

Table of Contents

Iris

Iris Recognition at a Distance	1
<i>Craig Fancourt, Luca Bogoni, Keith Hanna, Yanlin Guo, Richard Wildes, Naomi Takahashi, and Uday Jain</i>	
Iris Recognition Using Fourier-Wavelet Features	14
<i>Ping S. Huang, Chung-Shi Chiang, and Ji-Ren Liang</i>	
Specific Texture Analysis for Iris Recognition	23
<i>Emine Krichen, Lorène Allano, Sonia Garcia-Salicetti, and Bernadette Dorizzi</i>	
A Study on Iris Image Restoration	31
<i>Byung Jun Kang and Kang Ryoung Park</i>	

Face I (Short)

Eye Perturbation Approach for Robust Recognition of Inaccurately Aligned Faces	41
<i>Jaesik Min, Kevin W. Bowyer, and Patrick J. Flynn</i>	
On Combining Textural and Geometrical Scores for Discriminative Face Authentication	51
<i>José Luis Alba-Castro and Daniel González-Jiménez</i>	
A One Bit Facial Asymmetry Code (FAC) in Fourier Domain for Human Recognition	61
<i>Sinjini Mitra, Marios Savvides, and B.V.K. Vijaya Kumar</i>	
Face Recognition with the Multiple Constrained Mutual Subspace Method	71
<i>Masashi Nishiyama, Osamu Yamaguchi, and Kazuhiro Fukui</i>	
A Flexible Object Model for Recognising and Synthesising Facial Expressions . . .	81
<i>Andreas Tewes, Rolf P. Würtz, and Christoph von der Malsburg</i>	
Face Reconstruction Across Different Poses and Arbitrary Illumination Conditions	91
<i>Sen Wang, Lei Zhang, and Dimitris Samaras</i>	
Stepwise Reconstruction of High-Resolution Facial Image Based on Interpolated Morphable Face Model	102
<i>Jeong-Seon Park and Seong-Whan Lee</i>	

Illumination Invariant Face Recognition Using Linear Combination of Face Exemplars	112
<i>Song-Hyang Moon, Sang-Woong Lee, and Seong-Whan Lee</i>	

Video-Based Face Recognition Using Bayesian Inference Model	122
<i>Wei Fan, Yunhong Wang, and Tieniu Tan</i>	

Finger-I (Short)

A Hybrid Swipe Fingerprint Mosaicing Scheme	131
<i>Yong-liang Zhang, Jie Yang, and Hong-tao Wu</i>	

A Study on Multi-unit Fingerprint Verification	141
<i>Kangrok Lee, Kang Ryoung Park, Jain Jang, Sanghoon Lee, and Jaihie Kim</i>	

A Fingerprint Authentication System Based on Mobile Phone	151
<i>Qi Su, Jie Tian, Xinjian Chen, and Xin Yang</i>	

Fingerprint Quality Indices for Predicting Authentication Performance	160
<i>Yi Chen, Sarat C. Dass, and Anil K. Jain</i>	

Registration of Fingerprints by Complex Filtering and by 1D Projections of Orientation Images	171
<i>Kenneth Nilsson and Josef Bigun</i>	

A Feature Map Consisting of Orientation and Inter-ridge Spacing for Fingerprint Retrieval	184
<i>Sung-Oh Lee, Yong-Guk Kim, and Gwi-Tae Park</i>	

A Graph Matching Based Approach to Fingerprint Classification Using Directional Variance	191
<i>Michel Neuhaus and Horst Bunke</i>	

Fingerprint Singular Points Detection and Direction Estimation with a “T” Shape Model	201
<i>Tong Liu, Pengwei Hao, and Chao Zhang</i>	

Face-I

Face Detection Based on the Manifold	208
<i>Ruiping Wang, Jie Chen, Shengye Yan, and Wen Gao</i>	

Local and Global Feature Extraction for Face Recognition	219
<i>Yongjin Lee, Kyunghye Lee, and Sunghum Pan</i>	

