

Application of Face Recognition Technology in Academic Administration in Colleges and Universities

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Abstract: Because the technology of face recognition has the characteristics of high flexibility and high work efficiency, it has a wide range of applications, and plays an extremely important role in the fields of education and work. It can provide convenient services such as face attendance, standardized management and safety supervision, so that the social security management is effectively guaranteed, and the production efficiency of the society is greatly improved and the society is more stable. This paper mainly analyzes the principle and function of face recognition technology, and lists the application of face recognition technology in the educational administration of colleges and universities.

1. Introduction

In this era of electronic information, face recognition technology plays an extremely important role in the daily management of society. Because of the advanced technology of face recognition, many electronic devices are widely used, such as face attendance machine, every school and enterprise can take attendance in the daily management work through the face attendance machine, which not only makes the daily attendance more convenient and fast, but also can strengthen the management work. In the educational administration of colleges and universities, it is of great significance for students to take attendance and guard against foreign personnel through face recognition technology[1].

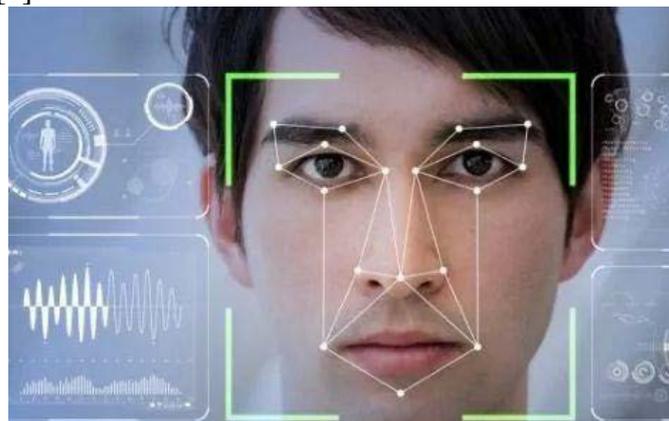


Figure 1 Face Recognition Technology

2. Face Recognition Technology

Face recognition technology is mainly to identify different people by recognizing the biometric features of the face, including face tracking detection, automatic adjustment of exposure and image size. Face recognition technology will identify and filter the collected image or video information to determine whether there is a face in the image, if there is, then according to the algorithm program to capture the corresponding face position, size and corresponding facial organ position, and finally get each unique facial features, and then compare the pre-known face information base, so as to identify the real face identity[2].

Face recognition technology has two main functions, first of all, daily attendance, daily attendance strengthens the standardized management of each school and enterprise. First of all, to establish the corresponding face information file, that is, to scan all the face information, to count it into the information base, and to register the corresponding identity information, before carrying out the daily work and educational activities, to scan the face to sign in, to use the face recognition technology to capture the scanned face information, and to identify the face identity according to the information predicted by the algorithm program to achieve the purpose of personnel attendance. The second is the safety management function, for the sake of social harmony and stability, it is necessary to strengthen the safety management work. A surveillance video system is installed in the corresponding places to take pictures of the surrounding environment in a certain time. In the event of property loss and other circumstances, the image recorded by the surveillance video system can be used to obtain the person information, collect the corresponding face information, and further compare the identity information database of the Public Security Bureau, so as to obtain the information of the target person. This function is mainly used to alert the lawbreakers, to keep an eye on their actions and actions, and to avoid breaking the law and discipline[3].

Compared with other biometric technology, face recognition technology has three main advantages: first, non-mandatory, when the characters appear in a specific situation, the corresponding equipment will automatically collect face information; second, non-contact, unlike the acquisition of fingerprints, face recognition technology does not need to directly contact the corresponding equipment, only need to collect face information, the acquisition process is very convenient; third, concurrency, mainly refers to in a specific situation, at the same time to multiple face recognition, collect face information.

At the same time, there are three disadvantages of face recognition technology: first, it is easy to be affected by the occlusion of human hair and decorations, which leads to incomplete face information collected; second, if the light is too strong or insufficient, it is easy to affect the collected face information, which is easy to be affected by the light; third, it is easy to be affected by the aging of the face, because some people's metabolism is faster and the information base of the portrait is not updated in time, so that the information of the portrait age cannot be matched. To some extent, these three shortcomings affect the accuracy of the collection of portrait information, and then the computer's judgment results are affected, but through manual repair, these three shortcomings can be effectively improved[4].

