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Audio- and Video-Based Biometric Person Authentication

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Preface

This book collects the research work presented at the 4th International Conference on Audio- and Video-Based Biometric Person Authentication that took place at the University of Surrey, Guildford, UK, in June 2003. We were pleased to see a surge of interest in AVBPA. We received many more submissions than before and this reflects not just the good work put in by previous organizers and participants, but also the increasing world-wide interest in biometrics. With grateful thanks to our program committee, we had a fine program indeed.

The papers concentrate on major established biometrics such as face and speech, and we continue to see the emergence of gait as a new research focus, together with other innovative approaches including writer and palmprint identification. The face-recognition papers show advances not only in recognition techniques, but also in application capabilities and covariate analysis (now with the inclusion of time as a recognition factor), and even in synthesis to evaluate wider recognition capability. Fingerprint analysis now includes study of the effects of compression, and new ways for compression, together with refined study of holistic vs. minutiae and feature set selection, areas of interest to the biometrics community as a whole. The gait presentations focus on new approaches for temporal recognition together with analysis of performance capability and new approaches to improve generalization in performance.

The speech papers reflect the wide range of possible applications together with new uses of visual information. Interest in data fusion continues to increase. But it is not just the more established areas that were of interest at AVBPA 2003. As ever in this innovative technology, there are always new ways to recognize people, as reflected in papers on on-line writer identification and palm print analysis. Iris recognition is also represented, as are face and person extraction in video.

The growing industry in biometrics was reflected in presentations with a specific commercial interest: there are papers on smart cards, wireless devices, architectures, and implementation factors, all of considerable consequence in the deployment of biometric systems. A competition for the best face-authentication (verification) algorithms took place in conjunction with the conference, and the results are reported here.

The papers are complemented by invited presentations by Takeo Kanade (Carnegie Mellon University), Jerry Friedman (Stanford University), and Fred-eric Bimbot (INRIA). All in all, AVBPA continues to offer a snapshot of research in this area from leading institutions around the world. If these papers and this conference inspire new research in this fascinating area, then this conference can be deemed to be truly a success.

Organization

AVBPA 2003 was organized by

- the **Centre for Vision, Speech and Signal Processing**, University of Surrey, UK, and
- **TC-14** of IAPR (International Association for Pattern Recognition).

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Table of Contents

Face I

Robust Face Recognition in the Presence of Clutter	1
<i>A.N. Rajagopalan, Rama Chellappa, and Nathan Koterba</i>	
An Image Preprocessing Algorithm for Illumination Invariant Face Recognition	10
<i>Ralph Gross and Vladimir Brajovic</i>	
Quad Phase Minimum Average Correlation Energy Filters for Reduced Memory Illumination Tolerant Face Authentication	19
<i>Marios Savvides and B.V.K. Vijaya Kumar</i>	
Component-Based Face Recognition with 3D Morphable Models	27
<i>Jennifer Huang, Bernd Heisele, and Volker Blanz</i>	

Face II

A Comparative Study of Automatic Face Verification Algorithms on the BANCA Database	35
<i>M. Sadeghi, J. Kittler, A. Kostin, and K. Messer</i>	
Assessment of Time Dependency in Face Recognition: An Initial Study	44
<i>Patrick J. Flynn, Kevin W. Bowyer, and P. Jonathon Phillips</i>	
Constraint Shape Model Using Edge Constraint and Gabor Wavelet Based Search	52
<i>Baochang Zhang, Wen Gao, Shiguang Shan, and Wei Wang</i>	
Expression-Invariant 3D Face Recognition	62
<i>Alexander M. Bronstein, Michael M. Bronstein, and Ron Kimmel</i>	

Speech

Automatic Estimation of a Priori Speaker Dependent Thresholds in Speaker Verification	70
<i>Javier R. Saeta and Javier Hernando</i>	
A Bayesian Network Approach for Combining Pitch and Reliable Spectral Envelope Features for Robust Speaker Verification ...	78
<i>Mijail Arcienega and Andrzej Drygajlo</i>	

Cluster-Dependent Feature Transformation
for Telephone-Based Speaker Verification86
Chi-Leung Tsang, Man-Wai Mak, and Sun-Yuan Kung