Video-Based Face Recognition Using Earth Mover’s Distance	229
<i>Jiangwei Li, Yunhong Wang, and Tieniu Tan</i>	

Face Recognition Based on Recursive Bayesian Fusion of Multiple Signals and Results from Expert Classifier Sets	239
<i>Michael Hild and Ryo Kuzui</i>	

Fingerprint

Principal Deformations of Fingerprints	250
<i>Sergey Novikov and Oleg Ushmaev</i>	
Fingerprint Mosaicking by Rolling and Sliding	260
<i>Kyoungtaek Choi, Hee-seung Choi, and Jaihie Kim</i>	
Minutiae Matching Based Fingerprint Verification Using Delaunay Triangulation and Aligned-Edge-Guided Triangle Matching	270
<i>Huimin Deng and Qiang Huo</i>	

Security and Smartcard

An Asymmetric Fingerprint Matching Algorithm for Java Card™	279
<i>Stefano Bistarelli, Francesco Santini, and Anna Vaccarelli</i>	
Scenario Based Performance Optimisation in Face Verification Using Smart Cards	289
<i>Thirimachos Bourlai, Kieron Messer, and Josef Kittler</i>	
Characterization, Similarity Score and Uniqueness Associated with Perspiration Pattern	301
<i>Aditya Abhyankar and Stephanie Schuckers</i>	
Fuzzy Vault for Fingerprints	310
<i>Umut Uludag, Sharath Pankanti, and Anil K. Jain</i>	

Short Oral

Infrared Face Recognition by Using Blood Perfusion Data	320
<i>Shi-Qian Wu, Wei Song, Li-Jun Jiang, Shou-Lie Xie, Feng Pan, Wei-Yun Yau, and Surendra Ranganath</i>	
On Finding Differences Between Faces	329
<i>Manuele Bicego, Enrico Grosso, and Massimo Tistarelli</i>	
Face Detection Using Look-Up Table Based Gentle AdaBoost	339
<i>Cem Demirkir and Bülent Sankur</i>	
Post-processing on LDA's Discriminant Vectors for Facial Feature Extraction	346
<i>Kuanquan Wang, Wangmeng Zuo, and David Zhang</i>	

An Integrated Prediction Model for Biometrics	355
<i>Rong Wang, Bir Bhanu, and Hui Chen</i>	
Active Shape Models with Invariant Optimal Features (IOF-ASMs)	365
<i>Federico Sukno, Sebastián Ordás, Costantine Butakoff, Santiago Cruz, and Alejandro Frangi</i>	
Palmprint Authentication Using Time Series	376
<i>Jian-Sheng Chen, Yiu-Sang Moon, and Hoi-Wo Yeung</i>	
Ear Biometrics by Force Field Convergence	386
<i>David J. Hurley, Mark S. Nixon, and John N. Carter</i>	

Short Oral-4

Towards Scalable View-Invariant Gait Recognition: Multilinear Analysis for Gait	395
<i>Chan-Su Lee and Ahmed Elgammal</i>	
Combining Verification Decisions in a Multi-vendor Environment	406
<i>Michael Beattie, B.V.K. Vijaya Kumar, Simon Lucey, and Ozan K. Tonguz</i>	
Gait Recognition by Combining Classifiers Based on Environmental Contexts . . .	416
<i>Ju Han and Bir Bhanu</i>	
Addressing the Vulnerabilities of Likelihood-Ratio-Based Face Verification	426
<i>Krzysztof Kryszczuk and Andrzej Drygajlo</i>	
Practical Biometric Authentication with Template Protection	436
<i>Pim Tuyls, Anton H.M. Akkermans, Tom A.M. Kevenaar, Geert-Jan Schrijen, Asker M. Bazen, and Raymond N.J. Veldhuis</i>	
A Study of Brute-Force Break-ins of a Palmprint Verification System	447
<i>Adams Kong, David Zhang, and Mohamed Kamel</i>	
Modification of Intersession Variability in On-Line Signature Verifier	455
<i>Yasunori Hongo, Daigo Muramatsu, and Takashi Matsumoto</i>	
MOC via TOC Using a Mobile Agent Framework	464
<i>Stefano Bistarelli, Stefano Frassi, and Anna Vaccarelli</i>	

