




VEILLE

BIOMETRIE

Recherche bibliographique

Réalisée par
HAGUENAUER Viviane
CNRS-INIST
Avril 2008



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DEFINITION

La biométrie désigne une technologie d'identification ou d'authentification d'une personne qui consiste à transformer une caractéristique biologique, morphologique ou comportementale en une empreinte numérique. Les techniques d'identification par la biométrie servent principalement à des applications dans le domaine de la sécurité, comme le contrôle d'accès automatique, la lutte antiterroriste, le contrôle de mouvement des personnes, le passeport biométrique. Ce contrôle des individus pose cependant des questions éthiques.

ARTICLES DE SYNTHÈSE

Français

Notice ISD (International Science Database)

TI: La biométrie : Techniques et usages

TT: Biometrics : techniques and uses

AU: DORIZZI-Bernadette; LEROUX-LES-JARDINS-Jean; LAMADELAINE-Philippe; GUERRIER-Claudine

AF: Département électronique et physique, Institut national des télécommunications (INT), FRANCE; École nationale supérieure des télécommunications (ENST), FRANCE; Thales Security Systems, UNKNOWN; INT, UNKNOWN

SO: Techniques-de-l-ingénieur.-Sécurité-des-systèmes-d-information. 2004; SI1 (H5530): H5530.1-H5530.26

NT: 18 ref.

PU: Techniques de l'ingénieur, Paris, FRANCE

PY: 2004

CP: FRANCE

LA: French

LT: Serial

AB: La prolifération des terminaux d'accès à l'information ainsi que l'usage croissant d'applications mettant en oeuvre des transferts de données personnelles comme le commerce, le vote, la banque électronique imposent de disposer de techniques fiables, agréables pour l'utilisateur et communément acceptées. Les techniques classiques de vérification d'identité pour les contrôles d'accès comme les passeports ou les cartes d'identité, les mots de passe ou les codes secrets peuvent être facilement falsifiés et il semble que l'usage de la biométrie puisse remédier à certains de leurs inconvénients, en basant la vérification sur les aspects propres de chaque individu. Pendant longtemps, l'usage de la biométrie est resté limité aux applications policières, mais étant donné ses avantages potentiels, cette technologie est maintenant envisagée pour un très grand nombre d'autres applications. Des applications commerciales ont ainsi vu le jour, basées le plus souvent sur les modalités d'empreintes digitales ou d'iris qui sont pour l'instant réputées les plus fiables, en contrepartie de leur caractère intrusif, souvent mal perçu par les utilisateurs. Cela explique en partie que leur usage reste limité pour l'instant à des applications professionnelles (contrôle d'accès de personnel d'aéroport par exemple) et que l'usage à destination du grand public soit encore quasiment inexistant, malgré la disponibilité de produits commerciaux. Il est certain que des modalités comme le visage, la voix, la signature manuscrite sont plus familières mais la performance associée reste encore trop faible pour pouvoir envisager leur utilisation à grande échelle. Dans ce cadre, le couplage de plusieurs modalités paraît une voie prometteuse déjà explorée dans certains projets, comme le projet GET BIOMET. Plusieurs études américaines prévoient une explosion du marché de la biométrie en relation essentiellement avec le développement des transferts de données électroniques, en particulier sur Internet. Au niveau européen, il n'existe à ce jour encore que peu d'études disponibles et c'est d'ailleurs une des préoccupations actuelles de l'Union européenne de disposer rapidement d'études fiables et prospectives. Notre objectif est de présenter un panorama des techniques biométriques les plus couramment utilisées et de les placer dans une perspective de

déploiement industriel. Le contexte du portage sur carte à puce sera plus particulièrement évoqué ainsi que les aspects juridiques qui conditionnent le développement du marché biométrique en Europe.

AI: AB

CC: 001D04A05D

DEE: Acoustic-signal; Image-recognition; Pattern-recognition; Automatic-recognition; Digital-signature; Private-life; Legal-aspect; Fingerprint-; Smart-cards; Signing-; Handwritten-character-recognition; Vocal-signal; Sound-recognition; Hand-; Iris(eye)-; Fingerprint-identification; Biometrics-

DEF: Signal-acoustique; Reconnaissance-image; Reconnaissance-forme; Reconnaissance-automatique; Signature-électronique; Vie-privée; Aspect-juridique; Empreinte-digitale; Carte-à-puce; Signature-; Reconnaissance-caractère-manuscrit; Signal-vocal; Reconnaissance-son; Main-; Iris(oeil)-; Dactyloscopie-; Biométrie-

JN: Techniques-de-l-ingénieur.-Sécurité-des-systèmes-d-information

LOC: INIST-CNRS, Shelf Number 27363 U, INIST No. 354000124809020010

AN: 16851308; 050276577

SI: INIST

UD: 20080110

VO: S11

NO: H5530

FP: H5530.1

LP: H5530.26

SN: 27363 U

Notice ISD (International Science Database)

TI: **La biométrie en mouvement**

AU: DUGELAY-Jean-Luc

AF: Eurécom, Sophia-Antipolis, FRANCE

SO: Recherche. 2006 (403): 60-63

NT: 1 ref.

PU: Société d'éditions scientifiques, Paris, FRANCE

IS: 0029-5671

CD: RCCHBV

PY: 2006

CP: FRANCE

LA: French

LT: Serial

CC: 002A16A

DEE: Methodology-; Image-recognition; Tridimensional-image; Facial-expression; Corporal-biometry; Iris(eye)-; Fingerprint-; Individual-; Identification-; Recognition-; Face-; Biometrics-; Human-

DEF: Méthodologie-; Reconnaissance-image; Image-tridimensionnelle; Mimique-; Biométrie-corporelle; Iris(oeil)-; Empreinte-digitale; Individu-; Identification-; Reconnaissance-; Face-; Biométrie-; Homme-

JN: Recherche

LOC: INIST-CNRS, Shelf Number 6273, INIST No. 354000159838520060

AN: 18449233; 070103995
SI: INIST
CR: Copyright 2007 INIST-CNRS. All rights reserved.
UD: 20080107
NO: 403
FP: 60
LP: 63
SN: 6273

Notice ISD (International Science Database)

TI: La biométrie sous l'oeil de la normalisation

AU: BARTHET-Marie-Claire
SO: Enjeux. 2006 (264): 34-36
PU: AFNOR, Paris, FRANCE
IS: 0223-4866
CD: ENJEDR
PY: 2006
CP: FRANCE
LA: French
LT: Serial
AB: <black square> La biométrie, qui permet d'identifier des individus à partir des caractéristiques physiques qui leur sont propres, fait une entrée en force dans les documents d'identité et de voyage, avant peut-être d'autres applications en nombre. Pour favoriser les échanges de données et le développement d'applications, place à la normalisation! A partir d'aspects techniques, elle touche des questions fondamentales, en termes de sécurité notamment.
AI: AB
JN: Enjeux
LOC: INIST-CNRS, Shelf Number 18197, INIST No. 354000142478200050
AN: 17870178
SI: INIST
CR: Copyright 2008 INIST-CNRS. All rights reserved.
UD: 20080107
NO: 264
FP: 34
LP: 36
SN: 18197

Notice ISD (International Science Database)

TI: Biométrie : les nouvelles formes de l'identité

AU: FOESSEL-Michaël; GARAPON-Antoine
SO: Esprit. 2006 (327): 165-172
PU: Esprit, Paris, FRANCE
IS: 0014-0759
PY: 2006

CP: FRANCE
LA: French
LT: Serial
JN: Esprit
LOC: INIST-CNRS, Shelf Number 24410, INIST No. 354000157055940120
AN: 17980562
SI: INIST
CR: Copyright 2008 INIST-CNRS. All rights reserved.
UD: 20080107
NO: 327
FP: 165
LP: 172
SN: 24410

Notice ISD (International Science Database)

TI: L'union controversée de l'identité et de la biométrie

AU: BLETTNER-Jean-Pierre
SO: 01-réseaux. 2006 (162): 84-85
PU: Groupe Test, Paris, FRANCE
IS: 1252-4786
PY: 2006
CP: FRANCE
LA: French
LT: Serial
AB: Le ministère de l'Intérieur prépare une carte d'identité électronique fiabilisée grâce aux empreintes digitales. Elle est attendue pour la fin 2008. Reste que l'usage de la biométrie soulève des questions de société et s'accompagne d'incertitudes techniques.
AI: AB
JN: 01-réseaux
LOC: INIST-CNRS, Shelf Number 22415, INIST No. 354000142501960060
AN: 17866591
SI: INIST
CR: Copyright 2008 INIST-CNRS. All rights reserved.
UD: 20080107
NO: 162
FP: 84
LP: 85
SN: 22415

Anglais

Notice COMPENDEX

1TI: Media reviews: Pointing a finger toward standardized and automated biometrics

