

ISO/IEC 29794-1:2024-05 (E)

Information technology - Biometric sample quality - Part 1: Framework

Contents

Page

- Foreword..... iv
- Introduction..... v
- 1 Scope..... 1
- 2 Normative references..... 1
- 3 Terms and definitions..... 1
- 4 Abbreviated terms..... 4
- 5 Conformance..... 4
- 6 Biometric sample quality criteria..... 4
 - 6.1 Reference model..... 4
 - 6.2 Quality aspects: character, fidelity, utility..... 5
 - 6.3 Use cases of data quality measures..... 6
 - 6.3.1 General..... 6
 - 6.3.2 Real-time quality assessment..... 6
 - 6.3.3 Use in different applications..... 6
 - 6.3.4 Use as a survey statistic..... 7
 - 6.3.5 Accumulation of relevant statistics..... 7
 - 6.3.6 Sample-based reference database improvement..... 7
 - 6.3.7 Quality-based conditional processing..... 8
 - 6.3.8 Quality-directed fusion..... 8
 - 6.3.9 Interchange of quality measures by disparate systems..... 8
 - 6.3.10 Workload reduction with quality scores..... 8
 - 6.3.11 Selection of the best of a series of biometric samples..... 8
- 7 Data interchange format field definition..... 8
 - 7.1 Abstract description..... 8
 - 7.1.1 Overview..... 8
 - 7.1.2 Quality assessment algorithm identifier block..... 9
 - 7.1.3 Quality measure (quality score or quality component) or error..... 9
 - 7.2 XML encoding..... 11
 - 7.3 Tagged binary encoding..... 11
- 8 Exchange of quality assessment algorithm results..... 12
- 9 Quality score normalization..... 12
- 10 Pairwise quality..... 13
- 11 Evaluation..... 14
 - 11.1 General..... 14
 - 11.2 False non-match error versus discard method..... 14
 - 11.3 False match error versus discard method..... 15
 - 11.4 DET versus discard method..... 16
 - 11.5 Sample acceptance or discard rate..... 17
- Annex A (informative) Example of encoding a biometric sample quality block..... 18
- Annex B (informative) Example of standardized exchange of quality assessment algorithm results..... 19
- Annex C (informative) Procedures for aggregation of utility-based quality scores for sample-based systems..... 21
- Annex D (informative) Example code for computing utility-prediction performance metrics..... 24
- Bibliography..... 26