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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 31488-2015

**Technical requirements for face identification of video
surveillance in security systems**

安全防范视频监控人脸识别系统技术要求

(English Translation)

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1 Scope

This Standard specifies the basic composition, functional requirements, performance requirements and test methods of face recognition of video surveillance in security systems.

This Standard is applicable to the scheme design, project acceptance inspection and relevant product development of face recognition of video surveillance for the purpose of security precautions. The face recognition of video surveillance in other fields may also take this as a reference.

2 Normative References

The following documents are indispensable to the application of this document. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB/T 25724-2010 Technical Specification of Surveillance Video and Audio Coding

GA/T 893 Terms for Biometric Recognition in Security and Protection Systems

GA/T 922.2-2011 Face Recognition Application for Security and Protection Systems -

Part 2: Face Image Data

ITU-T H.264 SERIES H: Audiovisual and Multimedia Systems, Infrastructure of

Audiovisual Services - Coding of Moving Video - Advanced Video Coding for Generic

Audiovisual Services

3 Terms and Definitions

What is defined in GA/T 893, and the following terms and definitions are applicable to this document.

3.1 Video Surveillance

Video surveillance refers to a means of using video technology to surveille and record the target.

3.11 Miss Alert of Watch List

When performing passage test on the test subjects on the watch list, if the system fails to correctly alert during the whole process, then, it is a miss alert of watch list.

3.12 Miss Alert Rate of Watch List

Miss alert rate of watch list refers to the ratio of the total number of passage tests with miss alert of watch list to the total number of passage tests of the test subjects already on the watch list.

3.13 False Alert of Non-watch List

When performing passage test on test subjects that are not on the watch list, if the system alerts, then, it is a false alert of non-watch list.

3.14 False Alert Rate of Non-watch List

False alert rate of non-watch list refers to the ratio of the total number of passage tests with false alert of non-watch list to the total number of passage tests of the test subjects not included in the watch list.

3.15 Response Time

Response time refers to the time interval from the moment that the test subject enters the recognition region to the first alert issued by the system in the passage test where an alert is generated.

4 Basic Structure of System

The video surveillance face recognition system in the security protection field (hereinafter referred to as the system) is composed of two parts: registration and recognition. The registration part is mainly composed of the face registration unit, as it is shown in Figure 1 a); the recognition part is mainly composed of three parts: the face image acquisition unit, the face comparison unit and the result analysis unit, as it is shown in Figure 1 b).

main area of the face, the system shall detect the location of the face and obtain the face image.

5.3 Face Comparison

The system shall be able to extract face feature from the acquired face image and compare it with the face feature of all targets on the watch list to generate a similarity value.

5.4 Result Analysis

The system shall be able to analyze the similarity value generated by face comparison and output an alert message in accordance with the set threshold.

5.5 Alert Output

5.5.1

In accordance with the alert message, the system shall output the alert scene image, the scene face image, the target's face image on the corresponding watch list and the related information.

5.5.2

The system should output the similarity value between the scene face image and the target's face image on the watch list.

5.6 Watch List Management

5.6.1

The system shall have the functions of querying, adding, modifying and deleting the watch list.

5.6.2

The system shall have the functions of querying, adding, modifying and deleting the target's face image on the watch list and the related information.

5.7 Alert Record Management

5.7.1

The system shall be able to implement real-time recording of alert scene image marked with the location of the target's face, the target's face image on the corresponding watch list, and the related information, the similarity value and alert time.

The alert time shall include: year, month, day, hour, minute and second; the year shall be in millennium notation.

5.7.2

The system shall have the functions of querying, conducting statistics on and exporting alert records.

5.8 Parameter Settings

5.8.1

The system shall have the function of setting the comparison threshold parameters.

5.8.2

The system shall have the function of setting the maximum length of the target

7.1 Design Principle of Test

7.1.1

Before the test, a detailed test scheme shall be formulated. The test scheme shall be specified in terms of test environment design, test subject composition, test subject passage mode and test procedures to guide the test.

7.1.2

The passage mode of the test subject shall simulate the typical passage mode of the people using the system in the application scenario.