AU: Khan-Muhammad-Khurram; Zhang-Jiashu
AF: Southwest Jiaotong University, 610031 Sichuan, China
SO: IEEE-Multimedia. v 13 n 4 October/November 2006, p 73-75
ST: IEEE-Multimedia
IS: 1070-986X
CO: IEMUE4
AB: The authors provide a review of a book on the standardization and automation of biometric identification techniques. copy 2006 IEEE.
MH: Statistical-methods
DE: Automation-; Standardization-
FL: Biometric-identification-techniques
CC: 922.2 (Mathematical-Statistics); 731.1 (Control-Systems); 902.2 (Codes-and-Standards)
PY: 2006
LA: English
DT: JA (Journal-Article)
TR: T (Theoretical)
UD: 200645
AN: E20064410213242

Notice Inspec

2TI: Querying non-uniform image databases for biometrics-related identification applications

AU: Zhongfei-Zhang
AA: Comput. Sci. Dept., State Univ. of New York, Binghamton, NY, USA
SO: Sensor-Review. 2006; 26(2): 122-6
PB: Emerald
CP: UK
RT: Journal-Paper
DOI: doi:10.1108/02602280610652712
LA: English
AB: Purpose - This research project focuses on developing techniques and technologies for automatically identifying human faces from images in the situations where face sample collections in the database as well as in the input query images are "as is", i.e. no standard data collection environment is available. The developed method can also be used in other biometric applications. Design/methodology/approach - The specific method presented in this paper is called scale independent identification (SII). SII allows direct "comparison" between two images in terms of whether the two objects (e.g. faces) in the two images are the same object (i.e. the same individual). SII is developed by extensively using the matrix computation theory and in particular, the singular value decomposition theory. Findings - It is found that almost all the existing methods in the literature or technologies in the market require that a normalization in scale be done before any identification processing. However, it is also found that normalization in scale not only adds additional processing complexity, but also may reduce the identification accuracy. In addition, it is difficult to anticipate an "optimal" scale in advance. The developed SII complements the existing methods in all these aspects. Research limitations/implications - The only limitation which is also the limitation for many other biometric identification methods is that each object (e.g. individual in human face identification) must have a sufficient number of training samples collected before the method works well. Practical implications - SII is particularly suitable in law enforcement and/or

intelligence applications in which it is difficult or impossible to collect data in a standard, "clean" environment. Originality/value - The SII method is new, and the paper should be interesting to researchers or engineers in this area, and should also be interesting to companies developing any biometrics-based identification technologies as well as government agencies

RF: 10

DE: biometrics-access-control; face-recognition; query-processing; singular-value-decomposition; visual-databases

ID: nonuniform-image-database; biometrics-related-identification-application; matrix-computation; singular-value-decomposition; scale-independent-identification; human-face-identification

CL: B6135E- Image-recognition; B0210- Algebra; C6160S- Spatial-and-pictorial-databases;

C5260B- Computer-vision-and-image-processing-techniques; C1110- Algebra

CC: B6135E; B61; B6; B0210; B02; B0; C6160S; C61; C6; C5260B; C52; C5; C1110; C11; C1

SF: Electrical-and-Electronic-Engineering; Computers-and-Control

TR: P (Practical); X (Experimental)

IS: 0260-2288

CO: SNRVDY

PY: 2006

SC: 0260-2288(2006)26:2L.122:QUID;1-D

ST: 0260-2288(2006)26:2L.122:QUID;1-D

AN: 8915431

SK: 0260-228800026000002000122

XURL: DOI; Digital-object-identifier

CS: Copyright 2006, The Institution of Engineering and Technology

UD: 2006021

Notice ISD (International Science Database)

3TI: Crosscheck of passport information for personal identification. Graphics recognition. Ten years review and future perspectives 6th international workshop, GREC 2005, Hong Kong, China, August 25-26, 2005 revised selected papers

AU: Liu-Wenyin, Editor; Lladós-i-Canet-Josep, Editor; TAE-JONG-KIM; YOUNG-BIN-KWON

CA: International-association-for-pattern-recognition, INTERNATIONAL, Organiser-of-meeting

AF: Department of Computer Engineering, Chung-Ang University, Seoul, 156-756, KOREA,-REPUBLIC-OF

CF: International Workshop on Graphics Recognition, 6, 2005, Hong Kong, CHINA

SO: Lecture-notes-in-computer-science.2006: 162-172

NT: 7 ref.

PU: Springer, Berlin, GERMANY

IS: 0302-9743

IB: 3540347119

PY: 2006

CP: GERMANYGERMANY

LA: English

LT: Conference-Meeting

AB: This paper proposes a character region extraction method and picture separation used for passports by adopting a preprocessing phase for passport recognition system. Character regions required in recognition make black pixel and remainder of the passport regions make white pixel in

the detected character spaces. This method uses MRZ sub-region in order to automatically decide the threshold value of the binary image and this value is applied to the other character regions. This method also executes horizontal and vertical histogram projection in order to remove picture region of the binary image. After the region detection of the picture area, the image part of the passport is stored in the database for face images. The remainder of the passport is composed of characters. The extraction of the picture area shows 100% of extraction ratio and the extraction of the characters for the recognition shows 96% of extraction ratio on ten different passports. From the obtained information, crosscheck process of MRZ information and field information of passport is implemented.

AI: AB

CC: 001D02C03; 001D02B07D

DEE: Pattern-recognition; Image-processing; Separation-method; Facies-; Image-databank; Histogram-; Binary-image; Image-processing; Pattern-recognition; Character-recognition; Biometrics-

DEF: Reconnaissance-forme; Traitement-image; .-; Méthode-séparation; Faciès-; Banque-image; Histogramme-; Image-binaire; Traitement-image; Reconnaissance-forme; Reconnaissance-caractère; Biométrie-

JN: Lecture-notes-in-computer-science

LOC: INIST-CNRS, Shelf Number 16343, INIST No. 354000153628910150

AN: 19309086; 070518366

SI: INIST

CR: Copyright 2007 INIST-CNRS. All rights reserved.

UD: 20080107

FP: 162

LP: 172

SN: 16343

Notice COMPENDEX

4TI: Biometrics in healthcare

AU: Marohn-Dana

SO: Biometric-Technology-Today. v 14 n 9 September 2006, p 9-11

ST: Biometric-Technology-Today

IS: 0969-4765

AB: This month's survey will focus on the growing use of biometrics in health care applications. It will consider healthcare applications in which biometrics have been deployed successfully and review relevant case studies. In addition it will address challenges facing implementation of biometrics in health care applications. copy 2006 Elsevier Ltd. All rights reserved.

MH: Biomedical-engineering

DE: Health-care; Surveys-; Product-development; Research-and-development-management

FL: Biometrics-; Health-care-applications; Challenges-; Biometrics-implementation

CC: 461.1 (Biomedical-Engineering); 461.7 (Health-Care); 913.1 (Production-Engineering); 912.2 (Management)

PY: 2006

LA: English

DT: JA (Journal-Article)

TR: G (General Review)

UD: 200638
AN: E20063710110462

Notice Inspec

5TI: Performance testing of commercial biometric systems

AU: Connolly-C

SO: Sensor-Review. 2006; 26(1): 33-7

PB: Emerald

CP: UK

RT: Journal-Paper

DOI: doi:10.1108/02602280610640652

LA: English

AB: Purpose - Reports on the work of the National Physical Laboratory in evaluating commercial biometric authentication systems. Design/methodology/approach - Reviews the results of the first round of testing, completed in 2000, and describes the new equipment to be used in the second round. Findings - Various biometric features are being used for the unique identification of individual people, but so far the iris seems to be the most stable and is most successfully encoded for rapid and accurate recognition. Many biometric systems have an adjustable threshold controlling the trade-off between security and user-friendliness. By combining biometric features, for example, the geometry and texture of the face, the accuracy may be improved. Originality/value - Reports on the standardization of test procedures for evaluating biometric devices, and the availability of objective evaluation results for different types of equipment

RF: 0

DE: biometrics-access-control; eye-; face-recognition; feature-extraction; image-texture

ID: biometric-authentication-systems; biometric-features; face-geometry; face-texture; image-processing; person-identification

CL: B6135E- Image-recognition; C5260B- Computer-vision-and-image-processing-techniques

CC: B6135E; B61; B6; C5260B; C52; C5

SF: Electrical-and-Electronic-Engineering; Computers-and-Control

TR: P (Practical)

IS: 0260-2288

CO: SNRVDY

PY: 2006

SC: 0260-2288(2006)26:1L.33:PTCB;1-Y

ST: 0260-2288(2006)26:1L.33:PTCB;1-Y

AN: 8858579

SK: 0260-228800026000001000033

XURL: DOI; Digital-object-identifier

CS: Copyright 2006, The Institution of Engineering and Technology

UD: 2006015

Notice ISD (International Science Database)

6TI: Fingerprint-based recognition. Statistics in information technology

AU: NAIR-Vijay, Editor; DASS-Sarat-C; JAIN-Anil-K

AF: Department of Statistics, University of Michigan, Ann Arbor, MI 48109, UNITED-STATES;
Department of Statistics & Probability Michigan State University, East Lansing, MI 48824,
UNITED-STATES; Department of Computer Science & Engineering Michigan State University,
East Lansing, MI 48824, UNITED-STATES

SO: Technometrics. 2007; 49 (3): 262-276

NT: 1 p.1/4

PU: American Society for Quality Control, Milwaukee, WI; American Statistical Association,
Alexandria, VI, UNITED-STATES

IS: 0040-1706

CD: TCMTA2

PY: 2007

CP: UNITED-STATES

LA: English

LT: Serial

AB: Biometric recognition, or biometrics, refers to the authentication of an individual based on her or his biometric traits. Among the various biometric traits (e.g., face, iris, fingerprint, voice), fingerprint-based authentication has the longest history, and it has been successfully adopted in both forensic and civilian applications. Advances in fingerprint capture technology have resulted in new large-scale civilian applications (e.g., US-VISIT program); however, these systems still encounter difficulties due to various noise factors present in operating environments. The purpose of this article is to give an overview of fingerprint-based recognition and discuss research opportunities for making these systems perform more effectively.

