

Table of Contents – Part I

Speeding Up Local Patch Dissimilarity	1
<i>Radu Tudor Ionescu and Marius Popescu</i>	
A Graph-Based Hierarchical Image Segmentation Method Based on a Statistical Merging Predicate	11
<i>Silvio Jamil F. Guimarães and Zenilton K.G. Patrocínio Jr.</i>	
Application of Local Binary Pattern to Windowed Nonlocal Means Image Denoising	21
<i>Fakhry Khellah</i>	
Integrating Color Sampling into Depth Based Bilayer Segmentation	31
<i>Lorenzo Sorgi and Markus Schlosser</i>	
Local Intrinsic Dimensionality Based Features for Clustering	41
<i>Paola Campadelli, Elena Casiraghi, Claudio Ceruti, Gabriele Lombardi, and Alessandro Rozza</i>	
Deeply Optimized Hough Transform: Application to Action Segmentation	51
<i>Adrien Chan-Hon-Tong, Catherine Achard, and Laurent Lucat</i>	
Layout-Based Document-Retrieval System by Radon Transform Using Dynamic Time Warping	61
<i>Giuseppe Pirlo, Michela Chimienti, Michele Dassisti, Donato Impedovo, and Angelo Galiano</i>	
Evaluation of Low-Level Image Representations for Illumination- Insensitive Recognition of Textureless Objects	71
<i>Sebastian Zambanini and Martin Kappel</i>	
Kernels for Visual Words Histograms	81
<i>Radu Tudor Ionescu and Marius Popescu</i>	
A New Adaptive Zoning Technique for Handwritten Digit Recognition	91
<i>Sebastiano Impedovo, Francesco Maurizio Mangini, and Giuseppe Pirlo</i>	
Image Annotation by Learning Label-Specific Distance Metrics	101
<i>Xing Xu, Atsushi Shimada, and Rin-ichiro Taniguchi</i>	
Approximating the Skeleton for Fine-to-Coarse Shape Representation...	111
<i>Luca Serino, Carlo Arcelli, and Gabriella Sanniti di Baja</i>	

Learning Iterative Strategies in Multi-Expert Systems Using SVMs for Digit Recognition	121
<i>Donato Barbuzzi, Donato Impedovo, Francesco Maurizio Mangini, and Giuseppe Pirlo</i>	
Learning Precise Local Boundaries in Images from Human Tracings	131
<i>Martin Horn and Michael R. Berthold</i>	
Age Estimation Using Local Binary Pattern Kernel Density Estimate . . .	141
<i>Juha Ylioinas, Abdenour Hadid, Xiaopeng Hong, and Matti Pietikäinen</i>	
Improving the Quality of Color Image Segmentation Using Genetic Algorithm	151
<i>Aniceto C. Andrade Jr., Zenilton K.G. Patrocínio Jr., and Silvio Jamil F. Guimarães</i>	
Detection of the Vanishing Line of the Ocean Surface from Pairs of Scale-Invariant Keypoints	161
<i>Sergiy Fefilat'ev, Matthew Shreve, and Dmitry Goldgof</i>	
Average Common Submatrix: A New Image Distance Measure	170
<i>Alessia Amelio and Clara Pizzuti</i>	
A Fast Jensen-Shannon Subgraph Kernel	181
<i>Lu Bai and Edwin R. Hancock</i>	
Evaluation of Interactive Segmentation Algorithms Using Densely Sampled Correct Interactions	191
<i>S.M. Rafizul Haque, Mark G. Eramian, and Kevin A. Schneider</i>	
Estimating Complex Refractive Index Using Ellipsometry	201
<i>Gul e Saman and Edwin R. Hancock</i>	
Lazy Nonlinear Diffusion Parameter Estimation	211
<i>Daniel Thuerck and Arjan Kuijper</i>	
Analysis of WD Face Dictionary for Sparse Coding Based Face Recognition	221
<i>Shejin Thavalengal and Anil Kumar Sao</i>	
Fast and Robust Edge-Guided Exemplar-Based Image Inpainting	231
<i>Yun Wu and Chun Yuan</i>	
A Watershed-Based Segmentation Technique for Multiresolution Data	241
<i>Giuseppe Masi, Giuseppe Scarpa, Raffaele Gaetano, and Giovanni Poggi</i>	

