TECHNICAL REPORT

ISO/IEC TR 29794-5

First edition
2010-04-01

Information technology — Biometric sample quality —

Part 5:
Face image data

Technologies de l'information — Qualité d'échantillon biométrique —

Partie 5: Données d'image de face

Reference number
ISO/IEC TR 29794-5:2010(E)

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

In exceptional circumstances, the joint technical committee may propose the publication of a Technical Report of one of the following types:

— type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;

— type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;

— type 3, when the joint technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC TR 29794-5, which is a Technical Report of type 2, was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 37, *Biometrics*.

ISO/IEC 29794 consists of the following parts, under the general title *Information technology — Biometric sample quality*:

— *Part 1: Framework*

— *Part 4: Finger image data* [Technical Report]

— *Part 5: Face image data* [Technical Report]

Introduction

The purpose of this part of ISO/IEC 29794 is to define and specify methodologies for computation of objective, quantitative quality scores for facial images. Furthermore, the purpose, intent, and interpretation of face quality scores are defined.

ISO/IEC 19794-5, *Information technology — Biometric data interchange formats — Part 5: Face image data*, already gives some specifications that are related to

— scene constraints of the facial images,

— photographic properties of the facial images, and

— digital image attributes of the facial images.

Within this part of ISO/IEC 29794, a sample of a classification scheme of facial quality is exemplified and approaches for the determination of certain aspects of quality are introduced.

Information technology — Biometric sample quality —

Part 5:
Face image data

1   Scope

For aspects of quality specific to facial images, this part of ISO/IEC 29794:

— specifies terms and definitions that are useful in the specification, use and testing of face image quality metrics;

— defines the purpose, intent, and interpretation of face image quality scores.

Performance assessment of quality algorithms and standardization of quality algorithms are outside the scope of this part of ISO/IEC 29794.

2   Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 29794-1, *Information technology — Biometric sample quality — Part 1: Framework*

3   Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 29794-1 and the following apply.

3.1
comparison score
numerical value (or set of values) resulting from a comparison

3.2
face quality assessment algorithm
algorithm that computes a quality score for a given face image sample

3.3
facial image
electronic image-based representation of the portrait of a person

4   Abbreviated terms

CCD   Charge-coupled device

DCT   Discrete Cosine Transform