

Table of Contents – Part II

Biomedical Applications

An Automated Multichannel Procedure for cDNA Microarray Image Processing	1
<i>Rastislav Lukac, Konstantinos N. Plataniotis, Bogdan Smolka, Anastasios N. Venetsanopoulos</i>	
A Modified Nearest Neighbor Method for Image Reconstruction in Fluorescence Microscopy	9
<i>Koji Yano, Itsuo Kumazawa</i>	
An Improved Clustering-Based Approach for DNA Microarray Image Segmentation	17
<i>Luis Rueda, Li Qin</i>	
A Spatially Adaptive Filter Reducing Arc Stripe Noise for Sector Scan Medical Ultrasound Imaging	25
<i>Qianren Xu, M. Kamel, M.M.A. Salama</i>	
Fuzzy-Snake Segmentation of Anatomical Structures Applied to CT Images	33
<i>Gloria Bueno, Antonio Martínez-Albalá, Antonio Adán</i>	
Topological Active Volumes for Segmentation and Shape Reconstruction of Medical Images	43
<i>N. Barreira, M.G. Penedo</i>	
Region of Interest Based Prostate Tissue Characterization Using Least Square Support Vector Machine LS-SVM	51
<i>S.S. Mohamed, M.M.A. Salama, M. Kamel, K. Rizkalla</i>	
Ribcage Boundary Delineation in Chest X-ray Images	59
<i>Carlos Vinhais, Aurélio Campilho</i>	
A Level-Set Based Volumetric CT Segmentation Technique: A Case Study with Pulmonary Air Bubbles	68
<i>José Silvestre Silva, Beatriz Sousa Santos, Augusto Silva, Joaquim Madeira</i>	
Robust Fitting of a Point Distribution Model of the Prostate Using Genetic Algorithms	76
<i>Fernando Arámbula Cosío</i>	

A Quantification Tool to Analyse Stained Cell Cultures	84
<i>E. Glory, A. Faure, V. Meas-Yedid, F. Cloppet, Ch. Pinset, G. Stamon, J-Ch. Olivo-Marin</i>	
Dynamic Pedobarography Transitional Objects by Lagrange's Equation with FEM, Modal Matching, and Optimization Techniques	92
<i>Raquel Ramos Pinho, João Manuel, R.S. Tavares</i>	
3D Meshes Registration: Application to Statistical Skull Model	100
<i>M. Berar, M. Desvignes, G. Bailly, Y. Payan</i>	
Detection of Rib Borders on X-ray Chest Radiographs	108
<i>Rui Moreira, Ana Maria Mendonça, Aurélio Campilho</i>	
Isosurface-Based Level Set Framework for MRA Segmentation	116
<i>Yongqiang Zhao, Minglu Li</i>	
Segmentation of the Comet Assay Images	124
<i>Bogdan Smolka, Rastislav Lukac</i>	
Automatic Extraction of the Retina AV Index	132
<i>I.G. Caderno, M.G. Penedo, C. Mariño, M.J. Carreira, F. Gomez-Ulla, F. González</i>	
Image Registration in Electron Microscopy. A Stochastic Optimization Approach	141
<i>J.L. Redondo, P.M. Ortigosa, I. García, J.J. Fernández</i>	
Evolutionary Active Contours for Muscle Recognition	150
<i>A. Caro, P.G. Rodríguez, M.L. Durán, J.A. Ávila, T. Antequera, R. Palacios</i>	
Automatic Lane and Band Detection in Images of Thin Layer Chromatography	158
<i>António V. Sousa, Rui Aguiar, Ana Maria Mendonça, Aurélio Campilho</i>	
Automatic Tracking of <i>Arabidopsis thaliana</i> Root Meristem in Confocal Microscopy	166
<i>Bernardo Garcia, Ana Campilho, Ben Scheres, Aurélio Campilho</i>	
Document Processing	
A New File Format for Decorative Tiles	175
<i>Rafael Dueire Lins</i>	
Projection Profile Based Algorithm for Slant Removal	183
<i>Moisés Pastor, Alejandro Toselli, Enrique Vidal</i>	