Database for Arabic Printed Text Recognition Research.....	251
<i>Faten Kallel Jaïem, Slim Kanoun, Maher Khemakhem, Haïkal El Abed, and Jihain Kardoun</i>	
On the Stability of Ranks to Low Image Quality in Biometric Identification Systems	260
<i>Emanuela Marasco and Ayman Abaza</i>	
Approximated Overlap Error for the Evaluation of Feature Descriptors on 3D Scenes	270
<i>Fabio Bellavia, Cesare Valenti, Carmen Alina Lupascu, and Domenico Tegolo</i>	
Exploiting the Golden Ratio on Human Faces for Head-Pose Estimation	280
<i>Gianluca Fadda, Gian Luca Marcialis, Fabio Roli, and Luca Ghiani</i>	
An Interactive Video Retrieval Approach Based on Latent Topics	290
<i>Rubén Fernández-Beltrán and Filiberto Pla</i>	
Performance Study of a Regularization-Based Deformable Handwritten Recognition Approach	300
<i>Yoshiki Mizukami, Shinya Nakanishi, and Katsumi Tadamura</i>	
Layered Self-Organizing Map for Image Classification in Unrestricted Domains	310
<i>Christian O'Connell, Andrea Kutics, and Akihiko Nakagawa</i>	
Wide Area Camera Localization	320
<i>Valeria Garro, Maurizio Galassi, and Andrea Fusiello</i>	
Arabic Printed Word Recognition Using Windowed Bernoulli HMMs ...	330
<i>Ihab Khoury, Adrià Giménez, Alfons Juan, and Jesús Andrés-Ferrer</i>	
Head Direction Estimation from Silhouette	340
<i>Amina Bensebaa, Slimane Larabi, and Neil M. Robertson</i>	
Combined Supervised / Unsupervised Algorithm for Skin Detection: A Preliminary Phase for Face Detection.....	351
<i>Eyal Braunstein and Isak Gath</i>	
Conic Based Camera Re-calibration after Zooming	361
<i>Iuri Frosio, Cristina Turrini, and Alberto Alzati</i>	
Dynamic Hierarchical Segmentation of Remote Sensing Images.....	371
<i>Giuseppe Scarpa, Giuseppe Masi, Raffaele Gaetano, Luisa Verdoliva, and Giovanni Poggi</i>	
Road Traffic Conflict Analysis from Geo-referenced Stereo Sequences ...	381
<i>Sebastiano Battiato, Stefano Cafiso, Alessandro Di Graziano, Giovanni M. Farinella, and Oliver Giudice</i>	

