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Structural, Syntactic, and Statistical Pattern Recognition

Joint IAPR International Workshop
SSPR & SPR 2012
Hiroshima, Japan, November 7-9, 2012
Proceedings

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Preface

The joint IAPR International Workshops on Structural and Syntactic Pattern Recognition (SSPR 2012) and Statistical Techniques in Pattern Recognition (SPR 2012) were held at Miya-jima Itsukushima, Hiroshima, during November 7–9, 2012. These were, respectively, the 14th and 9th editions of the SSPR and SPR workshops. This joint event is biannually organized by Technical Committee 1 (Statistical Pattern Recognition Technique) and Technical Committee 2 (Structural and Syntactical Pattern Recognition) of the International Association of Pattern Recognition (IAPR), and held in conjunction with the International Conference on Pattern Recognition (ICPR). This year the 21st ICPR was held during November 11–15, 2012, at the Tsukuba International Congress Center, Tsukuba, Japan. As is now tradition, during the SPR workshop the Pierre De-*vijver* Award recipient presents an invited lecture. This year the Pierre De-*vijver* Award winner was Professor George Nagy from Rensselaer Polytechnic Institute in Troy, USA. The workshop also contained invited talks by Ales Leonardis from the University of Birmingham and Kenichi Kanatani from Okayama University.

In 2012 the joint SSPR and SPR Workshops were co-hosted by the pattern recognition research groups from four Japanese universities, namely, Hokkaido University, Tohoku University, Hiroshima University, and Chiba University. The Special Interest Group of Pattern Recognition and Media Understanding (SIG PRMU, formerly SIG PR) of the Institute of Electronic Information and Communication Engineers (IEICE) of Japan offered formal support for this event. SIG PRMU(PR) is one of the oldest communities for pattern recognition in the world, dating back to the 1960s. Interestingly, the origins of the Principal Component Analysis technique now universally used in pattern recognition can be traced back to independent early work by Taizo Iijima in 1963 at the former Electrotechnical Laboratory of MITI and Satoshi Watanabe in 1962, from the University of Hawaii. Today PCA is an indispensable tool in pattern recognition that has recently been extended to give both sparse and kernel methods, providing powerful new tools for data reduction. In the 1970s basic methodology from structural and syntactical pattern recognition was used in a national project concerned with “Kanji” (Chinese characters used in Japanese context) character recognition, and the results presented and discussed at a historically significant meeting of SIG PR. Based on this long tradition of pattern recognition in Japan, we welcomed SS+SPR 2012 at Miyajima.

There were 120 papers submitted to the joint workshops, of which we accepted 80 papers from 18 countries. We thank the members of the international Program Committee for their thoughtful reviews, which led to the interesting and varied set of papers contained within this volume.

We gratefully acknowledge the financial support from the Institute of Media and Information Technology, Chiba University, and from Chiba University. We

also acknowledge valuable support from Hokkaido University, Tohoku University, Hiroshima University, and the Special Interest Group of Pattern Recognition and Media Understanding in Institute of Electronic Information and Communication Engineers of Japan. We gratefully extend our thanks to Takio Kurita and Toru Tamaki for their help with the local organization in Hiroshima. Without their assistance, the workshops at Hiroshima would not have been possible. Finally, we thank Hayato Itoh, Shun Inagaki, Fumiki Sekiya, and Ken Nobehara for their invaluable help in assembling this volume.

November 2012

Georgy L. Gimel' farb
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Table of Contents

Pierre Devijver Award Lecture

Estimation, Learning, and Adaptation: Systems That Improve with Use	1
<i>George Nagy</i>	

Invited Talks

Optimization Techniques for Geometric Estimation: Beyond Minimization	11
<i>Kenichi Kanatani</i>	
Hierarchical Compositional Representations of Object Structure	31
<i>Aleš Leonardis</i>	

Structural, Syntactical, and Statistical Pattern Recognition

Information Theoretic Prototype Selection for Unattributed Graphs	33
<i>Lin Han, Luca Rossi, Andrea Torsello, Richard C. Wilson, and Edwin R. Hancock</i>	
Graph Kernels: Crossing Information from Different Patterns Using Graph Edit Distance	42
<i>Benoit Gaüzère, Luc Brun, and Didier Villemin</i>	
Mode Seeking Clustering by KNN and Mean Shift Evaluated	51
<i>Robert P.W. Duin, Ana L.N. Fred, Marco Loog, and Elżbieta Pekalska</i>	
Learning Sparse Kernel Classifiers in the Primal	60
<i>Zhouyu Fu, Guojun Lu, Kai-Ming Ting, and Dengsheng Zhang</i>	