AI: AB

CC: 001D02C03; 001D02B04; 001D02B07B; 001A02H02

DEE: Pattern-extraction; Feature-extraction; Noise-factor; Police-; Forensic-aspect; Voice-;
Fingerprint-; Fingerprint-identification; Pattern-recognition; Indexing-; Classification-;
Authentication-; User-interface; Biometrics-

DEF: Extraction-forme; Extraction-caractéristique; Facteur-bruit; Police-; Aspect-médicolégal;
Voix-; Empreinte-digitale; Dactyloscopie-; Reconnaissance-forme; Indexation-; Classification-;
Authentification-; Interface-utilisateur; Biométrie-

DEA: Classification-and-indexing; Fingerprint-feature-extraction; Fingerprint-individuality;
Fusion-

JN: Technometrics

LOC: INIST-CNRS, Shelf Number 9949, INIST No. 354000146689260030

AN: 19005385; 070496879

SI: INIST

CR: Copyright 2007 INIST-CNRS. All rights reserved.

UD: 20080107

VO: 49

NO: 3

FP: 262

LP: 276

SN: 9949

Notice ISD (International Science Database)

7TI: Iris segmentation methodology for non-cooperative recognition

AU: PROENGA-H; ALEXANDRE-L-A
AF: Department of Informatics, IT - Networks and Multimedia Group, Universidade da Beira Interior, Covilha, R. Marquês D'Avila e Bolama, 6200-001 Covilha, PORTUGAL
SO: IEE-proceedings.-Vision,-image-and-signal-processing. 2006; 153 (2): 199-205
NT: 24 ref.
PU: Institution of Electrical Engineers, Stevenage, UNITED-KINGDOM
IS: 1350-245X
PY: 2006
CP: UNITED-KINGDOM
LA: English
LT: Serial
AB: An overview of the iris image segmentation methodologies for biometric purposes is presented. The main focus is on the analysis of the ability of segmentation algorithms to process images with heterogeneous characteristics, simulating the dynamics of a non-cooperative environment. The accuracy of the four selected methodologies on the UBIRIS database is tested and, having concluded about their weak robustness when dealing with non-optimal images regarding focus, reflections, brightness or eyelid obstruction, the authors introduce a new and more robust iris image segmentation methodology. This new methodology could contribute to the aim of non-cooperative biometric iris recognition, where the ability to process this type of image is required.
AI: AB
CC: 001D04A05C; 001D04A05A; 001D04A05D
DEE: Signal-processing; Feature-extraction; Automatic-recognition; Iris(eye)-; Pattern-recognition; Brightness-; Robustness-; Database-; Accuracy-; Dynamic-characteristic; Image-processing; Algorithm-; Biometrics-; Review-; Image-segmentation
DEF: Traitement-signal; Extraction-caractéristique; Reconnaissance-automatique; Iris(oeil)-; Reconnaissance-forme; Brilliance-; Robustesse-; Base-donnée; Précision-; Caractéristique-dynamique; Traitement-image; Algorithmique-; Biométrie-; Article-synthèse; Segmentation-image
JN: IEE-proceedings.-Vision,-image-and-signal-processing
LOC: INIST-CNRS, Shelf Number 7573 K, INIST No. 354000142709960140
AN: 17717329; 060237002
SI: INIST
CR: Copyright 2006 INIST-CNRS. All rights reserved.
UD: 20080107
VO: 153
NO: 2
FP: 199
LP: 205
SN: 7573 K

Notice COMPENDEX

8TI: Review of iris recognition: Cameras, systems, and their applications

AU: Du-Yingzi-Eliza
AF: Department of Electrical and Computer Engineering Purdue School of Engineering and Technology Indiana University-Purdue University Indianapolis, Indianapolis, IN, United States
SO: Sensor-Review. v 26 n 1 2006, p 66-69

ST: Sensor-Review

IS: 0260-2288

CO: SNRVDY

AB: Purpose - To overview the iris cameras, iris recognition systems, and their applications. Design/methodology/approach - Introduced and examined commercially available or lab prototype iris cameras and systems to compare their functionalities and applications. Findings - Each kind of camera has its advantage and disadvantage. From the application view, each iris recognition system has its unique values. Originality/value - This paper offers latest updates and essential information on iris recognition cameras and systems. It can benefit busy engineers, researchers, and managers who are interested in biometrics, security, and new technologies. copy Emerald Group Publishing Limited. 6 Refs.

MH: Pattern-recognition

DE: Cameras-; Pattern-recognition-systems; Security-systems

FL: Identification-; Body-regions; Eyes-; Biometrics-

CC: 716 (Electronic-Equipment,-Radar,-Radio-and-Television); 742.2 (Photographic-Equipment); 914.1 (Accidents-and-Accident-Prevention)

PY: 2006

LA: English

DT: JA (Journal-Article)

TR: T (Theoretical)

UD: 200610

AN: E2006099736795

Notice Inspec

9TI: [Advances in 3D-based face recognition](#)

AU: Paquet-R; Kouzani-AZ

AA: Newcastle Univ., Newcastle, Australia

SO: 2006-International-Joint-Conference-on-Neural-Networks. 2007: 670-5

PB: IEEE, Piscataway, NJ, USA

CP: USA

RT: Conference-Paper

CD: 2006 International Joint Conference on Neural Networks. Vancouver, BC, Canada. 16-21 July 2006.

LA: English

AB: Biometrics methods use unique patterns of a bodily feature for identification. Unlike passwords or pin numbers, biometrics cannot be lost or forgotten. Biometrics include fingerprints, iris, height, voice, fact. Automatic face recognition has attracted substantial research attention in the last fifteen years. Face recognition, is well accepted by the public and is nonintrusive in comparison to fingerprinting. The bulk of the research has concentrated on 2D-based face recognition systems. Problems associated with 2D techniques are well known and include make-up and hair, expression, pose, illumination, time lapse between gallery and probes, gallery size, computing time. Research in 3D is becoming more popular as some of the difficulties brought in changes in illumination and pose may be eliminated. This article is a review of 3D-based face recognition.

RF: 30

DE: biometrics-access-control; face-recognition

ID: 3D-based-face-recognition; biometrics-method; automatic-face-recognition; illumination-

CL: B6135E- Image-recognition; C5260B- Computer-vision-and-image-processing-techniques
CC: B6135E; B61; B6; C5260B; C52; C5
SF: Electrical-and-Electronic-Engineering; Computers-and-Control
TR: G (General-or-Review)
IB: 0780394909
PY: 2007
AN: 9722910
SK: 0780394909000670
CS: Copyright 2008, The Institution of Engineering and Technology
UD: 2008004

Notice ISD (International Science Database)

10TI: Audio-visual biometrics. Biometrics: algorithms & applications

AU: CHELLAPPA-Rama, Editor; PHILLIPS-Jonathan-P, Editor; REYNOLDS-Douglas, Editor;
ALEKSIC-Petar-S; KATSAGGELOS-Aggelos-K

AF: Department of Electrical Engineering and Computer Science, Northwestern University,
Evanston, IL 60208, UNITED-STATES

SO: Proceedings-of-the-IEEE. 2006; 94 (11): 2025-2044

NT: 137 ref.

PU: Institute of Electrical and Electronics Engineers, New York, NY, UNITED-STATES

IS: 0018-9219

CD: IEEPAD

PY: 2006

CP: UNITED-STATES

LA: English

LT: Serial

AB: | Biometric characteristics can be utilized in order to enable reliable and robust-to-impostor-attacks person recognition. Speaker recognition technology is commonly utilized in various systems enabling natural human computer interaction. The majority of the speaker recognition systems rely only on acoustic information, ignoring the visual modality. However, visual information conveys correlated and complimentary information to the audio information and its integration into a recognition system can potentially increase the system's performance, especially in the presence of adverse acoustic conditions. Acoustic and visual biometric signals, such as the person's voice and face, can be obtained using unobtrusive and user-friendly procedures and low-cost sensors. Developing unobtrusive biometric systems makes biometric technology more socially acceptable and accelerates its integration into every day life. In this paper, we describe the main components of audio-visual biometric systems, review existing systems and their performance, and discuss future research and development directions in this area.