Adaptive Compression of Stereoscopic Images	391
<i>Alessandro Ortis, Francesco Rundo, Giuseppe Di Giore, and Sebastiano Battiato</i>	
Trajectory Similarity Measures Using Minimal Paths	400
<i>Brais Cancela, Marcos Ortega, Alba Fernández, and Manuel G. Penedo</i>	
Structured Multi-class Feature Selection for Effective Face Recognition	410
<i>Giovanni Fusco, Luca Zini, Nicoletta Noceti, and Francesca Odone</i>	
Measuring Sandy Bottom Dynamics by Exploiting Depth from Stereo Video Sequences	420
<i>Rosaria E. Musumeci, Giovanni M. Farinella, Enrico Foti, Sebastiano Battiato, Thor U. Petersen, and B. Mutlu Sumer</i>	
Daily Living Activities Recognition via Efficient High and Low Level Cues Combination and Fisher Kernel Representation	431
<i>Negar Rostamzadeh, Gloria Zen, Ionuț Mironică, Jasper Uijlings, and Nicu Sebe</i>	
What Epipolar Geometry Can Do for Video-Surveillance	442
<i>Nicoletta Noceti, Luigi Balduzzi, and Francesca Odone</i>	
Class Representative Computation Using Graph Embedding	452
<i>Fahri Aydos, Ahmet Soran, and M. Fatih Demirci</i>	
Robust Selective Stereo SLAM without Loop Closure and Bundle Adjustment	462
<i>Fabio Bellavia, Marco Fanfani, Fabio Pazzaglia, and Carlo Colombo</i>	
Demographics versus Biometric Automatic Interoperability	472
<i>Maria De Marsico, Michele Nappi, Daniel Riccio, and Harry Wechsler</i>	
Edge Detection on Polynomial Texture Maps	482
<i>Cristian Brognara, Massimiliano Corsini, Matteo Dellepiane, and Andrea Giachetti</i>	
A Ripplet Transform Based Statistical Framework for Natural Color Image Retrieval	492
<i>Manish Chowdhury, Sudeb Das, and Malay K. Kundu</i>	
A Fully Automatic Approach for the Accurate Localization of the Pupils	503
<i>Marco Leo, Dario Cazzato, Tommaso De Marco, and Cosimo Distantè</i>	

Problems in Distortion Corrected Texture Classification and the Impact of Scale and Interpolation	513
<i>Michael Gadermayr, Michael Liedlgruber, Andreas Uhl, and Andreas Vécsei</i>	
On Optimized Color Image Coding Using Correlation of Primary Colors	523
<i>Eyal Braunstein and Moshe Porat</i>	
Towards Learning Hierarchical Compositional Models in the Presence of Clutter	532
<i>Jan Mačák and Ondřej Drbohlav</i>	
Social Groups Detection in Crowd through Shape-Augmented Structured Learning	542
<i>Francesco Solera and Simone Calderara</i>	
Evaluation of Statistical Features for Medical Image Retrieval	552
<i>Cecilia Di Ruberto and Giuseppe Fodde</i>	
Hierarchical Image Representation Simplification Driven by Region Complexity	562
<i>Petra Bosilj, Sébastien Lefèvre, and Ewa Kijak</i>	
Anisotropic Diffusion and Curve Evolution for Segmentation of Color Images in Cultural Heritage	572
<i>Luigi Cinque and Rossella Cossu</i>	
Comparison of Three Approaches for Scenario Classification for the Automotive Field	582
<i>Nicola Bernini, Massimo Bertozzi, Luca Devincenzi, and Luca Mazzei</i>	
Adverse Driving Conditions Alert: Investigations on the SWIR Bandwidth for Road Status Monitoring	592
<i>Massimo Bertozzi, Rean Isabella Fedriga, and Carlo D'Ambrosio</i>	
Simple and Robust Facial Portraits Recognition under Variable Lighting Conditions Based on Two-Dimensional Orthogonal Transformations	602
<i>Paweł Forczmański, Georgy Kukharev, and Nadezdha Shchegoleva</i>	
Investigation of Different Classification Models to Determine the Presence of Leukemia in Peripheral Blood Image	612
<i>Lorenzo Putzu and Cecilia Di Ruberto</i>	
Estimating the Serial Combination's Performance from That of Individual Base Classifiers	622
<i>Gian Luca Marcialis, Luca Didaci, and Fabio Roli</i>	

