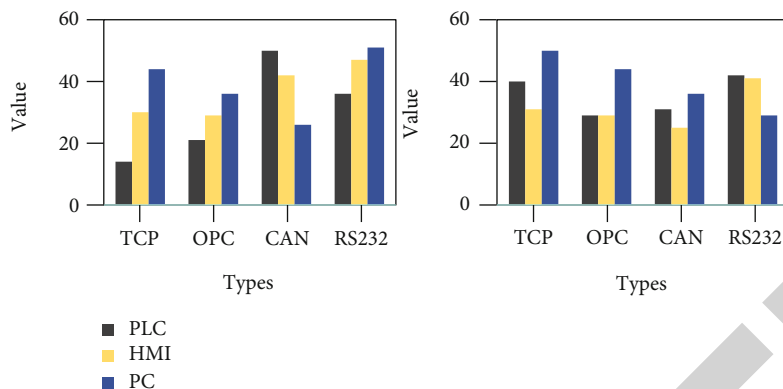


FIGURE 7: Communication interface of vision sensor.

TABLE 3: Vision sensor repeatability measurement accuracy.

Pixel row	RMS error	Pixel row	RMS error
1	0.0154	6	0.0198
2	0.0147	7	0.0124
3	0.0121	8	0.0147
4	0.0314	9	0.0162
5	0.0142	10	0.0135

3.2. Sample Collection. Choosing a different device location will have a major impact on the efficiency of data collection or other versions of data. In addition to the usefulness of data, it also needs to be connected with reality, taking into account the real comfort level of users. According to a preliminary survey on the way mobile phone users carry their phones, 40% of residents put their phones in their trouser pockets, 60% of them put their phones in their backpacks, and some users carry their phones with them and put them in their backpacks or pants and in the pocket. Combining the above factors and experimental conditions, this study chose to restrict the wearing of smartphones in three ways: tops, pockets, and trouser pockets. In order to have an accurate improvement in the image processing of sports wearable devices, planning can be made from two aspects: applications can increase the resolution of the camera, increase the audio of the image capture card, etc. but improve the measurement performance of the system. It is to increase the cost of this system and at the same time increase the requirements for the image transmission rate and image storage capacity of the measurement system itself. We can notice from the image processing part of the program. On the basis of pixel-by-pixel extraction, the pixel positioning mode technology is used to control the error at the pixel level. Compared with improving the performance of the measurement system application, the performance of the measurement system is also improved. The subpixel edge extraction algorithm is developed on the basis of the classic edge subpixel location algorithm.

3.3. Experimental Results and Data Analysis. With the rapid development of vision sensor technology, traditional contact detection methods can no longer meet the real-time, online,

and noncontact measurement requirements of modern industrial manufacturing. In the modern production process, the automobile industry has further put forward higher measurement requirements for the measurement of the interior of the car body. Vision sensors are at the forefront of flexible measurement systems. It is the direct source of information about the measurement and the key to the entire measurement system, as shown in Figure 1.

As an important measurement component of the robot flexible measurement system, the vision sensor is the direct source of information obtained by the measurement system. Therefore, high-precision, high-reliability, and adaptable vision sensors are the core of the flexible vision measurement system, as shown in Figure 2.

In the same measurement environment, two kinds of visual sensors are used to carry out adaptability experiments on the oxidized surface of the standard parts, and the measurement error range of the mean square measurement is shown in Figure 3.

In addition to traditional accelerometers, gyroscopes, etc., existing sensors, rotation sensors, and ECG pulse sensors for detecting human behavior also exist. Many new sensors are integrated, such as more complex sensor devices and better recognition functions. The human behavior recognition system is acceptable. However, this will also increase statistical costs and complicate data integration algorithms, as shown in Figure 4.

The combination of multisensor information overcomes the limitations and inconsistencies of a single sensor, improves the power and reliability of the fatigue detection system, avoids the impact of sensor failure, eliminates the exposure and delayed transmission of the system, and improves fatigue in sports check the error message of the system. Collect data through different types of sensors and filters, and then, process the collected information according to different integration rules, and finally, get massive identification, as shown in Figure 5 and Table 1.

The sports wearable device with visual sensors can detect the vital signs of the athlete and various indicators of the athlete's body to help the athletes adjust their own condition. Its appearance is also very technological, as shown in Figure 6.