AI: AB

CC: 001D04A05B; 001D04A05A; 001D04A05D

DEE: Pattern-recognition; Automatic-recognition; Biometrics-; Signal-processing; Probabilistic-approach; Speech-processing; Automatic-recognition; Pattern-recognition; Feature-extraction; Hidden-Markov-models; Target-tracking; Audio-databases; Research-and-development; Audio-systems; Cost-lowering; Visual-signal; Performance-evaluation; Information-integration; Information-transmission; Visual-information; Man-machine-relation; Speaker-recognition; Identification-; Biometrics-

DEF: Reconnaissance-forme; Reconnaissance-automatique; Biométrie-; Traitement-signal; Approche-probabiliste; Traitement-parole; Reconnaissance-automatique; Reconnaissance-forme; Extraction-caractéristique; Modèle-Markov-variable-cachée; Poursuite-cible; Base-de-données-audio; Recherche-développement; Système-audio; Diminution-coût; Signal-visuel; Evaluation-performance; Intégration-information; Transmission-information; Information-visuelle; Relation-homme-machine; Reconnaissance-locuteur; Identification-; Biométrie-
DEA: Audio-visual-biometrics; audio-visual-databases; audio-visual-fusion; audio-visual-person-recognition; face-tracking; hidden-Markov-models; multimodal-recognition; visual-feature-extraction

JN: Proceedings-of-the-IEEE

LOC: INIST-CNRS, Shelf Number 222, INIST No. 354000145300350090

AN: 18453947; 070106549

SI: INIST

CR: Copyright 2007 INIST-CNRS. All rights reserved.

UD: 20080107

VO: 94

NO: 11

FP: 2025

LP: 2044

SN: 222

Notice Inspec

11TI: Identity management - back to the user

AU: Dean-R

SO: Network-Security. Dec. 2006; 2006(12): 4-7

PB: Elsevier

CP: UK

RT: Journal-Paper

DOI: doi:10.1016/S1353-4858(06)70460-3

LA: English

AB: Enterprises and governments have traditionally imposed identity control from the top down. But this kind of approach is meeting considerable resistance from users and is looking increasingly antiquated for today's needs. As Microsoft's Kim Cameron noted in his Seven Laws of Identity: "A system that does not put users in control will - immediately or over time - be rejected." Before examining identity management projects currently underway to put control back into the users' hands, we review the state of identity management from a variety of angles: enterprise security models, innovative applications, and the role of legislators. In a separate article we also explore the twists and turns of today's identity management market, and what it offers. There's no standing still: as one of Cameron's US colleagues, Michael Howard, observed at the ISSE Conference 2006: "You can be in the poshest place on earth, but as soon as you plug into the computer, you are slumming it with some of the nastiest people in the world." Digital identity as it applies to people is the preoccupation of corporations, governments and individuals throughout Europe and the rest of the world. It is key to ensuring a trusted relationship for billions of electronic transactions worldwide, but control must now be returned to the user. [All rights reserved Elsevier]

RF: 0

DE: biometrics-access-control; data-privacy; radiofrequency-identification; security-of-data

ID: identity-management; digital-identity; electronic-transactions; RFID-; security-; data-privacy; data-protection
CL: C6130S- Data-security; D1060- Security-aspects-of-IT
CC: C6130S; C61; C6; D1060; D10; D1
SF: Computers-and-Control; Information-Technology-for-Business
TR: P (Practical)
IS: 1353-4858
CO: NTSCF5
PY: 2006
DN: S1353-4858(06)70460-3
SC: 1353-4858(200612)2006:12L.4:IMBU;1-B
ST: 1353-4858(200612)2006:12L.4:IMBU;1-B
AN: 9299986
SK: 1353-485802006000012000004
XURL: DOI; Digital-object-identifier
CS: Copyright 2007, The Institution of Engineering and Technology
UD: 2007008

Notice COMPENDEX

12TI: Trial of dynamic signature verification for a real-world identification solution

AU: Gifford-Maurice; Edwards-Nicholas
AF: BT Wireless Solutions Group, Adastral Park, Ipswich, United Kingdom
SO: BT-Technology-Journal. v 23 n 2 April 2005, p 259-266
ST: BT-Technology-Journal
IS: 1358-3948
CO: BTTJEY
AB: This paper describes a recent trial of a biometric identity verification system. The prototype system developed provided a means of automatically issuing pass cards providing access to a major site. The paper begins with the description of a practical problem - access control to a major industrial site, and the potential benefits a biometric technique might offer. This is followed with a description of a prototype access control system, and a review of dynamic signature verification as a biometric technique. Results from the trial are presented, followed by an analysis of the results. The paper concludes by summarising the findings and describing possible ways forward. copy Springer Science+Business Media, Inc. 2005. 7 Refs.
MH: Pattern-recognition-systems
DE: Electronic-document-identification-systems; Smart-cards; Feature-extraction; Security-systems
FL: Biometrics-; Biometric-identity-verification-system; Dynamic-signature-verification
CC: 723.5 (Computer-Applications); 722.4 (Digital-Computers-and-Systems)
PY: 2005
LA: English
DT: JA (Journal-Article)
TR: T (Theoretical)
UD: 200538
AN: E2005359332889

Notice Inspec

13TI: You need hands [fingerprint-based biometrics]

AU: Bains-S

SO: IEE-Review. Nov. 2005; 51(11): 30-3

PB: IEE

CP: UK

RT: Journal-Paper

LA: English

AB: Advanced optics promise to transform the sometimes shaky business of fingerprint-based biometrics by overcoming various spoofing techniques. If two US-based companies, Lumidigm and Aprilis, have anything to do with it, the biometric community will find its answers in better optoelectronic design. What is surprising, is that this may involve extending the optical system beyond the detector to the actual fingerprint database and recognition system

DE: edge-detection; fingerprint-identification; image-matching; image-processing-equipment; object-detection; optoelectronic-devices

ID: fingerprint-based-biometrics; fingerprint-detection; fingerprint-spoofing-techniques; optoelectronic-design; optical-system; optical-detector; fingerprint-database; fingerprint-recognition-system

CL: B6135E- Image-recognition; B7220- Signal-processing-and-conditioning-equipment-and-techniques; C5260B- Computer-vision-and-image-processing-techniques; C1250M- Image-recognition; C1250B- Character-recognition; C5530- Pattern-recognition-and-computer-vision-equipment

CC: B6135E; B61; B6; B7220; B72; B7; C5260B; C52; C5; C1250M; C12; C1; C1250B; C5530; C55

SF: Electrical-and-Electronic-Engineering; Computers-and-Control

TR: P (Practical)

IS: 0953-5683

CO: IEREEF

PY: 2005

SC: 0953-5683(200511)51:11L.30:NHFB;1-H

ST: 0953-5683(200511)51:11L.30:NHFB;1-H

AN: 8648547

SK: 0953-568300051000011000030

CS: Copyright 2005, IEE

UD: 2005046

ARTICLES SUR LES PROBLEMATIQUES DE SOCIETE (liberté individuelle, sécurité, aspects positifs et négatifs)

Français

Notice ISD (International Science Database)

TI: Biométrie, données identifiantes et droits de l'homme

AU: AMEISEN-JC; BELOUCIF-S; COSSART-P; et-al.

SO: LES-CAHIERS-DU-COMITE-CONSULTATIF-NATIONAL-D-ETHIQUE-POUR-LES-SCIENCES-DE-LA-VIE-ET-DE-LA-SANTE. 2007-2007 (52): 15-26

IS: 1260-8599

PY: 2007

CP: FRANCE

LA: French

LT: Serial

AB: L'identification d'une personne s'est toujours fondée sur quelques paramètres morphologiques parmi lesquels la reconnaissance du visage était essentielle. L'accélération récente du développement des méthodes physiques d'identification de plus en plus sophistiquées, parfois à l'insu des personnes, donne lieu à une tentation croissante dont la principale finalité est la sécurité liée à la précision des paramètres. C'est cette tension entre ce désir de sécurité qui passe par une identification biométrique sans cesse en perfectionnement et le respect de la dignité des personnes, qui est au coeur de cette auto-saisine du CCNE

AI: AB

CC: 002B30A01

DEE: Genomic-imprinting; Safety-; Justice-; Freedom-; Individual-; Personal-identity; Identification-; Bacteriological-investigation

DEF: Empreinte-génomique; Sécurité-; Justice-; Liberté-; Individu-; Identité-personnelle; Identification-; Exploration-bactériologique

JN: LES-CAHIERS-DU-COMITE-CONSULTATIF-NATIONAL-D-ETHIQUE-POUR-LES-SCIENCES-DE-LA-VIE-ET-DE-LA-SANTE

LOC: ensp; aphdoc; ctnerhi; orslr; ors-paca

AN: 19937225; 080026424

SI: BDSP

UD: 20080301

NO: 52

FP: 15

LP: 26

Notice ISD (International Science Database)

TI: Panorama des technologies applicables à la biométrie. La sécurité globale : menaces et réponses

TT: Panorama of Technologies for Biometry

AU: ROUJANSKY-Jacques, Author-of-introductory-parts; LEVY-Doron

AF: Club Technique SG "Sécurité globale", UNKNOWN; Sécurité Générale, SPAIN

SO: REE.-Revue-de-l'électricité-et-de-l'électronique. 2007 (10): 75-76, 102-109 [10 p.]