Novel Adaptive Filtering for Salt-and-Pepper Noise Removal from Binary Document Images	191
<i>Amr R. Abdel-Dayem, Ali K. Hamou, Mahmoud R. El-Sakka</i>	
Automated Seeded Region Growing Method for Document Image Binarization Based on Topographic Features	200
<i>Yufei Sun, Yan Chen, Yuzhi Zhang, Yanxia Li</i>	
Image Segmentation of Historical Documents: Using a Quality Index	209
<i>Carlos A.B. de Mello</i>	
A Complete System for Detection and Identification of Tabular Structures from Document Images	217
<i>S. Mandal, S.P. Chowdhury, A.K. Das, Bhabatosh Chanda</i>	
Underline Removal on Old Documents	226
<i>João R. Caldas Pinto, Pedro Pina, Lourenço Bandeira, Luís Pimentel, Mário Ramalho</i>	
A New Algorithm for Skew Detection in Images of Documents	234
<i>Rafael Dueire Lins, Bruno Tenório Ávila</i>	
Blind Source Separation Techniques for Detecting Hidden Texts and Textures in Document Images	241
<i>Anna Tonazzini, Emanuele Salerno, Matteo Mochi, Luigi Bedini</i>	
Efficient Removal of Noisy Borders from Monochromatic Documents	249
<i>Bruno Tenório Ávila, Rafael Dueire Lins</i>	
Colour Analysis	
Robust Dichromatic Colour Constancy	257
<i>Gerald Schaefer</i>	
Soccer Field Detection in Video Images Using Color and Spatial Coherence	265
<i>Arnaud Le Troter, Sebastien Mavromatis, Jean Sequeira</i>	
New Methods to Produce High Quality Color Anaglyphs for 3-D Visualization	273
<i>Ianir Ideses, Leonid Yaroslavsky</i>	
A New Color Filter Array Interpolation Approach for Single-Sensor Imaging	281
<i>Rastislav Lukac, Konstantinos N. Plataniotis, Bogdan Smolka</i>	
A Combinatorial Color Edge Detector	289
<i>Soufiane Rital, Hocine Cherifi</i>	

Texture Analysis

A Fast Probabilistic Bidirectional Texture Function Model	298
<i>Michal Haindl, Jiří Filip</i>	
Model-Based Texture Segmentation	306
<i>Michal Haindl, Stanislav Mikeš</i>	
A New Gabor Filter Based Kernel for Texture Classification with SVM	314
<i>Mahdi Sabri, Paul Fieguth</i>	
Grading Textured Surfaces with Automated Soft Clustering in a Supervised SOM	323
<i>J. Martín-Herrero, M. Ferreira-Armán, J.L. Alba-Castro</i>	
Textures and Wavelet-Domain Joint Statistics	331
<i>Zohreh Azimifar, Paul Fieguth, Ed Jernigan</i>	
Video Segmentation Through Multiscale Texture Analysis	339
<i>Miguel Alemán-Flores, Luis Álvarez-León</i>	

Motion Analysis

Estimation of Common Groundplane Based on Co-motion Statistics	347
<i>Zoltan Szlavik, Laszlo Havasi, Tamas Sziranyi</i>	
An Adaptive Estimation Method for Rigid Motion Parameters of 2D Curves	355
<i>Turker Sahin, Mustafa Unel</i>	
Classifiers Combination for Improved Motion Segmentation	363
<i>Ahmad Al-Mazeed, Mark Nixon, Steve Gunn</i>	
A Pipelined Real-Time Optical Flow Algorithm	372
<i>Miguel V. Correia, Aurélio Campilho</i>	
De-interlacing Algorithm Based on Motion Objects	381
<i>Junxia Gu, Xinbo Gao, Jie Li</i>	
Automatic Selection of Training Samples for Multitemporal Image Classification	389
<i>T.B. Cazes, R.Q. Feitosa, G.L.A. Mota</i>	
Parallel Computation of Optical Flow	397
<i>Antonio G. Dopico, Miguel V. Correia, Jorge A. Santos, Luis M. Nunes</i>	
Lipreading Using Recurrent Neural Prediction Model	405
<i>Takuya Tsunekawa, Kazuhiro Hotta, Haruhisa Takahashi</i>	

Multi-model Adaptive Estimation for Nonuniformity Correction of Infrared Image Sequences	413
<i>Jorge E. Pezoa, Sergio N. Torres</i>	