Searching through a Speech Memory
for Text-Independent Speaker Verification95
Dijana Petrovska-Delacrétaz, Asmaa El Hannani, and Gérard Chollet

Poster Session I

LUT-Based Adaboost for Gender Classification 104
Bo Wu, Haizhou Ai, and Chang Huang

Independent Component Analysis and Support Vector Machine
for Face Feature Extraction111
Gianluca Antonini, Vlad Popovici, and Jean-Philippe Thiran

Real-Time Emotion Recognition Using Biologically Inspired Models119
Keith Anderson and Peter W. McOwan

A Dual-Factor Authentication System Featuring Speaker Verification
and Token Technology 128
Purdy Ho and John Armington

Wavelet-Based 2-Parameter Regularized Discriminant Analysis
for Face Recognition137
Dao-Qing Dai and P.C. Yuen

Face Tracking and Recognition from Stereo Sequence 145
Jian-Gang Wang, Ronda Venkateswarlu, and Eng Thiam Lim

Face Recognition System Using Accurate and Rapid Estimation
of Facial Position and Scale154
Takatsugu Hirayama, Yoshio Iwai, and Masahiko Yachida

Fingerprint Enhancement Using Oriented Diffusion Filter 164
Jiangang Cheng, Jie Tian, Hong Chen, Qun Ren, and Xin Yang

Visual Analysis of the Use of Mixture Covariance Matrices
in Face Recognition172
Carlos E. Thomaz and Duncan F. Gillies

A Face Recognition System Based on Local Feature Analysis182
Stefano Arca, Paola Campadelli, and Raffaella Lanzarotti

Face Detection Using an SVM Trained in Eigenfaces Space190
Vlad Popovici and Jean-Philippe Thiran

Face Detection and Facial Component Extraction
by Wavelet Decomposition and Support Vector Machines 199
Dihua Xi and Seong-Whan Lee

U-NORM Likelihood Normalization in PIN-Based Speaker Verification Systems	208
<i>D. Garcia-Romero, J. Gonzalez-Rodriguez, J. Fierrez-Aguilar, and J. Ortega-Garcia</i>	
Facing Position Variability in Minutiae-Based Fingerprint Verification through Multiple References and Score Normalization Techniques	214
<i>D. Simon-Zorita, J. Ortega-Garcia, M. Sanchez-Asenjo, and J. Gonzalez-Rodriguez</i>	
Iris-Based Personal Authentication Using a Normalized Directional Energy Feature	224
<i>Chul-Hyun Park, Joon-Jae Lee, Mark J.T. Smith, and Kil-Houm Park</i>	
An HMM On-line Signature Verification Algorithm	233
<i>Daigo Muramatsu and Takashi Matsumoto</i>	
Automatic Pedestrian Detection and Tracking for Real-Time Video Surveillance	242
<i>Hee-Deok Yang, Bong-Kee Sin, and Seong-Whan Lee</i>	
Visual Features Extracting & Selecting for Lipreading	251
<i>Hong-xun Yao, Wen Gao, Wei Shan, and Ming-hui Xu</i>	
An Evaluation of Visual Speech Features for the Tasks of Speech and Speaker Recognition	260
<i>Simon Lucey</i>	
Feature Extraction Using a Chaincoded Contour Representation of Fingerprint Images	268
<i>Venu Govindaraju, Zhixin Shi, and John Schneider</i>	
Hypotheses-Driven Affine Invariant Localization of Faces in Verification Systems	276
<i>M. Hamouz, J. Kittler, J.K. Kamarainen, and H. Kälviäinen</i>	
Shape Based People Detection for Visual Surveillance Systems	285
<i>M. Leo, P. Spagnolo, G. Attolico, and A. Distanto</i>	
Real-Time Implementation of Face Recognition Algorithms on DSP Chip	294
<i>Seong-Whan Lee, Sang-Woong Lee, and Ho-Choul Jung</i>	
Robust Face-Tracking Using Skin Color and Facial Shape	302
<i>Hyung-Soo Lee, Daijin Kim, and Sang-Youn Lee</i>	

Fingerprint

Fusion of Statistical and Structural Fingerprint Classifiers	310
<i>Gian Luca Marcialis, Fabio Roli, and Alessandra Serrau</i>	