NT: 8 ref.

PU: Société de l'Electricité, de l'Electronique et des Technologies de l'Information et de la Communication (SEE), Paris, FRANCE

IS: 1265-6534

PY: 2007

CP: FRANCE

LA: French

LT: Serial

AB: In a market's detection which essentially is very competing, the experts of the security access control know today that they must take into account the development of new technologies such as biometric systems. Still held there is little with the applications legal, military or governmental, biometric technologies from now on accessible to all and is belonged to the civil landscape. These biometric systems have two vital and inseparable functions: to measure certain specific physical parameters to each individual and to compare them with a referent database for a decision.

AI: AB

CC: 001D04A05A

DEE: Terrorism-; Risk-management; Risk-analysis; homeland-security; Pattern-recognition; Automatic-recognition; homeland-security; Safety-; Biometrics-

DEF: Terrorisme-; Gestion-risque; Analyse-risque; Sécurité-nationale; Reconnaissance-forme; Reconnaissance-automatique; Sécurité-nationale; Sécurité-; Biométrie-

DEA: Biometry-; Global-Security; Terrorism-; Risk-Management

JN: REE.-Revue-de-l'électricité-et-de-l'électronique

LOC: INIST-CNRS, Shelf Number 153, INIST No. 354000173811960120

AN: 19907847; 080050482

SI: INIST

CR: Copyright 2008 INIST-CNRS. All rights reserved.

UD: 20080301

NO: 10

SN: 153

Notice ISD (International Science Database)

TI: Enjeux d'identification et de surveillance à l'heure de la biométrie

TT: Identification and surveillance issues at the age of biometrics

AU: CEYHAN-Ayse

SO: Cultures-et-conflits. 2006 (64): 33-47

PU: L'Harmattan, Paris, FRANCE

IS: 1157-996X

PY: 2006

CP: FRANCE

LA: French

LT: Serial
JN: Cultures-et-conflits
LOC: INIST-CNRS, Shelf Number 27234, INIST No. 354000145474270020
AN: 18504127
SI: INIST
CR: Copyright 2008 INIST-CNRS. All rights reserved.
UD: 20080107
NO: 64
FP: 33
LP: 47
SN: 27234

Notice ISD (International Science Database)

TI: [Qu'est-ce que cette biométrie dont on nous rebat les oreilles ?](#)

AU: MORENO-Roland
SO: 01-informatique. 2006 (1870): 44-47
PU: Groupe tests, Paris, FRANCE
IS: 0298-2285
PY: 2006
CP: FRANCE
LA: French
LT: Serial
AB: Techniques encore expérimentales, standards industriels inexistant... Roland Moreno démontre dans cet article pourquoi le projet de passeport biométrique n'est pas technologiquement viable aujourd'hui.
AI: AB
JN: 01-informatique
LOC: INIST-CNRS, Shelf Number 12860 B, INIST No. 354000133363350030
AN: 18069156
SI: INIST
CR: Copyright 2008 INIST-CNRS. All rights reserved.
UD: 20080107
NO: 1870
FP: 44
LP: 47
SN: 12860 B

Anglais

Notice ISD (International Science Database)

1TI: [Human recognition using biometrics: an overview](#)

AU: ROSS-Arun; JAIN-Anil-K

AF: Lane Department of Computer Science and Electrical Engineering, West Virginia University, Morgantown, WV 26506, UNITED-STATES; Department of Computer Science and Engineering, Michigan State University, East Lansing, MI 48824, UNITED-STATES

CF: BioSecure residential workshop, 200508, UNKNOWN

SO: Annales-des-télécommunications. 2007; 62 (1-2): 11-35

NT: 79 ref.

PU: Lavoisier, Cachan, FRANCE

IS: 0003-4347

CD: ANTEAU

PY: 2007

CP: FRANCE

LA: English

LT: Serial; Conference-Meeting

AB: Establishing identity is becoming critical in our vastly interconnected society. Questions such as "Is she really who she claims to be?", "Is this person authorized to use this facility? ", or "Is he in the watchlist posted by the government?" are routinely being posed in a variety of scenarios ranging from issuing a drivers license to gaining entry into a country. The need for reliable user authentication techniques has increased in the wake of heightened concerns about security and rapid advancements in networking, communication, and mobility. Biometrics, described as the science of recognizing an individual based on his or her physical or behavioral traits, is beginning to gain acceptance as a legitimate method for determining an individuals identity. Biometric systems have now been deployed in various commercial, civilian, and forensic applications as a means of establishing identity. This paper presents an overview of biometrics and discusses some of the pertinent terminology necessary to understand this technology. The importance of information fusion in the context of biometrics is also highlighted. It is becoming increasingly apparent that multibiometric systems will play a significant role in dispensing the role of identity management in the 21st century.

AI: AB

CC: 001D04A04E; 001D04B02E; 001D04A03; 001D04A05A

DEE: Information-processing; Pattern-recognition; Automatic-recognition; Information-integration; Data-fusion; Terminology-; Forensic-aspect; Networking-; Safety-; Authentication-; User-need; Interconnection-; Review-; Biometrics-

DEF: Traitement-information; Reconnaissance-forme; Reconnaissance-automatique; Intégration-information; Fusion-donnée; Terminologie-; Aspect-médecinolégal; Réseautique-; Sécurité-; Authentification-; Besoin-de-l'utilisateur; Interconnexion-; Article-synthèse; Biométrie-

DEA: Biometrics-; Automatic-recognition; Identification-; Authentication-; Review-; Pattern-recognition

JN: Annales-des-télécommunications

LOC: INIST-CNRS, Shelf Number 6229, INIST No. 354000143250140010

AN: 18649104; 070185816

SI: INIST

CR: Copyright 2007 INIST-CNRS. All rights reserved.

UD: 20080107

VO: 62

NO: 1-2

FP: 11

LP: 35

SN: 6229

Notice ISD (International Science Database)

2TI: Ethical and social implications of biometric identification technology

AU: MORDINI-Emilio; PETRINI-Carlo

AF: Centro per la Scienza, la Società e la Cittadinanza, Rome, ITALY; Unità di Bioetica, Centra Nazionale di Epidemiologia, Sorveglianza e Promozione della Salute, Istituto Superiore di Sanità, Rome, ITALY

SO: Annali-dell-Istituto-superiore-di-sanità. 2007; 43 (1): 5-11

NT: 29 ref.

PU: Istituto superiore di sanita, Roma, ITALY

IS: 0021-2571

PY: 2007

CP: ITALY

LA: English

LT: Serial

AB: This paper discusses the social and ethical aspects of biometrics, using mainly a historical approach. A description is provided as regards the origins and development of the word. Reference is made to the various ways in which it has been interpreted, sometimes very different one from another, and finally to the meaning currently attached to it. The most relevant ethical and social implications are highlighted by giving a brief overview of the contents of the main institutional documents produced both on an international and domestic level in the various countries. The analyses contained in these reports also bring to the fore the main challenges which society shall have to deal with, in the near future and on a long-term basis, as a consequence of the extremely rapid diffusion of those technologies which use biometric data request.

AI: AB

CC: 002B01; 002B30A09; 002B31

DEE: Europe-; Italy-; Medicine-; Social-sciences; Technology-; Identification-; Social-aspect; Public-health; Ethics-; Biometrics-

DEF: Europe-; Italie-; Médecine-; Sciences-sociales; Technologie-; Identification-; Aspect-social; Santé-publique; Ethique-; Biométrie-

DEA: biometrics-; ethics-; social-sciences; historical-aspects

JN: Annali-dell-Istituto-superiore-di-sanità

LOC: INIST-CNRS, Shelf Number 6513, INIST No. 354000146789170010

AN: 18811574; 070379706

SI: INIST

CR: Copyright 2007 INIST-CNRS. All rights reserved.

