

ICS 35.240.15

CCS L 71



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

GB/T 36460-2018

**Information technology -- Biometrics -- Multimodal and other
multibiometric fusion**

Issued on: June 7, 2018

Implemented on: January 1, 2019

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

Foreword

Introduction

1 Scope

2 Normative references

3 Terms and Definitions

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard uses the redrafted law to amend the use of ISO /IEC TR24722.2015 "Multiple modalities of biometrics in information technology and

Other multiple biometric fusions. Compared with ISO /IEC TR24722.2015, this standard has made certain adjustments in the structure, adding a second

Chapters normative references, follow-up chapter number is also adjusted accordingly; at the same time in ISO /IEC TR24722.2015 3.1 added

(See 4.1).

The technical differences between this standard and ISO /IEC TR24722.2015 and its causes are as follows.

--- Modify the description of the scope of application of the standard (see Chapter 1), according to national standards to increase the "prescribed" and "applicable to"

Content, etc.

--- With regard to normative references, this standard has made adjustments that are technically different. The adjustments are centrally reflected in Chapter 2, "Regulations."

In the "Citizen References", the specific adjustments are as follows.

* Added reference to ISO /IEC 2382-37;

* Added reference to ISO /IEC 29159-1;

--- Deleted the original 3.1 description of the current research work (see 4.1) to make the content clearer;

--- Revised the original 3.1 multi biometric classification statement (see 4.1) to make the content clearer;

- Modify the description of the original 4.3.2 section, add a description of the characteristics (see 5.3.2);
- Modify the description of the original 4.4 on feature-level fusion practice (see 5.4), so that the content is more clear;
- Deleted the descriptive description of the original 4.4 (see 5.4) to make the content clearer;
- Modify the description of the original 5.1 (see 6.1), so that the content is more clear.

This standard also made the following editorial changes.

---4.4 The description of the reasons for the difficulty of feature-level fusion practice is described as "notes" (see 5.4).

Introduction

For some biometric application scenarios, it is difficult for them to satisfy their technical requirements by using a single biometric technology.

Energetic requirements, such as multiple personal ID checks, aviation security checks, etc. In addition, when it is impossible to provide certain biometric feature types

When reliable samples are provided, relevant regulations also need to be formulated.

Multimodal biometric measurement data is acquired using completely independent biosensors, identification algorithms, or multiple feature types. This is usually

Improve the technical performance of biometrics and reduce risk. The improvement in performance levels is that it does not require access to all biometrics

Instead of the measured value, the recognition result can be obtained based on only an arbitrary number of biometric measurements under the overall decision of the acceptance/rejection threshold.

The multimodal biometric recognition system is one of many types of biometric recognition systems, characterized in that each mode corresponds to its own

The same measurement method. At present, the achievement of fractional result fusion usually requires the real and false distribution information of biometrics.

Information Technology Biometrics

Multi-modality and other multi-biological fusion

1 Scope

This standard specifies multi-modality and other multi-biological feature fusion methods.

This standard applies to the integration of biometrics, including multiple biometric feature types, multiple instances, multiple sensors, multiple algorithms, decision-level and Fractional logic.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article

Pieces. For undated references, the latest version (including all amendments) applies to this document.

ISO /IEC 2382-37 Glossary of Information Technology - Part 37. Biometrics
(Information technology - Vocabulary - Part 37. Biometrics)

ISO /IEC 29159-1 Information technology - Biometrics calibration, enhancement and fusion data - Part 1. Convergence information format

(Information technology - Biometric calibration, augmentation and fusion data - Part 1. Fusion information format - Part 1. BioAPI)

3 Terms and Definitions

The terms and definitions defined by ISO /IEC 2382-37 and the following apply to this document.

3.1

Biometric data source biometricdatasource

Information channels (such as sensors, feature types, algorithms, instances, or presentations) are the data processed by the fusion algorithm (eg, biometric recognition).

The origin of a set of samples, extracted features, alignment scores, rankings, or decisions.

3.2

Biometric process biometricprocess

An automated process of registration, verification or identification using one or more individual biometric features.

3.3

Biometric fusion biometricfusion

A combination of information from multiple sources (eg, sensors, modalities, algorithms, instances, or presentations, etc.).

3.4

Cascade system cascadesystem

Use the pass/fail threshold of the biometric sample to determine if an overall systemic decision is needed to add additional biometrics

This system.

3.5

Layered system layeredsystem

A single biometric score is used to determine the pass/fail threshold for other biometric data.