Surveillance and Remote Sensing

A MRF Based Segmentation Approach to Classification Using Dempster Shafer Fusion for Multisensor Imagery	421
<i>A. Sarkar, N. Banerjee, P. Nair, A. Banerjee, S. Brahma, B. Kartikeyan, K.L. Majumder</i>	

Regularized RBF Networks for Hyperspectral Data Classification	429
<i>G. Camps-Valls, A.J. Serrano-López, L. Gómez-Chova, J.D. Martín-Guerrero, J. Calpe-Maravilla, J. Moreno</i>	

A Change-Detection Algorithm Enabling Intelligent Background Maintenance	437
<i>Luigi Di Stefano, Stefano Mattoccia, Martino Mola</i>	

Dimension Reduction and Pre-emphasis for Compression of Hyperspectral Images	446
<i>C. Lee, E. Choi, J. Choe, T. Jeong</i>	

Viewpoint Independent Detection of Vehicle Trajectories and Lane Geometry from Uncalibrated Traffic Surveillance Cameras	454
<i>José Melo, Andrew Naftel, Alexandre Bernardino, José Santos-Victor</i>	

Robust Tracking and Object Classification Towards Automated Video Surveillance	463
<i>Jose-Luis Landabaso, Li-Qun Xu, Montse Pardas</i>	

Detection of Vehicles in a Motorway Environment by Means of Telemetric and Visual Data	471
<i>Sonia Izri, Eric Brassart, Laurent Delahoche, Bruno Marhic, Arnaud Clémentin</i>	

High Quality-Speed Dilemma: A Comparison Between Segmentation Methods for Traffic Monitoring Applications	481
<i>Alessandro Bevilacqua, Luigi Di Stefano, Alessandro Lanza</i>	

Automatic Recognition of Impact Craters on the Surface of Mars	489
<i>Teresa Barata, E. Ivo Alves, José Saraiva, Pedro Pina</i>	

Classification of Dune Vegetation from Remotely Sensed Hyperspectral Images	497
<i>Steve De Backer, Pieter Kempeneers, Walter Debruyne, Paul Scheunders</i>	

SAR Image Classification Based on Immune Clonal Feature Selection	504
<i>Xiangrong Zhang, Tan Shan, Licheng Jiao</i>	
Depth Extraction System Using Stereo Pairs	512
<i>Rizwan Ghaffar, Noman Jafri, Shoab Ahmed Khan</i>	
Fast Moving Region Detection Scheme in Ad Hoc Sensor Network	520
<i>Yazhou Liu, Wen Gao, Hongxun Yao, Shaohui Liu, Lijun Wang</i>	

Tracking

LOD Canny Edge Based Boundary Edge Selection for Human Body Tracking	528
<i>Jihun Park, Tae-Yong Kim, Sunghun Park</i>	
Object Boundary Edge Selection for Accurate Contour Tracking Using Multi-level Canny Edges	536
<i>Tae-Yong Kim, Jihun Park, Seong-Whan Lee</i>	
Reliable Dual-Band Based Contour Detection: A Double Dynamic Programming Approach	544
<i>Mohammad Dawood, Xiaoyi Jiang, Klaus P. Schäfers</i>	
Tracking Pedestrians Under Occlusion Using Multiple Cameras	552
<i>Jorge P. Batista</i>	
Application of Radon Transform to Lane Boundaries Tracking	563
<i>R. Nourine, M. Elarbi Boudihir, S.F. Khelifi</i>	
A Speaker Tracking Algorithm Based on Audio and Visual Information Fusion Using Particle Filter	572
<i>Xin Li, Luo Sun, Linmi Tao, Guangyou Xu, Ying Jia</i>	
Kernel-Bandwidth Adaptation for Tracking Object Changing in Size	581
<i>Ning-Song Peng, Jie Yang, Jia-Xin Chen</i>	
Tracking Algorithms Evaluation in Feature Points Image Sequences	589
<i>Vanessa Robles, Enrique Alegre, Jose M. Sebastian</i>	
Short-Term Memory-Based Object Tracking	597
<i>Hang-Bong Kang, Sang-Hyun Cho</i>	
Real Time Multiple Object Tracking Based on Active Contours	606
<i>Sébastien Lefèvre, Nicole Vincent</i>	
An Object Tracking Algorithm Combining Different Cost Functions	614
<i>D. Conte, P. Foggia, C. Guidobaldi, A. Limongiello, M. Vento</i>	