Fusion

Improving Fusion with Margin-Derived Confidence in Biometric Authentication Tasks	474
<i>Norman Poh and Samy Bengio</i>	

A Classification Approach to Multi-biometric Score Fusion	484
<i>Yan Ma, Bojan Cukic, and Harshinder Singh</i>	
A Generic Protocol for Multibiometric Systems Evaluation on Virtual and Real Subjects	494
<i>Sonia Garcia-Salicetti, Mohamed Anouar Mellakh, Lorène Allano, and Bernadette Dorizzi</i>	

Multi-modal

Multi-biometrics 2D and 3D Ear Recognition	503
<i>Ping Yan and Kevin W. Bowyer</i>	
Biometric Authentication System Using Reduced Joint Feature Vector of Iris and Face	513
<i>Byungjun Son and Yillbyung Lee</i>	
An On-Line Signature Verification System Based on Fusion of Local and Global Information	523
<i>Julian Fierrez-Aguilar, Loris Nanni, Jaime Lopez-Peñalba, Javier Ortega-Garcia, and Davide Maltoni</i>	
Human Recognition at a Distance in Video by Integrating Face Profile and Gait	533
<i>Xiaoli Zhou, Bir Bhanu, and Ju Han</i>	

4:50 – 5:50 Oral-7 (Palm and Finger Surface)

Identity Verification Utilizing Finger Surface Features	544
<i>Damon L. Woodard and Patrick J. Flynn</i>	
Palmprint Authentication Based on Orientation Code Matching	555
<i>Xiangqian Wu, Kuanquan Wang, and David Zhang</i>	
A Novel Palm-Line Detector	563
<i>Li Liu and David Zhang</i>	

Speaker and Gait

A New On-Line Model Quality Evaluation Method for Speaker Verification	572
<i>Javier R. Saeta and Javier Hernando</i>	
Improving Speaker Verification Using ALISP-Based Specific GMMs	580
<i>Asmaa El Hannani and Dijana Petrovska-Delacrétaz</i>	

Multimodal Speaker Verification Using Ear Image Features Extracted by PCA and ICA	588
<i>Koji Iwano, Taro Miyazaki, and Sadaoki Furui</i>	

Modelling the Time-Variant Covariates for Gait Recognition	597
<i>Galina V. Veres, Mark S. Nixon, and John N. Carter</i>	

Face II

Robust Face Recognition Using Advanced Correlation Filters with Bijective-Mapping Preprocessing	607
<i>Marios Savvides, Chunyan Xie, Nancy Chu, B.V.K. Vijaya Kumar, Christine Podilchuk, Ankur Patel, Ashwath Harthattu, and Richard Mammone</i>	

Photometric Normalisation for Face Verification	617
<i>James Short, Josef Kittler, and Kieron Messer</i>	

Experimental Evaluation of Eye Location Accuracies and Time-Lapse Effects on Face Recognition Systems	627
<i>Haoshu Wang and Patrick J. Flynn</i>	

Experiments in Mental Face Retrieval	637
<i>Yuchun Fang and Donald Geman</i>	

Poster I

Fingerprint Image Segmentation Based on Quadric Surface Model	647
<i>Yilong Yin, Yanrong Wang, and Xiukun Yang</i>	

A Fingerprint Matching Algorithm Based on Radial Structure and a Structure-Rewarding Scoring Strategy	656
<i>Kyung Deok Yu, Sangsin Na, and Tae Young Choi</i>	

A Novel Algorithm for Distorted Fingerprint Matching Based on Fuzzy Features Match	665
<i>Xinjian Chen, Jie Tian, and Xin Yang</i>	

Minutiae Quality Scoring and Filtering Using a Neighboring Ridge Structural Analysis on a Thinned Fingerprint Image . .	674
<i>Dong-Hun Kim</i>	

Hardware-Software Codesign of a Fingerprint Identification Algorithm	683
<i>Nicolau Canyellas, Enrique Cantó, G. Forte, and M. López</i>	