Graph and Tree Methods

Evolutionary Weighted Mean Based Framework for Generalized Median Computation with Application to Strings	70
<i>Lucas Franek and Xiaoyi Jiang</i>	
Graph Complexity from the Jensen-Shannon Divergence	79
<i>Lu Bai and Edwin R. Hancock</i>	
Complexity of Computing Distances between Geometric Trees	89
<i>Aasa Feragen</i>	

Active Graph Matching Based on Pairwise Probabilities between Nodes 98
Xavier Cortés, Francesc Serratos, and Albert Solé-Ribalta

On the Relation between the Common Labelling and the Median Graph 107
Nicola Rebagliati, Albert Solé-Ribalta, Marcello Pelillo, and Francesc Serratos

Randomized Methods and Image Analysis

A Hierarchical Image Segmentation Algorithm Based on an Observation Scale 116
Silvio Jamil F. Guimarães, Jean Cousty, Yukiko Kenmochi, and Laurent Najman

A Discrete Scale Space Neighborhood for Robust Deep Structure Extraction 126
Martin Tschirsich and Arjan Kuijper

On the Correlation of Graph Edit Distance and L_1 Distance in the Attribute Statistics Embedding Space 135
Jaume Gibert, Ernest Valveny, Horst Bunke, and Alicia Fornés

Approximate Axial Symmetries from Continuous Time Quantum Walks 144
Luca Rossi, Andrea Torsello, and Edwin R. Hancock

A Clustering-Based Ensemble Technique for Shape Decomposition 153
Sergej Lewin, Xiaoyi Jiang, and Achim Clausing

Kernel Methods in Structural and Syntactical Pattern Recognition

Laplacian Eigenimages in Discrete Scale Space 162
Martin Tschirsich and Arjan Kuijper

A Relational Kernel-Based Framework for Hierarchical Image Understanding 171
Laura Antanas, Paolo Frasconi, Fabrizio Costa, Tinne Tuytelaars, and Luc De Raedt

A Jensen-Shannon Kernel for Hypergraphs 181
Lu Bai, Edwin R. Hancock, and Peng Ren

Heat Flow-Thermodynamic Depth Complexity in Directed Networks ... 190
Francisco Escolano, Boyan Bonev, and Edwin R. Hancock

Shape Similarity Based on a Treelet Kernel with Edition	199
<i>Sébastien Bougleux, François-Xavier Dupé, Luc Brun, and Myriam Mokhtari</i>	

Applications of Structural and Syntactical Pattern Recognition

3D Shape Classification Using Commute Time	208
<i>Muhammad Haseeb and Edwin R. Hancock</i>	
Conditional Random Fields for Land Use/Land Cover Classification and Complex Region Detection	216
<i>Gulcan Can, Orhan Firat, and Fatos Tunay Yarman Vural</i>	
Recognition of Long-Term Behaviors by Parsing Sequences of Short-Term Actions with a Stochastic Regular Grammar	225
<i>Gerard Sanromà, Gertjan Burghouts, and Klamer Schutte</i>	
A Comparison between Structural and Embedding Methods for Graph Classification	234
<i>Albert Solé-Ribalta, Xavier Cortés, and Francesc Serratosa</i>	
Improving Fuzzy Multilevel Graph Embedding through Feature Selection Technique	243
<i>Muhammad Muzzamil Luqman, Jean Yves Ramel, and Josep Lladós</i>	

Clustering

Dynamic Learning of SCRF for Feature Selection and Classification of Hyperspectral Imagery	254
<i>Ping Zhong, Zhiming Qian, and Runsheng Wang</i>	
Entropic Selection of Histogram Features for Efficient Classification	264
<i>Ákos Utasi</i>	
2D Shapes Classification Using BLAST	273
<i>Pietro Lovato and Manuele Bicego</i>	
A New Random Forest Method for One-Class Classification	282
<i>Chesner Désir, Simon Bernard, Caroline Petitjean, and Laurent Heutte</i>	
A New Index Based on Sparsity Measures for Comparing Fuzzy Partitions	291
<i>Romain Quéré and Carl Frélicot</i>	