Vehicle Tracking at Traffic Scene with Modified RLS	623
<i>Hadi Sadoghi Yazdi, Mahmood Fathy, A. Mojtaba Lotfizad</i>	
Face Detection and Recognition	
Understanding In-Plane Face Rotations Using Integral Projections	633
<i>Henry Nicponski</i>	
Feature Fusion Based Face Recognition Using EFM	643
<i>Dake Zhou, Xin Yang</i>	
Real-Time Facial Feature Extraction by Cascaded Parameter Prediction and Image Optimization	651
<i>Fei Zuo, Peter H.N. de With</i>	
Frontal Face Authentication Through Creaseness-Driven Gabor Jets	660
<i>Daniel González-Jiménez, José Luis Alba-Castro</i>	
A Coarse-to-Fine Classification Scheme for Facial Expression Recognition	668
<i>Xiaoyi Feng, Abdenour Hadid, Matti Pietikäinen</i>	
Fast Face Detection Using QuadTree Based Color Analysis and Support Vector Verification	676
<i>Shu-Fai Wong, Kwan-Yee Kenneth Wong</i>	
Three-Dimensional Face Recognition: A Fishersurface Approach	684
<i>Thomas Heseltine, Nick Pears, Jim Austin</i>	
Face Recognition Using Improved-LDA	692
<i>Dake Zhou, Xin Yang</i>	
Analysis and Recognition of Facial Expression Based on Point-Wise Motion Energy	700
<i>Hanhoon Park, Jong-Il Park</i>	
Face Class Modeling Using Mixture of SVMs	709
<i>Julien Meynet, Vlad Popovici, Jean-Philippe Thiran</i>	
Comparing Robustness of Two-Dimensional PCA and Eigenfaces for Face Recognition	717
<i>Muriel Visani, Christophe Garcia, Christophe Laurent</i>	
Useful Computer Vision Techniques for Human-Robot Interaction	725
<i>O. Deniz, A. Falcon, J. Mendez, M. Castrillon</i>	
Face Recognition with Generalized Entropy Measurements	733
<i>Yang Li, Edwin R. Hancock</i>	

Facial Feature Extraction and Principal Component Analysis for Face Detection in Color Images	741
<i>Saman Cooray, Noel O'Connor</i>	

Security Systems

Fingerprint Enhancement Using Circular Gabor Filter	750
<i>En Zhu, Jianping Yin, Guomin Zhang</i>	
A Secure and Localizing Watermarking Technique for Image Authentication	759
<i>Abdelkader H. Ouda, Mahmoud R. El-Sakka</i>	
A Hardware Implementation of Fingerprint Verification for Secure Biometric Authentication Systems	770
<i>Yongwha Chung, Daesung Moon, Sung Bum Pan, Min Kim, Kichul Kim</i>	
Inter-frame Differential Energy Video Watermarking Algorithm Based on Compressed Domain	778
<i>Lijun Wang, Hongrun Yao, Shaohui Liu, Wen Gao, Yazhou Liu</i>	
Improving DTW for Online Handwritten Signature Verification	786
<i>M. Wirotius, J.Y. Ramel, N. Vincent</i>	
Distribution of Watermark According to Image Complexity for Higher Stability	794
<i>Mansour Jamzad, Farzin Yaghmaee</i>	

Visual Inspection

Comparison of Intelligent Classification Techniques Applied to Marble Classification	802
<i>João M.C. Sousa, João R. Caldas Pinto</i>	
Inspecting Colour Tonality on Textured Surfaces	810
<i>Xianghua Xie, Majid Mirmehdi, Barry Thomas</i>	
Automated Visual Inspection of Glass Bottles Using Adapted Median Filtering	818
<i>Domingo Mery, Olaya Medina</i>	
Neuro-Fuzzy Method for Automated Defect Detection in Aluminium Castings	826
<i>Sergio Hernández, Doris Sáez, Domingo Mery</i>	
Online Sauter Diameter Measurement of Air Bubbles and Oil Drops in Stirred Bioreactors by Using Hough Transform	834
<i>L. Vega-Alvarado, M.S. Cordova, B. Taboada, E. Galindo, G. Corkidi</i>	