UD: 20080107

VO: 43

NO: 1

FP: 5

LP: 11

SN: 6513

Notice Inspec

3TI: Identity assurance and the protection of the civil infrastructure

AU: Ryan-R

AA: Nat. Biometric Security Project, Washington, DC, USA

SO: Sensor-Review. 2006; 26(1): 18-21

PB: Emerald

CP: UK

RT: Journal-Paper

DOI: doi:10.1108/02602280610640625

LA: English

AB: Purpose - Reviews current vulnerabilities of US civil infrastructure and how they might be addressed with identification/authentication technologies. Design/methodology/approach - Paper presents brief overview of biometric technology - its history, evolution since 9/11 and current state of the technology. Paper then reviews identity-based US civil infrastructure vulnerabilities and how they may be mitigated with the integration of biometrics into risk management systems. Findings - Much has been achieved in the maturation of biometrics in the past five years with respect to standards development, scalability and testing; thus making them far more applicable to large scale deployment. Practical implications - Biometrics, on a stand-alone basis, but more often when integrated with other ID/authentication technologies can have a positive impact on the security of US civil infrastructure. Originality/value - Paper offers those responsible for civil infrastructure protection new approaches to identify assurance

RF: 0

DE: authorisation-; biometrics-access-control; pattern-recognition; risk-management

ID: identity-assurance; identification-technology; authentication-technology; biometric-technology; risk-management-systems; civil-infrastructure-protection; human-physiology

CL: C0230- Economic,-social-and-political-aspects-of-computing; C6130S- Data-security

CC: C0230; C02; C0; C6130S; C61; C6

SF: Computers-and-Control

TR: P (Practical)

IS: 0260-2288

CO: SNRVDY

PY: 2006

SC: 0260-2288(2006)26:1L.18:IAPC;1-L

ST: 0260-2288(2006)26:1L.18:IAPC;1-L

AN: 8858578

SK: 0260-228800026000001000018

XURL: DOI; Digital-object-identifier

CS: Copyright 2006, The Institution of Engineering and Technology

UD: 2006015

Notice COMPENDEX**4TI: Analyzing a multimodal biometric system using real and virtual users**

AU: Scheidat-Tobias; Vielhauer-Claus

AF: Dept. of Computer Science Univ. of Magdeburg, 39106 Magdeburg, Germany

SO: Proceedings-of-SPIE-The-International-Society-for-Optical-Engineering. v 6505, 2007

CF: Security, Steganography, and Watermarking of Multimedia Contents IX. San Jose, CA, United States

CD: 20070129-20070201

CN: 70173

SP: SPIE; IS and T - Society for Imaging Science and Technology

ST: Proceedings-of-SPIE-The-International-Society-for-Optical-Engineering

IS: 0277-786X

IB: 0819466182

CO: PSISDG

AB: Three main topics of recent research on multimodal biometric systems are addressed in this article: The lack of sufficiently large multimodal test data sets, the influence of cultural aspects and data protection issues of multimodal biometric data. In this contribution, different possibilities are presented to extend multimodal databases by generating so-called virtual users, which are created by combining single biometric modality data of different users. Comparative tests on databases containing real and virtual users based on a multimodal system using handwriting and speech are presented, to study to which degree the use of virtual multimodal databases allows conclusions with respect to recognition accuracy in comparison to real multimodal data. All tests have been carried out on databases created from donations from three different nationality groups. This allows to review the experimental results both in general and in context of cultural origin. The results show that in most cases the usage of virtual persons leads to lower accuracy than the usage of real users in terms of the measurement applied: the Equal Error Rate. Finally, this article will address the general question how the concept of virtual users may influence the data protection requirements for multimodal evaluation databases in the future. copy 2007 SPIE-IS&T. 16 Refs.

MH: Biometrics-

DE: Database-systems; Error-analysis; User-interfaces; Virtual-reality

FL: Data-protection; Virtual-users; Real-users; Equal-Error-Rate

CC: 461 (Bioengineering); 722.2 (Computer-Peripheral-Equipment); 723 (Computer-Software,-Data-Handling-and-Applications); 723.3 (Database-Systems); 921.6 (Numerical-Methods)

PY: 2007

LA: English

DT: CA (Conference-Article)

TR: T (Theoretical)

UD: 200737

AN: E20073610800355

Notice COMPENDEX

5TI: Image processing algorithms underpinning iris and facial recognition systems

AU: Anon

SO: Sensor-Review. v 26 n 1 2006, p 22-27

ST: Sensor-Review

IS: 0260-2288

CO: SNRVDY

AB: Purpose - To study the mathematical image coding approaches used in two types of biometric systems, and the physical nature of those biometrics. Design/methodology/approach - Gives details of algorithms used to encode data from images in established and new automatic iris recognition systems. Then examines face recognition techniques based on geometry, texture and three-dimensional data. Findings - Most commercial iris recognition systems are based on the algorithms developed by one man, John Daugman. Whilst iris systems can be used to check a person's identity

against a large database of enrolled people, face recognition systems are currently only capable of use in one-to-one recognition mode, or in identification mode against a very small database. The iris is very distinctive and stable over time, but the face is much more variable and therefore difficult to identify with accuracy. Originality/value - Provides the general scientific reader with some insight into the specialised field of biometric recognition. copy Emerald Group Publishing Limited. 1 Refs.

MH: Image-processing

DE: Face-recognition; Pattern-recognition-systems; Database-systems; Security-systems; Fourier-transforms

FL: Security-products; Identification-; Body-regions; Eyes-

CC: 723.2 (Data-Processing); 716 (Electronic-Equipment,-Radar,-Radio-and-Television); 723.3 (Database-Systems); 914.1 (Accidents-and-Accident-Prevention); 921.3 (Mathematical-Transformations)

PY: 2006

LA: English

DT: JA (Journal-Article)

TR: T (Theoretical)

UD: 200610

AN: E2006099736788

Notice Inspec

6TI: Vitality detection from fingerprint images: a critical survey

AU: Coli-P; Marcialis-GL; Roli-F

AA: Univ. of Cagliari, Cagliari, Italy

ED: Seong-Whan-Lee; Li-SZ

SO: Advances-in-Biometrics.-Proceedings-International-Conference,-ICB-2007.-Lecture-Notes-in-Computer-Science-vol.-4642. 2007: 722-31

PB: Springer-Verlag, Berlin, Germany

CP: Germany

RT: Conference-Paper

CD: Advances in Biometrics. International Conference, ICB 2007. Seoul, South Korea. 27-29 Aug. 2007.

LA: English

AB: Although fingerprint verification systems reached a high degree of accuracy, it has been recently shown that they can be circumvented by "fake fingers", namely, fingerprint images coming from stamps reproducing an user fingerprint, which is processed as an "alive" one. Several methods have been proposed for facing with this problem, but the issue is far from a final solution. Since the problem is relevant both for the academic and the industrial communities, in this paper, we present a critical review of current approaches to fingerprint vitality detection in order to analyze the state-of-the art and the related open issues.

RF: 16

DE: fingerprint-identification

ID: fingerprint-images; fingerprint-verification-systems; fingerprint-vitality-detection

CL: B6135E- Image-recognition; C5260B- Computer-vision-and-image-processing-techniques

CC: B6135E; B61; B6; C5260B; C52; C5

SF: Electrical-and-Electronic-Engineering; Computers-and-Control

TR: P (Practical)

IB: 3540745483
PY: 2007
AN: 9648211
SK: 3540745483000722
CS: Copyright 2007, The Institution of Engineering and Technology
UD: 2007047

Notice COMPENDEX

7TI: A comparative study of fingerprint image-quality estimation methods

AU: Alonso-Fernandez-Fernando; Fierrez-Julian; Ortega-Garcia-Javier; Gonzalez-Rodriguez-Joaquin; Fronthaler-Hartwig; Kollreider-Klaus; Bigun-Josef

AF: ATVS/Biometric Recognition Group Politecnica Superior University de Madrid, Madrid, 28049, Spain

SO: IEEE-Transactions-on-Information-Forensics-and-Security. v 2 n 4 December 2007, p 734-743

ST: IEEE-Transactions-on-Information-Forensics-and-Security

IS: 1556-6013

AB: One of the open issues in fingerprint verification is the lack of robustness against image-quality degradation. Poor-quality images result in spurious and missing features, thus degrading the performance of the overall system. Therefore, it is important for a fingerprint recognition system to estimate the quality and validity of the captured fingerprint images. In this work, we review existing approaches for fingerprint image-quality estimation, including the rationale behind the published measures and visual examples showing their behavior under different quality conditions. We have also tested a selection of fingerprint image-quality estimation algorithms. For the experiments, we employ the BioSec multimodal baseline corpus, which includes 19 200 fingerprint images from 200 individuals acquired in two sessions with three different sensors. The behavior of the selected quality measures is compared, showing high correlation between them in most cases. The effect of low-quality samples in the verification performance is also studied for a widely available minutiae-based fingerprint matching system. copy 2007 IEEE. 38 Refs.