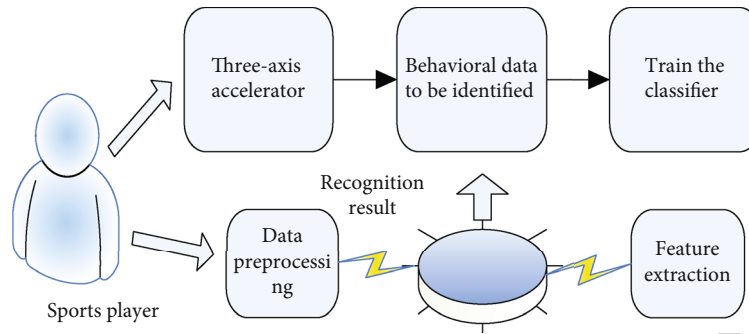


FIGURE 8: Wearable device frame diagram.

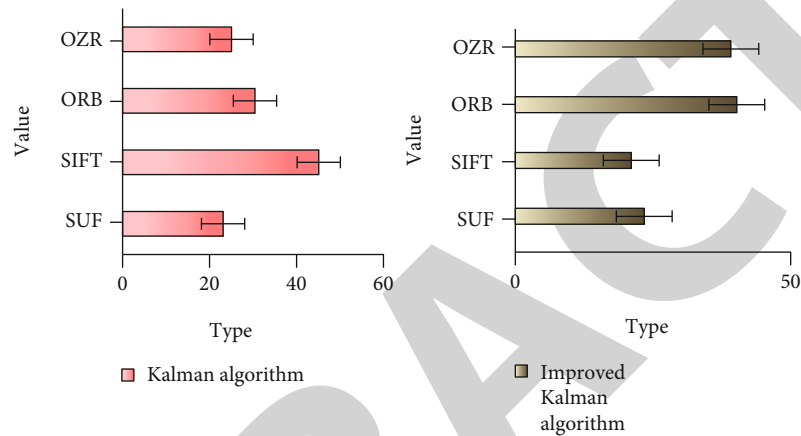


FIGURE 9: Improved Kalman algorithm accuracy.

According to the sample type, we can judge the comparison between the rough extraction of the pixel-level center detected by the vision sensor and the precise extraction of the subpixel-level center, as shown in Table 2.

The vision sensor has a variety of communication interfaces, which can interact with external devices through buses or communication protocols such as TCP/IP, OPC, CAN, and RS232 and can be connected to robot controllers, PLCs, HMIs, and PCs. Through these, the work accuracy of the wearable device can be better improved, as we can see from Figure 7.

Within the measurement time, the images recorded by the wearable device are recognized. For each image, the mean square error is calculated for each row of pixels. The measurement accuracy is shown in Table 3 and Figure 8.

In order to verify the real-time performance of the improved Kalman algorithm for data recording of wearable devices in sports, the following compares the time cost and accuracy before and after the Kalman algorithm is improved, as shown in Figure 9.

In order to record the time expenditure of the above experiment, considering that the average time consumption of each group is very similar, the wearable sports equipment with visual sensor is selected. This experiment mainly uses the average time consumption curve of each point to compare the time consumption corresponding to the total number of different feature points. The average time

consumption of each point is the ratio between the total running time and the total number of feature points, as shown in Figure 10 and Table 4.

4. Discuss

In order to determine the accuracy and precise positioning of the mass object based on stereo vision sensing, some precise and approximate assumptions are used to simplify and correct the features of the object model. The vision measurement method solves the problem of the vision sensor: use the SLAM measurement method to correct the silent correction of each camera and the built-in adjustment special matrix of the two cameras of each vision sensor. The square measurement method is used to measure the basic coordinate system of the visual sensor coordinate system and the two-dimensional coordinate system. And based on the OpenCV library, a functional sound recognition algorithm based on RGB images is ideal, and it can be combined with a stereo sensor position algorithm to capture the position of an audio object. The work of this article is summarized in SLAM as a front-end processing work. On the basis of this article, the posterior estimation of pose and local occupancy grid map can be used to establish a topological map based on the accessible points of the environment, which is combined with the original grid map. Hybrid maps, based on this topology-grid hybrid map structure, can use graph theory