Learning Features for Fingerprint Classification 318
Xuejun Tan, Bir Bhanu, and Yingqiang Lin

Fingerprint Matching with Registration Pattern Inspection 327
Hong Chen, Jie Tian, and Xin Yang

Biometric Template Selection: A Case Study in Fingerprints 335
Anil Jain, Umut Uludag, and Arun Ross

Orientation Scanning to Improve Lossless Compression
of Fingerprint Images 343
Johan Thärnå, Kenneth Nilsson, and Josef Bigun

Image, Video Processing, Tracking

A Nonparametric Approach to Face Detection Using Ranklets 351
Fabrizio Smeraldi

Refining Face Tracking with Integral Projections 360
Ginés García Mateos

Glasses Removal from Facial Image
Using Recursive PCA Reconstruction 369
*Jeong-Seon Park, You Hwa Oh, Sang Chul Ahn,
and Seong-Whan Lee*

Synthesis of High-Resolution Facial Image Based
on Top-Down Learning 377
Bon-Woo Hwang, Jeong-Seon Park, and Seong-Whan Lee

A Comparative Performance Analysis of JPEG 2000 vs. WSQ
for Fingerprint Image Compression 385
Miguel A. Figuerola-Villanueva, Nalini K. Ratha, and Ruud M. Bolle

General

New Shielding Functions to Enhance Privacy and Prevent Misuse
of Biometric Templates 393
Jean-Paul Linnartz and Pim Tuyls

The NIST HumanID Evaluation Framework 403
Ross J. Micheals, Patrick Grother, and P. Jonathon Phillips

Synthetic Eyes 412
Behrooz Kamgar-Parsi, Behzad Kamgar-Parsi, and Anil K. Jain

Poster Session II

Maximum-Likelihood Deformation Analysis of Different-Sized Fingerprints	421
<i>Yuliang He, Jie Tian, Qun Ren, and Xin Yang</i>	
Dental Biometrics: Human Identification Using Dental Radiographs	429
<i>Anil K. Jain, Hong Chen, and Silviu Minut</i>	
Effect of Window Size and Shift Period in Mel-Warped Cepstral Feature Extraction on GMM-Based Speaker Verification	438
<i>C.C. Leung and Y.S. Moon</i>	
Discriminative Face Recognition	446
<i>Florent Perronnin and Jean-Luc Dugelay</i>	
Cross-Channel Histogram Equalisation for Colour Face Recognition	454
<i>Stephen King, Gui Yun Tian, David Taylor, and Steve Ward</i>	
Open World Face Recognition with Credibility and Confidence Measures	462
<i>Fayin Li and Harry Wechsler</i>	
Enhanced VQ-Based Algorithms for Speech Independent Speaker Identification	470
<i>Ningping Fan and Justinian Rosca</i>	
Fingerprint Fusion Based on Minutiae and Ridge for Enrollment	478
<i>Dongjae Lee, Kyoungtaek Choi, Sanghoon Lee, and Jaehie Kim</i>	
Face Hallucination and Recognition	486
<i>Xiaogang Wang and Xiaou Tang</i>	
Robust Features for Frontal Face Authentication in Difficult Image Conditions	495
<i>Conrad Sanderson and Samy Bengio</i>	
Facial Recognition in Video	505
<i>Dmitry O. Gorodnichy</i>	
Face Authentication Based on Multiple Profiles Extracted from Range Data	515
<i>Yijun Wu, Gang Pan, and Zhaohui Wu</i>	
Eliminating Variation of Face Images Using Face Symmetry	523
<i>Yan Zhang and Jufu Feng</i>	
Combining SVM Classifiers for Multiclass Problem: Its Application to Face Recognition	531
<i>Jaepil Ko and Hyeran Byun</i>	
A Bayesian MCMC On-line Signature Verification	540
<i>Mitsuru Kondo, Daigo Muramatsu, Masahiro Sasaki, and Takashi Matsumoto</i>	

Illumination Normalization Using Logarithm Transforms
 for Face Authentication 549
Marios Savvides and B.V.K. Vijaya Kumar