MH: Biometrics-

DE: Algorithms-; Correlation-methods; Image-quality; Robustness-control-systems; Sensors-; Spurious-signal-noise

FL: Fingerprint-recognition-system; Verification-performance; Minutia-; Quality-assessment

CC: 461 (Bioengineering); 701.1 (Electricity:-Basic-Concepts-and-Phenomena); 723 (Computer-Software,-Data-Handling-and-Applications); 731.1 (Control-Systems); 732.2 (Control-Instrumentation); 741 (Light,-Optics-and-Optical-Devices)

PY: 2007

LA: English

DT: JA (Journal-Article)

TR: T (Theoretical); X (Experimental)

UD: 200749

AN: E20074810952703

Notice COMPENDEX

8TI: Revocable fingerprint biotokens: Accuracy and security analysis

AU: Boulton-TE; Scheirer-WJ; Woodwork-R

AF: VAST Lab. University of Colorado, Colorado Springs

SO: Proceedings-of-the-IEEE-Computer-Society-Conference-on-Computer-Vision-and-Pattern-Recognition, 2007, IEEE Computer Society Conference on Computer Vision and Pattern Recognition, CVPR'07 2007

CF: 2007 IEEE Computer Society Conference on Computer Vision and Pattern Recognition, CVPR'07. Minneapolis, MN, United States

CD: 20070617-20070622

CN: 70350

ST: Proceedings-of-the-IEEE-Computer-Society-Conference-on-Computer-Vision-and-Pattern-Recognition

IS: 1063-6919

IB: 1424411807

CO: PIVRE9

AB: This paper reviews the biometric dilemma, the pending threat that may limit the long-term value of biometrics in security applications. Unlike passwords, if a biometric database is ever compromised or improperly shared, the underlying biometric data cannot be changed. The concept of revocable or cancelable biometric-based identity tokens (biotokens), if properly implemented, can provide significant enhancements in both privacy and security and address the biometric dilemma. The key to effective revocable biotokens is the need to support the highly accurate approximate matching needed in any biometric system as well as protecting privacy/security of the underlying data. We briefly review prior work and show why it is insufficient in both accuracy and security. This paper adapts a recently introduced approach that separates each datum into two fields, one of which is encoded and one which is left to support the approximate matching. Previously applied to faces, this paper uses this approach to enhance an existing fingerprint system. Unlike previous work in privacy-enhanced biometrics, our approach improves the accuracy of the underlying system! The security analysis of these biotokens includes addressing the critical issue of protection of small fields. The resulting algorithm is tested on three different fingerprint verification challenge datasets and shows an average decrease in the Equal Error Rate of over 30% - providing improved security and improved privacy. copy 2007 IEEE. 10 Refs.

MH: Security-of-data

DE: Biometrics-; Database-systems; Error-analysis; Pattern-matching; Verification-

FL: Revocable-fingerprint-biotokens; Fingerprint-systems; Security-analysis; Equal-Error-Rate

CC: 461 (Bioengineering); 721.1 (Computer-Theory,-Includes-Formal-Logic,-Automata-Theory,-Switching-Theory,-Programming-Theory); 723.2 (Data-Processing); 723.3 (Database-Systems); 723.5 (Computer-Applications); 921.6 (Numerical-Methods)

PY: 2007

LA: English

DT: CA (Conference-Article)

TR: T (Theoretical)

UD: 200742

AN: E20074110860617

Notice COMPENDEX

9TI: Handwriting biometrics: Issues of integration in identification documents and sensor interoperability

AU: Vielhauer-Claus

AF: Otto-von-Guericke University Magdeburg, D-39016 Magdeburg, Germany

SO: Journal-of-Electronic-Imaging. , v 15 n 4 October/December 2006v 15 n 4 October/December 2006

ST: Journal-of-Electronic-Imaging

IS: 1017-9909

CO: JEIME5

AB: Biometric applications are stepping into a new dimension with respect to size and complexity, due to the decision of many countries to introduce biometric travel documents. Thus, many problems become increasingly relevant, two of which we address: secure and privacy-preserving storage of biometric references and issues of sensor interoperability. For the first problem, a review of alternative storage methods (physical, optical, centralized database) is presented under consideration of security aspects. The second problem is addressed by a review of scientific activities in the domain and a detailed discussion for one specific exemplary biometric: online handwriting. Results of an experimental intersensor cross-validation are presented, which consist of different semantic classes, forgery strengths, and sensor characteristics. The main conclusions are that the degradation of recognition accuracy in online signature verification may reach up to a factor of 4.4 for nonskilled forgeries in cross-sensor verification scenarios, but is not as significant for skilled forgeries and is of the same order as for fingerprint systems. Further, the enrollment data representation of the chosen reference algorithm, BioHash, is compact enough for storage in identity (ID) documents. Thus, the application of online handwriting as supplementary modality appears feasible in future interoperable ID document scenarios. copy 2006 SPIE and IS&T. 46 Refs.

MH: Biometrics-

DE: Data-privacy; Digital-storage; Electronic-document-identification-systems; Image-recognition; Interoperability-; Semantics-

FL: Handwriting-biometrics; Online-handwriting; Sensor-interoperability; Data-representation

CC: 461.8 (Biotechnology); 722.1 (Data-Storage,-Equipment-and-Techniques); 723.2 (Data-Processing); 723.5 (Computer-Applications); 903.2 (Information-Dissemination)

PY: 2006

LA: English

DT: JA (Journal-Article)

TR: T (Theoretical); X (Experimental)

UD: 200711

AN: E20071110477281

Notice COMPENDEX

10TI: A robust automatic face recognition system for real-time personal identification

AU: Li-Qin; Cheung-King-Hong; You-Jane; Tong-Raymond; Mak-Arthur

AF: Department of Computing Hong Kong Polytechnic University, Hong Kong, Hong Kong

SO: Sensor-Review. v 26 n 1 2006, p 38-44

ST: Sensor-Review

IS: 0260-2288

CO: SNRVDY

AB: Purpose - Aims to develop an efficient and robust system for real-time personal identification by automatic face recognition. Design/methodology/ approach - A wavelet-based image hierarchy and a guided coarse-to-fine search scheme are introduced to improve the computation efficiency in

the face detection task. In addition, a Gabor-based low feature dimensional pattern is proposed to deal with the face recognition problem. Findings - The proposal of a wavelet-based image hierarchy and a guided coarse-to-fine search scheme is effective to improve the computation efficiency in the face detection task. The introduction of a low feature dimensional pattern is powerful to cope with the transformed appearance-based face recognition problem. In addition, the use of aggregated Gabor filter responses to represent face images provides a better solution to face feature extraction. Research limitations/implications - Provides guidance in the design of automatic face recognition system for real-time personal identification. Practical implications - Biometrics recognition has been emerging as a new and effective identification technology that attains certain level of maturity. Among many body characteristics that have been used, face is one of the most commonly used characteristics and has drawn considerably large attentions. An automated system to confirm an individual's identity employing features of face is very attractive in many specialized fields. Originality/value - Introduces a wavelet-based image hierarchy and a guided coarse-to-fine search scheme to improve the computation efficiency in the face detection task. Introduces a Gabor-based low feature dimensional pattern to deal with the face recognition problem. copy Emerald Group Publishing Limited. 15 Refs.

MH: Face-recognition

DE: Pattern-recognition-systems; Real-time-systems; Wavelet-transforms; Image-processing; Feature-extraction; Physiology-

FL: Identification-; Body-regions; Human-physiology

CC: 716 (Electronic-Equipment,-Radar,-Radio-and-Television); 722.4 (Digital-Computers-and-Systems); 921.3 (Mathematical-Transformations); 723.2 (Data-Processing); 461.9 (Biology)

PY: 2006

LA: English

DT: JA (Journal-Article)

TR: T (Theoretical)

UD: 200610

AN: E2006099736791

Notice COMPENDEX

11TI: Earmarked left bracket biometrics right bracket

AU: Collins-Luke

SO: IEE-Review. v 51 n 11 November 2005, p 38-40

ST: IEE-Review

IS: 0953-5683

CO: IEREEF

AB: Using ears as the basis for a biometric is a novel idea, but then ears have some novel features. They are normally found in the same place, on either side of the head, no matter who you are looking at. Many forms of biometrics are troubled by the ravages of time. The ear, however, has a rich and stable structure, although they may get bigger as the underlying cartilage grows, and is not affected by changes in facial expression. It is big, compared to a retina, iris or thumbprint, so it is easier to photograph. Its position on the side of the head makes the background predictable (hair or no hair), making distinguishing 'ear' from 'not ear' simpler. The fact that it is possible to create biometric data from a picture of an ear makes gathering that data more hygienic and less stressful than taking iris scans or fingerprints. These are some of the reasons why researchers at the University of Southampton have been investigating using ears to identify people uniquely over the

long term. As with other forms of biometrics, simple images of an ear are not enough to identify one from another uniquely and reliably. Variations of the size and position of the ear within an image and of lighting conditions make direct comparisons unreliable. Instead, it is necessary to extract properties of the image that do not vary with these changes. The article examines the techniques used.