Defect Detection in Textile Images Using Gabor Filters	841
<i>Céu L. Beirão, Mário A.T. Figueiredo</i>	
Geometric Surface Inspection of Raw Milled Steel Blocks.....	849
<i>Ingo Reindl, Paul O’Leary</i>	
Author Index	857

Table of Contents – Part I

Image Segmentation

Automatic Image Segmentation Using a Deformable Model Based on Charged Particles	1
<i>Andrei C. Jalba, Michael H.F. Wilkinson, Jos B.T.M. Roerdink</i>	
Hierarchical Regions for Image Segmentation	9
<i>Slawo Wesolkowski, Paul Fieguth</i>	
Efficiently Segmenting Images with Dominant Sets	17
<i>Massimiliano Pavan, Marcello Pelillo</i>	
Color Image Segmentation Using Energy Minimization on a Quadtree Representation	25
<i>Adolfo Martínez-Usó, Filiberto Pla, Pedro García-Sevilla</i>	
Segmentation Using Saturation Thresholding and Its Application in Content-Based Retrieval of Images	33
<i>A. Vadivel, M. Mohan, Shamik Sural, A.K. Majumdar</i>	
A New Approach to Unsupervised Image Segmentation Based on Wavelet-Domain Hidden Markov Tree Models	41
<i>Qiang Sun, Shuiping Gou, Licheng Jiao</i>	
Spatial Discriminant Function with Minimum Error Rate for Image Segmentation	49
<i>EunSang Bak</i>	
Detecting Foreground Components in Grey Level Images for Shift Invariant and Topology Preserving Pyramids	57
<i>Giuliana Ramella, Gabriella Sanniti di Baja</i>	
Pulling, Pushing, and Grouping for Image Segmentation	65
<i>Guoping Qiu, Kin-Man Lam</i>	
Image Segmentation by a Robust Clustering Algorithm Using Gaussian Estimator	74
<i>Lei Wang, Hongbing Ji, Xinbo Gao</i>	
A Multistage Image Segmentation and Denoising Method – Based on the Mumford and Shah Variational Approach	82
<i>Song Gao, Tien D. Bui</i>	

A Multiresolution Threshold Selection Method Based on Training	90
<i>J.R. Martinez-de Dios, A. Ollero</i>	
Segmentation Based Environment Modeling Using a Single Image	98
<i>Seung Taek Ryoo</i>	
Unsupervised Color-Texture Segmentation	106
<i>Yuzhong Wang, Jie Yang, Yue Zhou</i>	
Image Processing and Analysis	
Hierarchical MCMC Sampling	114
<i>Paul Fieguth</i>	
Registration and Fusion of Blurred Images	122
<i>Filip Sroubek, Jan Flusser</i>	
A New Numerical Scheme for Anisotropic Diffusion	130
<i>Hongwen Yi, Peter H. Gregson</i>	
An Effective Detail Preserving Filter for Impulse Noise Removal	139
<i>Naif Alajlan, Ed Jernigan</i>	
A Quantum-Inspired Genetic Algorithm for Multi-source Affine Image Registration	147
<i>Hichem Talbi, Mohamed Batouche, Amer Draa</i>	
Nonparametric Impulsive Noise Removal	155
<i>Bogdan Smolka, Rastislav Lukac</i>	
BayesShrink Ridgelets for Image Denoising	163
<i>Nezamoddin Nezamoddini-Kachouie, Paul Fieguth, Edward Jernigan</i>	
Image Salt-Pepper Noise Elimination by Detecting Edges and Isolated Noise Points	171
<i>Gang Li, Binheng Song</i>	
Image De-noising via Overlapping Wavelet Atoms	179
<i>V. Bruni, D. Vitulano</i>	
Gradient Pile Up Algorithm for Edge Enhancement and Detection	187
<i>Leticia Guimarães, André Soares, Viviane Cordeiro, Altamiro Susin</i>	
Co-histogram and Image Degradation Evaluation	195
<i>Pengwei Hao, Chao Zhang, Anrong Dang</i>	