Performance Evaluation of Face Recognition Algorithms
 on the Asian Face Database, KFDB 557
*Bon-Woo Hwang, Hyeran Byun, Myoung-Cheol Roh,
 and Seong-Whan Lee*

Automatic Gait Recognition via Fourier Descriptors
 of Deformable Objects 566
Stuart D. Mowbray and Mark S. Nixon

A Study on Performance Evaluation of Fingerprint Sensors 574
*Hyosup Kang, Bongku Lee, Hakil Kim, Daecheol Shin,
 and Jaesung Kim*

An Improved Fingerprint Indexing Algorithm
 Based on the Triplet Approach 584
Kyoungtaek Choi, Dongjae Lee, Sanghoon Lee, and Jaihie Kim

A Supervised Approach in Background Modelling
 for Visual Surveillance 592
P. Spagnolo, M. Leo, G. Attolico, and A. Distante

Human Recognition on Combining Kinematic and Stationary Features 600
Bir Bhanu and Ju Han

Architecture for Synchronous Multiparty Authentication
 Using Biometrics 609
Sunil J. Noronha, Chitra Dorai, Nalini K. Ratha, and Ruud M. Bolle

Boosting a Haar-Like Feature Set for Face Verification 617
Bernhard Fröba, Sandra Stecher, and Christian Küblbeck

The BANCA Database and Evaluation Protocol 625
*Enrique Bailly-Baillié, Samy Bengio, Frédéric Bimbot, Miroslav Hamouz,
 Josef Kittler, Johnny Mariéthoz, Jiri Matas, Kieron Messer, Vlad Popovici,
 Fabienne Porée, Belen Ruiz, and Jean-Philippe Thiran*

A Speaker Pruning Algorithm for Real-Time Speaker Identification 639
Tomi Kinnunen, Evgeny Karpov, and Pasi Fränti

“Poor Man” Vote with M -ary Classifiers.
 Application to Iris Recognition 647
V. Vigneron, H. Maaref, and S. Lelandais

Handwriting, Signature, Palm

Complete Signal Modeling and Score Normalization
 for Function-Based Dynamic Signature Verification 658
*J. Ortega-García, J. Fierrez-Aguilar, J. Martín-Rello,
 and J. Gonzalez-Rodriguez*

Personal Verification Using Palmprint and Hand Geometry Biometric	668
<i>Ajay Kumar, David C.M. Wong, Helen C. Shen, and Anil K. Jain</i>	
A Set of Novel Features for Writer Identification	679
<i>Caroline Hertel and Horst Bunke</i>	
Combining Fingerprint and Hand-Geometry Verification Decisions	688
<i>Kar-Ann Toh, Wei Xiong, Wei-Yun Yau, and Xudong Jiang</i>	
Iris Verification Using Correlation Filters	697
<i>B.V.K. Vijaya Kumar, Chunyan Xie, and Jason Thornton</i>	

Gait

Gait Analysis for Human Identification	706
<i>A. Kale, N. Cuntoor, B. Yegnanarayana, A.N. Rajagopalan, and R. Chellappa</i>	
Performance Analysis of Time-Distance Gait Parameters under Different Speeds	715
<i>Rawesak Tanawongsuwan and Aaron Bobick</i>	
Novel Temporal Views of Moving Objects for Gait Biometrics	725
<i>Stuart P. Prismall, Mark S. Nixon, and John N. Carter</i>	
Gait Shape Estimation for Identification	734
<i>David Tolliver and Robert T. Collins</i>	

Fusion

Audio-Visual Speaker Identification Based on the Use of Dynamic Audio and Visual Features	743
<i>Niall Fox and Richard B. Reilly</i>	
Scalability Analysis of Audio-Visual Person Identity Verification	752
<i>Jacek Czyz, Samy Bengio, Christine Marcel, and Luc Vandendorpe</i>	
A Bayesian Approach to Audio-Visual Speaker Identification	761
<i>Ara V. Nefian, Lu Hong Liang, Tiejian Fu, and Xiao Xing Liu</i>	
Multimodal Authentication Using Asynchronous HMMs	770
<i>Samy Bengio</i>	
Theoretic Evidence k-Nearest Neighbourhood Classifiers in a Bimodal Biometric Verification System	778
<i>Andrew Teoh Beng Jin, Salina Abdul Samad, and Aini Hussain</i>	

