ISO/IEC 5152:2024-07 (E)

Information technology - Biometric performance estimation methodologies using statistical models

Contents

Page

Foreword ..... **iv**

Introduction ..... **v**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

4 Symbols and abbreviated terms **2**

5 Conformance **2**

6 Details of estimation **2**

6.1 Estimation of biometric performance based on extreme value theory 2

6.2 Estimation design 3

6.3 Generalized extreme value distribution 3

6.4 Generalized Pareto distribution 5

6.5 Evaluation of the fitness of the model 7

6.6 Selection of rGEV and GP 8

6.6.1 Differences between the two methodologies 8

6.6.2 Features of the two methodologies 9

7 Performance metrics **9**

8 Record keeping **10**

9 Reporting estimation results **10**

9.1 Reporting one-to-one comparison performance 10

9.2 Reporting estimation results 10

9.3 Reporting form 11

Annex A (informative) **Extreme value theory** **13**

Annex B (informative) **Examples applied to multiple modality datasets to demonstrate the validity of the methodology** **18**

Bibliography **25**