MAP Signal Reconstruction with Non Regular Grids	204
<i>João M. Sanches, Jorge S. Marques</i>	
Comparative Frameworks for Directional Primitive Extraction	212
<i>M. Penas, M.J. Carreira, M.G. Penedo, M. Mirmehdi, B.T. Thomas</i>	
Dynamic Content Adaptive Super-Resolution	220
<i>Mei Chen</i>	
Efficient Classification Method for Autonomous Driving Application	228
<i>Pangyu Jeong, Sergiu Nedevschi</i>	
Image Analysis and Synthesis	
Parameterized Hierarchical Annealing for Scientific Models	236
<i>Simon K. Alexander, Paul Fieguth, Edward R. Vrscay</i>	
Significance Test for Feature Subset Selection on Image Recognition	244
<i>Qianren Xu, M. Kamel, M.M.A. Salama</i>	
Image Recognition Applied to Robot Control Using Fuzzy Modeling	253
<i>Paulo J. Sequeira Gonçalves, L.F. Mendonça, J.M.C. Sousa, J.R. Caldas Pinto</i>	
Large Display Interaction Using Video Avatar and Hand Gesture Recognition	261
<i>Sang Chul Ahn, Tae-Seong Lee, Ig-Jae Kim, Yong-Moo Kwon, Hyoun-Gon Kim</i>	
Image and Video Coding	
Optimal Transform in Perceptually Uniform Color Space and Its Application in Image Coding	269
<i>Ying Chen, Pengwei Hao, Anrong Dang</i>	
Lossless Compression of Color-Quantized Images Using Block-Based Palette Reordering	277
<i>António J.R. Neves, Armando J. Pinho</i>	
Fovea Based Coding for Video Streaming	285
<i>Çağatay Dikici, H. Işıl Bozma, Reha Civanlar</i>	
Influence of Task and Scene Content on Subjective Video Quality	295
<i>Ying Zhong, Iain Richardson, Arash Sahraie, Peter McGeorge</i>	
Evaluation of Some Reordering Techniques for Image VQ Index Compression	302
<i>António R.C. Paiva, Armando J. Pinho</i>	

Adaptive Methods for Motion Characterization and Segmentation of MPEG Compressed Frame Sequences	310
<i>C. Doulaverakis, S. Vagionitis, M. Zervakis, E. Petrakis</i>	

On the Automatic Creation of Customized Video Content	318
<i>José San Pedro, Nicolas Denis, Sergio Domínguez</i>	

Shape and Matching

Graph Pattern Spaces from Laplacian Spectral Polynomials	327
<i>Bin Luo, Richard C. Wilson, Edwin R. Hancock</i>	

A Hierarchical Framework for Shape Recognition Using Articulated Shape Mixtures	335
<i>Abdullah Al Shaher, Edwin R. Hancock</i>	

A New Affine Invariant Fitting Algorithm for Algebraic Curves	344
<i>Sait Sener, Mustafa Unel</i>	

Graph Matching Using Manifold Embedding	352
<i>Bai Xiao, Hang Yu, Edwin Hancock</i>	

A Matching Algorithm Based on Local Topologic Structure	360
<i>Xinjian Chen, Jie Tian, Xin Yang</i>	

2-D Shape Matching Using Asymmetric Wavelet-Based Dissimilarity Measure	368
<i>Ibrahim El Rube', Mohamed Kamel, Maher Ahmed</i>	

A Real-Time Image Stabilization System Based on Fourier-Mellin Transform	376
<i>J.R. Martinez-de Dios, A. Ollero</i>	

A Novel Shape Descriptor Based on Interrelation Quadruplet	384
<i>Dongil Han, Bum-Jae You, Sang-Rok Oh</i>	

An Efficient Representation of Hand Sketch Graphic Messages Using Recursive Bezier Curve Approximation	392
<i>Jaehwa Park, Young-Bin Kwon</i>	

Contour Description Through Set Operations on Dynamic Reference Shapes	400
<i>Miroslav Koprnický, Maher Ahmed, Mohamed Kamel</i>	

An Algorithm for Efficient and Exhaustive Template Matching	408
<i>Luigi Di Stefano, Stefano Mattoccia, Federico Tombari</i>	

Modelling of Overlapping Circular Objects Based on Level Set Approach	416
<i>Eva Dejnozkova, Petr Dokladal</i>	

A Method for Dominant Points Detection and Matching 2D Object Identification	424
<i>A. Carmona-Poyato, N.L. Fernández-García, R. Medina-Carnicer, F.J. Madrid-Cuevas</i>	