Poster Session III

Combined Face Detection/Recognition System for Smart Rooms 787
Jia Kui and Liyanage C. De Silva

Capabilities of Biometrics for Authentication in Wireless Devices 796
Pauli Tikkanen, Seppo Puolitaival, and Ilkka Käsälä

Combining Face and Iris Biometrics for Identity Verification 805
Yunhong Wang, Tieniu Tan, and Anil K. Jain

Experimental Results on Fusion of Multiple Fingerprint Matchers 814
Gian Luca Marcialis and Fabio Roli

Predicting Large Population Data Cumulative Match Characteristic
 Performance from Small Population Data 821
Amos Y. Johnson, Jie Sun, and Aaron F. Bobick

A Comparative Evaluation of Fusion Strategies
 for Multimodal Biometric Verification 830
*J. Fierrez-Aguilar, J. Ortega-Garcia, D. Garcia-Romero,
 and J. Gonzalez-Rodriguez*

Iris Feature Extraction Using Independent Component Analysis 838
Kwanghyuk Bae, Seungin Noh, and Jaihie Kim

BIOMET: A Multimodal Person Authentication Database
 Including Face, Voice, Fingerprint, Hand and Signature Modalities 845
*Sonia Garcia-Salicetti, Charles Beumier, Gérard Chollet,
 Bernadette Dorizzi, Jean Leroux les Jardins, Jan Lunter, Yang Ni,
 and Dijana Petrovska-Delacrétaz*

Fingerprint Alignment Using Similarity Histogram 854
Tanghai Zhang, Jie Tian, Yuliang He, Jiangan Cheng, and Xin Yang

A Novel Method to Extract Features for Iris Recognition System 862
Seung-In Noh, Kwanghyuk Bae, Yeunggyu Park, and Jaihie Kim

Resampling for Face Recognition 869
Xiaoguang Lu and Anil K. Jain

Toward Person Authentication with Point Light Display
 Using Neural Network Ensembles 878
Sung-Bae Cho and Frank E. Pollick

Fingerprint Verification Using Correlation Filters 886
Krithika Venkataramani and B.V.K. Vijaya Kumar

On the Correlation of Image Size to System Accuracy
 in Automatic Fingerprint Identification Systems 895
*J.K. Schneider, C.E. Richardson, F.W. Kiefer,
 and Venu Govindaraju*

A JC-BioAPI Compliant Smart Card with Biometrics for Secure Access Control	903
<i>Michael Osborne and Nalini K. Ratha</i>	
Comparison of MLP and GMM Classifiers for Face Verification on XM2VTS	911
<i>Fabien Cardinaux, Conrad Sanderson, and Sébastien Marcel</i>	
Fast Frontal-View Face Detection Using a Multi-path Decision Tree	921
<i>Bernhard Fröba and Andreas Ernst</i>	
Improved Audio-Visual Speaker Recognition via the Use of a Hybrid Combination Strategy	929
<i>Simon Lucey and Tsuhan Chen</i>	
Face Recognition Vendor Test 2002 Performance Metrics	937
<i>Patrick Grother, Ross J. Micheals, and P. Jonathon Phillips</i>	
Posed Face Image Synthesis Using Nonlinear Manifold Learning	946
<i>Eunok Cho, Daijin Kim, and Sang-Youn Lee</i>	
Pose for Fusing Infrared and Visible-Spectrum Imagery	955
<i>Jian-Gang Wang and Ronda Venkateswarlu</i>	
 AVBPA2003 Face Authentication Contest	
Face Verification Competition on the XM2VTS Database	964
<i>Kieron Messer, Josef Kittler, Mohammad Sadeghi, Sebastien Marcel, Christine Marcel, Samy Bengio, Fabien Cardinaux, C. Sanderson, Jacek Czyn, Luc Vandendorpe, Sanun Srisuk, Maria Petrou, Werasak Kurutach, Alexander Kadyrov, Roberto Paredes, B. Kepenekci, F.B. Tek, G.B. Akar, Farzin Deravi, and Nick Mavity</i>	
Author Index	975