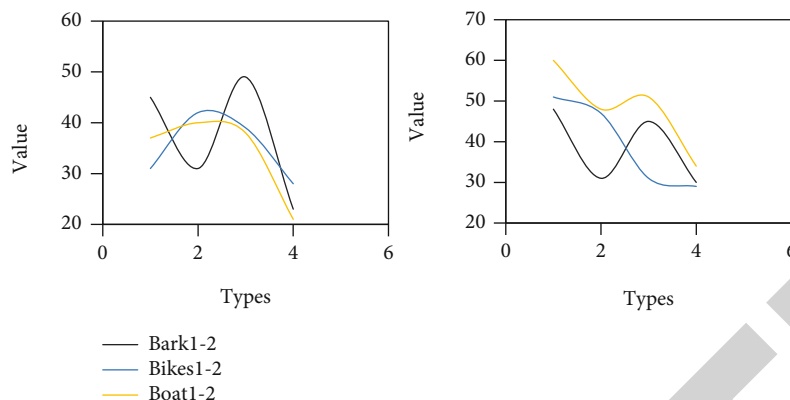


FIGURE 10: Time-consuming point ratio.

TABLE 4: Comparison of average time-consuming points.

	Bark1-2	Bikes1-2	Boat1-2
Graph	1245	1947	1974
Curve	1301	2354	1657
Ratio	1.12	1.34	1.09

to optimize the back end of the map, optimize the path, and explore autonomously. For different tasks, the computational complexity and space complexity of the algorithm are greatly improved. Based on the existing vision sensor hardware platform, the firmware and programming environment development of the sensor have been completed, and the functions and related applications of the vision sensor system have been tested and analyzed. At the behavioral level, based on the identified website, explore the most effective and efficient user experience system. At the network level of the wearable sensor network, conduct a more in-depth analysis based on the equipment requirements for recognizing human behavior. In the data processing layer of the wearable sensor network, according to application requirements, explore more optimized data systems, including networked data processing, to increase the system's capacity, time, and calculations. In terms of identification methods, it explores more effective and larger-scale identification algorithms for complex identification problems such as complex behaviors and multiperson behaviors. In terms of identity content, it explores a wide range of technologies related to identifying human behaviors, physical conditions, and mental states outside of basic daily behaviors.

5. Conclusions

This article takes the development of wearable devices as an entry point, based on the inertial sensors of the wearable device, and controls the recognition in the function of the wearable device. In order to ensure that the wearable device can withstand the limitations of low storage space and low operating speed, the DTW algorithm is selected from a variety of recognition algorithms as the control recognition algorithm for detection. We have conducted a lot of analysis on the basis of the previous data and selected the process

that can finally achieve the highest recognition effect by comparing their effects. In the traditional DTW algorithm, in order to match the limited conditions of the operating capabilities of the installed smart devices, some optimizations are used to reduce the amount of error to reduce the detection time. Analyze the traditional DTW algorithm-based control recognition technology, find its connection with the K-NN algorithm, combine the K-NN algorithm to improve the control based on the DTW algorithm, and finally, complete the control recognition on the wearable device to achieve better recognition results. Under the current physical education system conditions, it is impossible to calculate the amount of physical education data of students. Create a visual game management system, efficiently record student sports data, store the data in a virtual database for virtual reality clients to call, collect personal game data, and convert it into team sports learning data, which is useful for the school sports system. Learning management is an important process. Through the integration of wearable devices, virtual reality, network, and other technologies, students' motion data are captured in real time, and based on the algorithm created by Markov, the role model in the virtual space is driven to view the data in real time. Prison predictions are achieved. Aiming at the weaknesses of traditional fatigue test methods and poor mobility, this paper plans a multisensor test method and designs a wear fatigue test machine based on the existing test results of wearable devices. Through the real-time detection of physiological parameters of researchers in the working process, the fatigue prediction model is realized by collecting test and training samples, and the prediction error is less than 3%, realizing the accuracy and performance data of real-time demographics and improving the flexibility of detection. This overcomes the weaknesses of traditional testing that are not always visible in real time. The program can adjust the physical condition and health of sports athletes and can avoid fatigue and accidents. And this method is not based on imaginary assumptions and will not cause confusion to the movement or the human body.

Data Availability

No data were used to support this study.

Conflicts of Interest

There are no potential competing interests in our paper.

Authors' Contributions

All authors have seen the manuscript and approved the submission of the manuscript.

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