3. Practical Application of Face Recognition Technology in Academic Administration in Colleges and Universities

3.1. Classes on a Daily Basis Attendance

Due to the lack of educational management in many universities, the phenomenon of students' loose classroom discipline is common and has caused a relatively bad impact. As a place for educational activities and personnel training, schools should pay attention to the daily attendance work. If students often skip classes and leave early, they will not only affect their study, but also affect other students to a certain extent, resulting in a lower attendance rate in class. Most schools use teacher roll-calls to increase attendance, but by doing so, many students help each other. Therefore, the efficiency of this method is very low, and it will also delay the learning time of the class. Using face recognition technology will effectively solve this problem, can set up a face attendance machine at the door of each classroom, before each class starts, students stand in front of the face attendance machine, use the attendance machine to collect the portrait information, upload it to the office of the college through the Internet or follow the algorithm program to carry out the statistics of the students who did not carry out the portrait collection, and then start the investigation or adopt the corresponding solution measures.[5].

The installation of the face attendance machine improves the efficiency of daily attendance in class, not only saves a lot of class roll call time, uses the time saved to teach more learning knowledge, but also avoids the behavior of students answering each other, effectively improves the

class attendance rate, and urges students to arrive in the classroom on time to study. Students can better base themselves on society only if they master what they have learned. Installing the face attendance machine can make more students realize their responsibilities and obligations, and finish their classroom studies in time. Therefore, face recognition technology plays an important role in the daily attendance of the classroom, which is beneficial to the cultivation of talents in the school.



Figure 2 Face attendance machine

3.2. Quarters on a Daily Basis Management

Because the public security management of the campus is not perfect, the entrance and exit of the college dormitory personnel are not well managed, so there are often some problems such as the loss of property in the dormitory or the theft of public facilities. This may be a problem for students in this dormitory building, or it may be that non-dormitory personnel sneak into the dormitory for theft, in the university campus, there are many such phenomena. Because in the university education, every year has the winter and summer vacation, in the student's vacation time, the dormitory is empty, some lawbreakers will sneak into the dormitory building privately to carry on the illegal behavior such as the theft, has disturbed the dormitory daily management work. And face recognition technology can effectively improve this problem, can be installed in the dormitory building monitoring system, mainly by setting up infrared camera to monitor the situation in the dormitory building at all times. Whether it's day or night, infrared cameras can be effectively monitored. Whenever someone passes by, the camera can automatically recognize other people's face information, and record the location, size and location of facial organs according to the algorithm program. When there is unsafe situation, we can get the surveillance video of the specific time period, and then compare the identity information database of the Public Security Bureau, so as to obtain the target person. The installation of the monitoring system can effectively improve the school security management, the installation of surveillance cameras cannot only retain the theft and destruction of public facilities, but also alert criminals to commit illegal acts. fundamentally reduce the unsafe factors, therefore, the application of face recognition technology plays a major role in the daily management of dormitories.



Figure 3 Improving school policing

3.3. Oversight Examination

Because many college students don't study hard in the daily teaching, they will prepare the small copy of the class content in advance near the final exam to improve the test results. This kind of cheating seriously disturbs the teaching order, not only in self-deception, but also in the unfairness of other hard-working students, which affects the enthusiasm of the students with excellent results, and thus has a negative impact on the education problem. Using face recognition technology can effectively solve this problem, before entering the examination room, each student can be required to carry out face recognition, through the collection of face information, check whether it is the examinee of the examination room, carry out intelligent identification before entering the examination room. A monitoring system can be installed in the classroom to record the students' behavior during the whole examination process, and after the examination is finished, the collected video frequency can be uploaded to the educational administration office through the Internet, which is supervised by the invigilator to judge whether the examinee has cheated or not, and the corresponding punishment measures are taken for the cheating candidates. Because of the application of face recognition technology, it cannot only put an end to cheating, but also alert students to study hard and devote themselves to classroom cultural knowledge.

4. Conclusion

To sum up, because of the rapid development of electronic information technology, the application of face recognition technology is more and more extensive, and it can be widely used in various fields such as education and work. Whether it is daily attendance or monitoring and management work, to a certain extent, improve the social production efficiency, promote social harmony and stability. However, there are still some shortcomings in the current face recognition technology, such as easy to be affected by object occlusion, resulting in lower accuracy and so on. It is hoped that in the future development, face recognition technology can be more intelligent, more accurate face recognition, and better serve the society.

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