Image Description and Recognition

Character Recognition Using Canonical Invariants	432
<i>Sema Doguscu, Mustafa Unel</i>	
Finding Significant Points for a Handwritten Classification Task	440
<i>Juan Ramón Rico-Juan, Luisa Micó</i>	
The System for Handwritten Symbol and Signature Recognition Using FPGA Computing	447
<i>Rauf K. Sadykhov, Leonid P. Podenok, Vladimir A. Samokhval, Andrey A. Uvarov</i>	
Reconstruction of Order Parameters Based on Immunity Clonal Strategy for Image Classification	455
<i>Xiuli Ma, Licheng Jiao</i>	
Visual Object Recognition Through One-Class Learning	463
<i>QingHua Wang, Luís Seabra Lopes, David M.J. Tax</i>	
Semantic Image Analysis Based on the Representation of the Spatial Relations Between Objects in Images	471
<i>Hyunjang Kong, Miyoung Cho, Kwanho Jung, Sunkyoung Baek, Pankoo Kim</i>	
Ridgelets Frame	479
<i>Tan Shan, Licheng Jiao, Xiangchu Feng</i>	
Adaptive Curved Feature Detection Based on Ridgelet	487
<i>Kang Liu, Licheng Jiao</i>	
Globally Stabilized 3L Curve Fitting	495
<i>Turker Sahin, Mustafa Unel</i>	
Learning an Information Theoretic Transform for Object Detection	503
<i>Jianzhong Fang, Guoping Qiu</i>	
Image Object Localization by AdaBoost Classifier	511
<i>Władysław Skarbek, Krzysztof Kucharski</i>	
Cost and Information-Driven Algorithm Selection for Vision Systems ...	519
<i>Mauricio Marengoni, Allen Hanson, Shlomo Zilberstein, Edward Riseman</i>	

Gesture Recognition for Human-Robot Interaction Through a Knowledge Based Software Platform	530
<i>M. Hasanuzzaman, Tao Zhang, V. Ampornaramveth, M.A. Bhuiyan, Yoshiaki Shirai, H. Ueno</i>	

Appearance-Based Object Detection in Space-Variant Images: A Multi-model Approach	538
<i>V. Javier Traver, Alexandre Bernardino, Plinio Moreno, José Santos-Victor</i>	

3D Object Recognition from Appearance: PCA Versus ICA Approaches	547
<i>M. Asunción Vicente, Cesar Fernández, Oscar Reinoso, Luis Payá</i>	

A Stochastic Search Algorithm to Optimize an N-tuple Classifier by Selecting Its Inputs	556
<i>Hannan Bin Azhar, Keith Dimond</i>	

Video Processing and Analysis

A Multi-expert Approach for Shot Classification in News Videos	564
<i>M. De Santo, G. Percannella, C. Sansone, M. Vento</i>	

Motion-Compensated Wavelet Video Denoising	572
<i>Fu Jin, Paul Fieguth, Lowell Winger</i>	

Alpha-Stable Noise Reduction in Video Sequences	580
<i>Mohammed El Hassouni, Hocine Cherifi</i>	

Automatic Text Extraction in Digital Video Based on Motion Analysis	588
<i>Duarte Palma, João Ascenso, Fernando Pereira</i>	

Fast Video Registration Method for Video Quality Assessment	597
<i>Jihwan Choe, Chulhee Lee</i>	

Hidden Markov Model Based Events Detection in Soccer Video	605
<i>Guoying Jin, Linmi Tao, Guangyou Xu</i>	

3D Imaging

Improving Height Recovery from a Single Image of a Face Using Local Shape Indicators	613
<i>Mario Castelán, Edwin R. Hancock</i>	

Recovery of Surface Height from Diffuse Polarisation	621
<i>Gary Atkinson, Edwin Hancock</i>	