MH: Pattern-recognition

DE: Feature-extraction; Image-processing; Electromagnetic-field-theory; Low-pass-filters

FL: Biometrics-; Ears-; Force-field-transform

CC: 723.5 (Computer-Applications); 723.2 (Data-Processing); 701 (Electricity-and-Magnetism); 703.2 (Electric-Filters)

PY: 2005

LA: English

DT: JA (Journal-Article)

TR: G (General Review)

UD: 200605

AN: E2006049659492

Notice Inspec

12TI: Personal identification method using speckle patterns produced by pulse-laser induced optical damage in a transparent material

AU: Tokita-D; Saito-T; Sakurada-N; Ishii-Y; Watanabe-K

AA: Div. of Information Syst. Sci., Soka Univeristy, Tokyo, Japan

SO: Review-of-Laser-Engineering. April 2007; 35(4): 259-64

PB: Laser Soc. Japan

CP: Japan

RT: Journal-Paper

LA: Japanese

AB: A new personal identification method has been investigated which promises to be a useful technique for protecting society against the recent increase in card counterfeiting crimes. The method uses micro-cracks created in a transparent material made of acrylic resin as an ID-writer by means of a highly focused, diode-pumped second-harmonic 532-nm YAG laser with an 8-ns pulse length. Various ID patterns were produced by varying the shape, the arrangement, and the number of spots using the laser-induced crack-creation technique. Using visible laser speckle patterns obtained from the micro-cracking region, reading image analysis was successfully accomplished by using a template matching method in an ID-reader configuration. The results indicate the possibility of up to 6.4 million ID discriminations. This experimental result indicated that the false acceptance rate and false rejection rate were sufficiently small to make this method a viable personal identification method

RF: 19

DE: biometrics-access-control; high-speed-optical-techniques; laser-beam-effects; microcracks-; resins-; speckle-; transparency-

ID: personal-identification-method; speckle-patterns; pulse-laser-induced-optical-damage; transparent-material; microcracks-; acrylic-resin; laser-induced-crack-creation-technique; image-analysis; 532-nm; 8-ns

CL: A6180B- Ultraviolet,-visible-and-infrared-radiation-effects; A4280W- Ultrafast-optical-techniques; A6220M- Fatigue,-brittleness,-fracture,-and-cracks; A8140N- Fatigue,-embrittlement,-and-fracture
CC: A6180B; A61; A6; A4280W; A42; A4; A6220M; A62; A8140N; A81; A8
SF: Physics-
TR: P (Practical); X (Experimental)
NI: wavelength 5.32 E-07 m; time 8.0 E-09 s
IS: 0387-0200
CO: REKEDA
PY: 2007
SC: 0387-0200(200704)35:4L.259:PIMU;1-2
ST: 0387-0200(200704)35:4L.259:PIMU;1-2
AN: 9471737
SK: 0387-020000035000004000259
CS: Copyright 2007, The Institution of Engineering and Technology
UD: 2007023

Notice Inspec

13TI: Confidence and reliability measures in speaker verification

AU: Richiardi-J; Drygajlo-A; Prodanov-P
AA: Signal Process. Inst., Swiss Fed. Inst. of Technol. Lausanne, Switzerland
SO: Journal-of-the-Franklin-Institute. Sept. 2006; 343(6): 574-95
PB: Elsevier
CP: UK
RT: Journal-Paper
DOI: doi:10.1016/j.jfranklin.2006.07.002
LA: English
AB: Speaker verification is a biometric identity verification technique whose performance can be severely degraded by the presence of noise. Using a coherent notation, we reformulate and review several methods which have been proposed to quantify the uncertainty in verification results, some with a view to coping with the effects of mismatched training-testing environments. We also include a recently proposed method, which is firmly rooted in a probabilistic approach and interpretation, and explicitly measures signal quality before assigning a reliability value to the speaker verification classifier's decision. We evaluate the performance of the confidence and reliability measures over a noisy 251-users database, showing that taking into account signal-domain quality can lead to better accuracy in prediction of classifier errors. We discuss possible strategies for using the measures in a speaker verification system, balancing acquisition duration and verification error rate. [All rights reserved Elsevier]
RF: 33
DE: biometrics-access-control; reliability-theory; speaker-recognition
ID: confidence-measures; reliability-measures; speaker-verification; biometric-identity-verification; probabilistic-approach; signal-quality; signal-domain-quality; acquisition-duration; verification-error-rate; confidence-estimation; reliability-estimation; error-modelling; Bayesian-networks
CL: B6130E- Speech-recognition-and-synthesis; B0170N- Reliability; C5260S- Speech-processing-techniques; C1210B- Reliability-theory
CC: B6130E; B61; B6; B0170N; B01; B0; C5260S; C52; C5; C1210B; C12; C1

SF: Electrical-and-Electronic-Engineering; Computers-and-Control
TR: P (Practical); T (Theoretical-or-Mathematical)
IS: 0016-0032
CO: JFINAB
PY: 2006
DN: S0016-0032(06)00101-3
SC: 0016-0032(200609)343:6L.574:CRMS;1-X
ST: 0016-0032(200609)343:6L.574:CRMS;1-X
AN: 9236854
SK: 0016-003200343000006000574
XURL: DOI; Digital-object-identifier
CS: Copyright 2007, The Institution of Engineering and Technology
UD: 2007002

Notice Inspec

14TI: Biometric recognition based on line shape descriptors

AU: Cervantes-A; Sanchez-G; Lladós-J; Borrás-A; Rodríguez-A
AA: Departament de Ciències de la Computació, Univ. Autònoma de Barcelona, Catalunya, Spain
ED: Liu-W; Lladós-J
SO: Graphics-Recognition.-Ten-Years-Review-and-Future-Perspectives.-6th-International-Workshop.-GREC-2005.-Revised-Selected-Papers-Lecture-Notes-in-Computer-Science-Vol.-3926. 2005: 346-57
PB: Springer-Verlag, Berlin, Germany
CP: Germany
RT: Conference-Paper
CD: Graphics Recognition. Ten Years Review and Future Perspectives. 6th International Workshop. GREC 2005. Revised Selected Papers. Hong Kong, China. 25-26 Aug. 2005.
LA: English
AB: In this paper, we propose biometric descriptors inspired by shape signatures traditionally used in graphics recognition approaches. In particular several methods based on line shape descriptors used to identify newborns from the biometric information of the ears are developed. The process steps are the following: image acquisition, ear segmentation, ear normalization, feature extraction and identification. Several shape signatures are defined from contour images. These are formulated in terms of zoning and contour crossings descriptors. Experimental results are presented to demonstrate the effectiveness of the used techniques
RF: 13
DE: biometrics-access-control; computer-graphics; feature-extraction; image-recognition; image-segmentation
ID: biometric-recognition; line-shape-descriptors; biometric-descriptors; shape-signatures; graphics-recognition; biometric-information; image-acquisition; ear-segmentation; ear-normalization; feature-extraction; feature-identification; contour-images
CL: B6135E- Image-recognition; C5260B- Computer-vision-and-image-processing-techniques; C1250M- Image-recognition; C6130B- Graphics-techniques
CC: B6135E; B61; B6; C5260B; C52; C5; C1250M; C12; C1; C6130B; C61; C6
SF: Electrical-and-Electronic-Engineering; Computers-and-Control
TR: P (Practical); X (Experimental)

IB: 3540347119
PY: 2005
AN: 9027460
SK: 3540347119000346
CS: Copyright 2006, The Institution of Engineering and Technology
UD: 2006032

Notice Inspec

15TI: [Borderlands of confusion \[biometric passports\]](#)

AU: Edwards-C
SO: IEE-Review. Nov. 2005; 51(11): 34-7
PB: IEE
CP: UK
RT: Journal-Paper
LA: English
AB: Like it or not, biometric passports are the future. Across the world, governments are switching to biometric passports, and over the next year, close to 30 countries will begin the job of inserting electronic chips into the passports of their citizens.; however, their citizens may not be entirely happy with the results. This article looks at the stringent e-passport demands to come
DE: authorisation-; biometrics-access-control; face-recognition; government-data-processing; public-administration
ID: biometric-passports; e-passport; electronic-chips; citizens-
CL: C7130- Public-administration; C1250M- Image-recognition; C5260B- Computer-vision-and-image-processing-techniques; C6130S- Data-security
CC: C7130; C71; C7; C1250M; C12; C1; C5260B; C52; C5; C6130S; C61; C6
SF: Computers-and-Control
TR: G (General-or-Review); P (Practical)
IS: 0953-5683
CO: IEREEF
PY: 2005
SC: 0953-5683(200511)51:11L.34:BCBP;1-7
ST: 0953-5683(200511)51:11L.34:BCBP;1-7
AN: 8648548
SK: 0953-568300051000011000034
CS: Copyright 2005, IEE
UD: 2005046

Notice Inspec

16TI: [Nation shall speak unto nation \[biometric passports\]](#)

AU: Evans-Pughe-C
SO: IEE-Review. Feb. 2005; 51(2): 24-5
PB: IEE
CP: UK
RT: Journal-Paper

LA: English

AB: This article looks at the problems in developing universally readable biometric passports, and notes that nations need to agree on standards for biometric algorithms, if passport data is to be truly secure

DE: biometrics-access-control; data-privacy; face-recognition; fingerprint-identification; security-of-data; visual-databases

ID: universally-readable-biometric-passports; biometric-algorithm-standards; passport-data-security; digital-facial-images; fingerprints-

CL: C0230- Economic,-social-and-political-aspects-of-computing; C1250M- Image-recognition; C5260B- Computer-vision-and-image-processing-techniques

CC: C0230; C02; C0; C1250M; C12; C1; C5260B; C52; C5

SF: Computers-and-Control

TR: G (General-or-Review)

IS: 0953-5683

CO: IEREEF

PY: 2005

SC: 0953-5683(200502)51:2L.24:NSSU;1-A

ST: 0953-5683(200502)51:2L.24:NSSU;1-A

AN: 8278084

SK: 0953-568300051000002000024

CS: Copyright 2005, IEE

UD: 2005006