Fingerprint Matching Using the Distribution of the Pairwise Distances Between Minutiae	693
<i>Chul-Hyun Park, Mark J.T. Smith, Mireille Boutin, and Joon-Jae Lee</i>	

A Layered Fingerprint Recognition Method	702
<i>Woong-Sik Kim and Weon-Hee Yoo</i>	
Super-template Generation Using Successive Bayesian Estimation for Fingerprint Enrollment	710
<i>Choonwoo Ryu, Youngchan Han, and Hakil Kim</i>	
Secure Fingerprint Matching with External Registration	720
<i>James Reisman, Umut Uludag, and Arun Ross</i>	
Palmprint Recognition Using Fourier-Mellin Transformation Based Registration Method	730
<i>Liang Li, Xin Yang, Yuliang Hi, and Jie Tian</i>	
Parametric Versus Non-parametric Models of Driving Behavior Signals for Driver Identification	739
<i>Toshihiro Wakita, Koji Ozawa, Chiyomi Miyajima, and Kazuya Takeda</i>	
Performance Evaluation and Prediction for 3D Ear Recognition	748
<i>Hui Chen, Bir Bhanu, and Rong Wang</i>	
Optimal User Weighting Fusion in DWT Domain On-Line Signature Verification	758
<i>Isao Nakanishi, Hiroyuki Sakamoto, Yoshio Itoh, and Yutaka Fukui</i>	
Gait Recognition Using Spectral Features of Foot Motion	767
<i>Agus Santoso Lie, Ryo Shimomoto, Shohei Sakaguchi, Toshiyuki Ishimura, Shuichi Enokida, Tomohito Wada, and Toshiaki Ejima</i>	
VALID: A New Practical Audio-Visual Database, and Comparative Results	777
<i>Niall A. Fox, Brian A. O'Mullane, and Richard B. Reilly</i>	
Audio-Visual Speaker Identification via Adaptive Fusion Using Reliability Estimates of Both Modalities	787
<i>Niall A. Fox, Brian A. O'Mullane, and Richard B. Reilly</i>	
Speaker Identification Using the VQ-Based Discriminative Kernels	797
<i>Zhenchun Lei, Yingchun Yang, and Zhaohui Wu</i>	
Exploiting Glottal Information in Speaker Recognition Using Parallel GMMs . . .	804
<i>Pu Yang, Yingchun Yang, and Zhaohui Wu</i>	
Biometric Recognition Using Feature Selection and Combination	813
<i>Ajay Kumar and David Zhang</i>	
Evaluation of Biometric Identification in Open Systems	823
<i>Michael Gibbons, Sungsoo Yoon, Sung-Hyuk Cha, and Charles Tappert</i>	
Exploring Similarity Measures for Biometric Databases	832
<i>Praveer Mansukhani and Venu Govindaraju</i>	

Indexing Biometric Databases Using Pyramid Technique	841
<i>Amit Mhatre, Sharat Chikkerur, and Venu Govindaraju</i>	
Classification Enhancement via Biometric Pattern Perturbation	850
<i>Terry Riopka and Terrance Boulton</i>	
Calculation of a Composite DET Curve	860
<i>Andy Adler and Michael E. Schuckers</i>	
Privacy Operating Characteristic for Privacy Protection in Surveillance Applications	869
<i>P. Jonathon Phillips</i>	

