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Information technology — Biometric sample quality —

Part 1: Framework

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

Partie 1: Cadre

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

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.

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 29794-1 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]

Future parts of ISO/IEC 29794 will address other modalities specified by ISO/IEC 19794, with part numbers and titles aligned appropriately. However, as ISO/IEC 29794-1 is intended for use by all modalities, a modality does not necessarily need a modality-specific part in order to make use of quality scores.

It is anticipated that a future version of each part of ISO/IEC 19794 will normatively reference ISO/IEC 29794-1, and their respective data fields will be updated as required.

Introduction

Quality metrics are useful for several applications in the field of biometrics. ISO/IEC 19784-1 specifies a structure and gives guidelines for quality score categorization, and ISO/IEC 29794 defines and specifies methodologies for objective, quantitative quality score expression, interpretation, and interchange. This part of ISO/IEC 29794 is intended to add value to a broad spectrum of applications in a manner that

a) encourages competition, innovation, interoperability and performance improvements; and

b) avoids bias towards particular applications, modalities, or techniques.

This part of ISO/IEC 29794 presents several biometric sample quality scoring tools, the use of which is generally optional but can be determined to be mandatory by particular application profiles or specific implementations.

A number of applications can benefit from the use of biometric sample quality data; an example is the use of real-time quality feedback upon enrolment to improve the operational efficiency and performance of a biometric system. The association of quality data with biometric samples is an important component of quality metric standardization. Quality fields as specified in 8.1 will be incorporated into data interchange formats. If a CBEFF header is present, then CBEFF_BDB_quality can additionally be used to express quality data. Useful analyses can be performed using quality data along with other data in order to improve the performance of a biometric system. For example, correlating quality data to other system metrics can be used to diagnose problems and highlight potential areas of performance improvement.