Vectorization-Free Reconstruction of 3D CAD Models from Paper Drawings	629
<i>Frank Ditrich, Herbert Suesse, Klaus Voss</i>	
Plane Segmentation from Two Views in Reciprocal-Polar Image Space	638
<i>ZeZhi Chen, Nick E. Pears, Bojian Liang, John McDermid</i>	
Tracking of Points in a Calibrated and Noisy Image Sequence.....	647
<i>Domingo Mery, Felipe Ochoa, René Vidal</i>	
Multiresolution Approach to “Visual Pattern” Partitioning of 3D Images	655
<i>Raquel Dosil, Xosé R. Fdez-Vidal, Xosé M. Pardo</i>	
Visual Cortex Frontend: Integrating Lines, Edges, Keypoints, and Disparity	664
<i>João Rodrigues, J.M. Hans du Buf</i>	
Estimation of Directional and Ambient Illumination Parameters by Means of a Calibration Object	672
<i>Alberto Ortiz, Gabriel Oliver</i>	
Environment Authentication Through 3D Structural Analysis	680
<i>Toby P. Breckon, Robert B. Fisher</i>	
Camera Calibration Using Two Concentric Circles	688
<i>Francisco Abad, Emilio Camahort, Roberto Vivó</i>	
Three-Dimensional Object Recognition Using a Modified Exoskeleton and Extended Hausdorff Distance Matching Algorithm	697
<i>Rajalida Lipikorn, Akinobu Shimizu, Hidefumi Kobatake</i>	
Recognition of 3D Object from One Image Based on Projective and Permutative Invariants.....	705
<i>J.M. González, J.M. Sebastián, D. García, F. Sánchez, L. Angel</i>	
Wide Baseline Stereo Matching by Corner-Edge-Regions	713
<i>Jun Xie, Hung Tat Tsui</i>	
Gradient Based Dense Stereo Matching	721
<i>Tomasz Twardowski, Boguslaw Cyganek, Jan Borgosz</i>	
Image Retrieval and Indexing	
Accelerating Multimedia Search by Visual Features.....	729
<i>Grzegorz Galinski, Karol Wnukowicz, Wladyslaw Skarbek</i>	
Semantic Browsing and Retrieval in Image Libraries	737
<i>Andrea Kutics, Akihiko Nakagawa</i>	

Robust Shape Retrieval Using Maximum Likelihood Theory	745
<i>Naif Alajlan, Paul Fieguth, Mohamed Kamel</i>	
A Novel Shape Feature for Image Classification and Retrieval	753
<i>Rami Rautkorpi, Jukka Iivarinen</i>	
A Local Structure Matching Approach for Large Image Database Retrieval	761
<i>Yanling Chi, Maylor K.H. Leung</i>	
People Action Recognition in Image Sequences Using a 3D Articulated Object.	769
<i>Jean-Charles Atine</i>	
CVPIC Compressed Domain Image Retrieval by Colour and Shape	778
<i>Gerald Schaefer, Simon Lieutaud</i>	
Automating GIS Image Retrieval Based on MCM	787
<i>Adel Hafiane, Bertrand Zavidovique</i>	
Significant Perceptual Regions by Active-Nets	795
<i>David García-Pérez, Antonio Mosquera, Marcos Ortega, Manuel G. Penedo</i>	
Improving the Boosted Correlogram	803
<i>Nicholas R. Howe, Amanda Ricketson</i>	
Distance Map Retrieval	811
<i>László Czúni, Dezső Csordás, Gergely Császár</i>	
Grass Field Segmentation, the First Step Toward Player Tracking, Deep Compression, and Content Based Football Image Retrieval	818
<i>Kaveh Kangarloo, Ehsanollah Kabir</i>	
Spatio-temporal Primitive Extraction Using Hermite and Laguerre Filters for Early Vision Video Indexing	825
<i>Carlos Joel Rivero-Moreno, Stéphane Bres</i>	
Non-parametric Performance Comparison in Pictorial Query by Content Systems	833
<i>Sergio Domínguez</i>	
Morphology	
Hierarchical Watersheds with Inter-pixel Boundaries	840
<i>Luc Brun, Philippe Vautrot, Fernand Meyer</i>	
From Min Tree to Watershed Lake Tree: Theory and Implementation	848
<i>Xiaoqiang Huang, Mark Fisher, Yanong Zhu</i>	

From Min Tree to Watershed Lake Tree: Evaluation	858
<i>Xiaoqiang Huang, Mark Fisher</i>	
Optimizing Texture Primitives Description Based on Variography and Mathematical Morphology	866
<i>Assia Kourgli, Aichouche Belhadj-aissa, Lynda Bouchemakh</i>	
Author Index	875

Image Analysis and Recognition

International Conference ICIAR 2004, Porto, Portugal,

September 29 - October 1, 2004, Proceedings, Part II

Campilho, A.; Kamel, M. (Eds.)

2004, LVIII, 868 p., Softcover

ISBN: 978-3-540-23240-7