3D Interest Points Detection Using Symmetric Surround-Based Surface Saliency	632
<i>Yitian Zhao and Yonghuai Liu</i>	
Robust Silhouette Extraction from Kinect Data	642
<i>Michele Pirovano, Carl Yuheng Ren, Iuri Frosio, Pier Luca Lanzi, Victor Prisacariu, David W. Murray, and N. Alberto Borghese</i>	
A Modified SIFT Descriptor for Image Matching under Spectral Variations	652
<i>Sajid Saleem and Robert Sablatnig</i>	
A New Fuzzy Skeletonization Algorithm and Its Applications to Medical Imaging	662
<i>Dakai Jin and Punam K. Saha</i>	
A Subunit-Based Dynamic Time Warping Approach for Hand Movement Recognition	672
<i>Yanrui Wang, Atsushi Shimada, Takayoshi Yamashita, and Rin-ichiro Taniguchi</i>	
Softmax Regression for ECOC Reconstruction	682
<i>Roberto D'Ambrosio, Giulio Iannello, and Paolo Soda</i>	
Multisubjects Tracking by Time-of-Flight Camera	692
<i>Piercarlo Dondi, Luca Lombardi, and Luigi Cinque</i>	
3D Tracking of Honeybees Enhanced by Environmental Context	702
<i>Guillaume Chiron, Petra Gomez-Krämer, Michel Ménard, and Fabrice Requier</i>	
Classification of Pollen Apertures Using Bag of Words	712
<i>Gildardo Lozano-Vega, Yannick Benezeth, Franck Marzani, and Frank Boochs</i>	
Evaluating Temporal Information for Social Image Annotation and Retrieval	722
<i>Tiberio Uricchio, Lamberto Ballan, Marco Bertini, and Alberto Del Bimbo</i>	
VSCAN: An Enhanced Video Summarization Using Density-Based Spatial Clustering	733
<i>Karim M. Mahmoud, Mohamed A. Ismail, and Nagia M. Ghanem</i>	
On the Impact of Alterations on Face Photo Recognition Accuracy	743
<i>Matteo Ferrara, Annalisa Franco, Davide Maltoni, and Yunlian Sun</i>	
An Efficient Indexing Scheme Based on Linked-Node m-Ary Tree Structure	752
<i>The-Anh Pham, Sabine Barrat, Mathieu Delalandre, and Jean-Yves Ramel</i>	

A Natural Interface for the Training of Medical Personnel in an Immersive and Virtual Reality System	763
<i>Alberto Del Bimbo, Andrea Ferracani, Daniele Pezzatini, and Lorenzo Seidenari</i>	
Saliency Based Image Cropping	773
<i>Edoardo Ardizzone, Alessandro Bruno, and Giuseppe Mazzola</i>	
First Quantization Coefficient Extraction from Double Compressed JPEG Images	783
<i>Fausto Galvan, Giovanni Puglisi, Arcangelo R. Bruna, and Sebastiano Battiato</i>	
Soccer Ball Detection with Isophotes Curvature Analysis	793
<i>Tommaso De Marco, Marco Leo, and Cosimo Distante</i>	
A Bayesian Approach to Tracking Learning Detection	803
<i>Giorgio Gemignani, Wongun Choi, Alessio Ferone, Alfredo Petrosino, and Silvio Savarese</i>	
Blind Invisible Watermarking Technique in DT-CWT Domain Using Visual Cryptography	813
<i>Meryem Benyoussef, Samira Mabtoul, Mohamed El Marraki, and Driss Aboutajdine</i>	
An Ensemble Algorithm Framework for Automated Stereology of Cervical Cancer	823
<i>Baishali Chaudhury, Hady Ahmady Phoulady, Dmitry Goldgof, Lawrence O. Hall, Peter R. Mouton, Ardeshtir Hakam, and Erin M. Siegel</i>	
Attributed Relational SIFT-Based Regions Graph for Art Painting Retrieval	833
<i>Mario Manzo and Alfredo Petrosino</i>	
Video Segmentation Framework by Dynamic Background Modelling	843
<i>Santiago Molina-Giraldo, Andres M. Álvarez-Meza, Julio C. García-Álvarez, and Cesar G. Castellanos-Domínguez</i>	
Author Index	853