Poster II

Headprint – Person Reacquisition Using Visual Features of Hair in Overhead Surveillance Video	879
<i>Hrishikesh Aradhye, Martin Fischler, Robert Bolles, and Gregory Myers</i>	
A Survey of 3D Face Recognition Methods	891
<i>Alize Scheenstra, Arnout Ruifrok, and Remco C. Veltkamp</i>	
Influences of Image Disturbances on 2D Face Recognition	900
<i>Henning Daum</i>	
Local Feature Based 3D Face Recognition	909
<i>Yonguk Lee, Hwanjong Song, Ukil Yang, Hyunchul Shin, and Kwanghoon Sohn</i>	
Fusion of Appearance and Depth Information for Face Recognition	919
<i>Jian-Gang Wang, Kar-Ann Toh, and Ronda Venkateswarlu</i>	
Gabor Feature Based Classification Using 2D Linear Discriminant Analysis for Face Recognition	929
<i>Ming Li, Baozong Yuan, and Xiaofang Tang</i>	
Multi-resolution Histograms of Local Variation Patterns (MHLVP) for Robust Face Recognition	937
<i>Wenchao Zhang, Shiguang Shan, Hongming Zhang, Wen Gao, and Xilin Chen</i>	
Analysis of Response Performance Characteristics for Identification Using a Matching Score Generation Model	945
<i>Takuji Maeda, Masahito Matsushita, Koichi Sasakawa, and Yasushi Yagi</i>	
Pose Invariant Face Recognition Under Arbitrary Illumination Based on 3D Face Reconstruction	956
<i>Xiujuan Chai, Laiyun Qing, Shiguang Shan, Xilin Chen, and Wen Gao</i>	

Discriminant Analysis Based on Kernelized Decision Boundary for Face Recognition	966
<i>Baochang Zhang, Xilin Chen, and Wen Gao</i>	
A Probabilistic Approach to Semantic Face Retrieval System	977
<i>Karthik Sridharan, Sankalp Nayak, Sharat Chikkerur, and Venu Govindaraju</i>	
Authenticating Corrupted Facial Images on Stand-Alone DSP System	987
<i>Sang-Woong Lee, Ho-Choul Jung, and Seong-Whan Lee</i>	
Evaluation of 3D Face Recognition Using Registration and PCA	997
<i>Theodoros Papatheodorou and Daniel Rueckert</i>	
Dynamic Approach for Face Recognition Using Digital Image Skin Correlation .	1010
<i>Satprem Pamudurthy, E Guan, Klaus Mueller, and Miriam Rafailovich</i>	
Rank-Based Decision Fusion for 3D Shape-Based Face Recognition	1019
<i>Berk Gökberk, Albert Ali Salah, and Lale Akarun</i>	
Robust Active Shape Model Construction and Fitting for Facial Feature Localization	1029
<i>Zhenghui Gui and Chao Zhang</i>	
Comparative Assessment of Content-Based Face Image Retrieval in Different Color Spaces	1039
<i>Peichung Shih and Chengjun Liu</i>	
A Principled Approach to Score Level Fusion in Multimodal Biometric Systems	1049
<i>Sarat C. Dass, Karthik Nandakumar, and Anil K. Jain</i>	
A Score-Level Fusion Benchmark Database for Biometric Authentication	1059
<i>Norman Poh and Samy Bengio</i>	
Fusion for Multimodal Biometric Identification	1071
<i>Yongjin Lee, Kyunghye Lee, Hyungkeun Jee, Younhee Gil, Wooyong Choi, Dosung Ahn, and Sungbum Pan</i>	
Between-Source Modelling for Likelihood Ratio Computation in Forensic Biometric Recognition	1080
<i>Daniel Ramos-Castro, Joaquin Gonzalez-Rodriguez, Christophe Champod, Julian Fierrez-Aguilar, and Javier Ortega-Garcia</i>	
The Effectiveness of Generative Attacks on an Online Handwriting Biometric . .	1090
<i>Daniel P. Lopresti and Jarret D. Raim</i>	
Vulnerabilities in Biometric Encryption Systems	1100
<i>Andy Adler</i>	

Securing Electronic Medical Records Using Biometric Authentication 1110
Stephen Krawczyk and Anil K. Jain

A Novel Approach to Combining Client-Dependent and Confidence Information
in Multimodal Biometrics 1120
Norman Poh and Samy Bengio

Author Index 1131

Audio- and Video-Based Biometric Person
Authentication

5th International Conference, AVBPA 2005, Hilton Rye
Town, NY, USA, July 20-22, 2005, Proceedings

Kanade, T.; Jain, A.; Ratha, N.K. (Eds.)

2005, XX, 1134 p., Softcover

ISBN: 978-3-540-27887-0