Learning

Polichotomies on Imbalanced Domains by One-per-Class Compensated Reconstruction Rule	301
<i>Roberto D'Ambrosio and Paolo Soda</i>	
The Dipping Phenomenon	310
<i>Marco Loog and Robert P.W. Duin</i>	
Colour Matching Function Learning	318
<i>Luis Romero-Ortega and Antonio Robles-Kelly</i>	
Constrained Log-Likelihood-Based Semi-supervised Linear Discriminant Analysis	327
<i>Marco Loog and Are C. Jensen</i>	
Out-of-Sample Embedding by Sparse Representation	336
<i>Bogdan Raducanu and Fadi Dornaika</i>	

Kernel Methods in Statistical Pattern Recognition

Extended Analyses for an Optimal Kernel in a Class of Kernels with an Invariant Metric	345
<i>Akira Tanaka, Ichigaku Takigawa, Hideyuki Imai, and Mineichi Kudo</i>	
Simultaneous Learning of Localized Multiple Kernels and Classifier with Weighted Regularization	354
<i>Naoya Inoue and Yukihiko Yamashita</i>	
Change-Point Detection in Time-Series Data by Relative Density-Ratio Estimation	363
<i>Song Liu, Makoto Yamada, Nigel Collier, and Masashi Sugiyama</i>	
Online Metric Learning Methods Using Soft Margins and Least Squares Formulations	373
<i>Adrian Perez-Suay and Francesc J. Ferri</i>	
Shape Analysis Using the Edge-Based Laplacian	382
<i>Furqan Aziz, Richard C. Wilson, and Edwin R. Hancock</i>	

Applications of Statistical Pattern Recognition

One-Sided Prototype Selection on Class Imbalanced Dissimilarity Matrices	391
<i>Mónica Millán-Giraldo, Vicente García, and J. Salvador Sánchez</i>	
Estimating Surface Characteristics and Extracting Features from Polarisation	400
<i>Lichi Zhang, Edwin R. Hancock, and Jing Wu</i>	

Extended Fisher Criterion Based on Auto-correlation Matrix Information	409
<i>Hitoshi Sakano, Tsukasa Ohashi, Akisato Kimura, Hiroshi Sawada, and Katsuhiko Ishiguro</i>	
Poisoning Adaptive Biometric Systems	417
<i>Battista Biggio, Giorgio Fumera, Fabio Roli, and Luca Didaci</i>	
Modified Divergences for Gaussian Densities	426
<i>Karim T. Abou-Moustafa and Frank P. Ferrie</i>	

Applications of Structural, Syntactical, and Statistical Methods

Graph Database Retrieval Based on Metric-Trees	437
<i>Francesc Serratos, Xavier Cortés, and Albert Solé-Ribalta</i>	
Validation of Network Classifiers	448
<i>James Li, Abdullah Sonmez, Zehra Cataltepe, and Eric Bax</i>	
Alignment and Morphing for the Boundary Curves of Anatomical Organs	458
<i>Keiko Morita, Atsushi Imiya, Tomoya Sakai, Hidetaka Hontan, and Yoshitaka Masutani</i>	
Unsupervised Clustering of Human Pose Using Spectral Embedding	467
<i>Muhammad Haseeb and Edwin R. Hancock</i>	
Human Action Recognition in Video by Fusion of Structural and Spatio-temporal Features	474
<i>Ehsan Zare Borzeshi, Oscar Perez Concha, and Massimo Piccardi</i>	
An Incremental Structured Part Model for Image Classification	483
<i>Huigang Zhang, Xiao Bai, Jian Cheng, Jun Zhou, and Huijie Zhao</i>	
Top-Down Tracking and Estimating 3D Pose of a Die	492
<i>Fuensanta Torres and Walter G. Kropatsch</i>	
Large Scale Experiments on Fingerprint Liveness Detection	501
<i>Gian Luca Marcialis, Luca Ghiani, Katja Vetter, Dirk Morgeneier, and Fabio Roli</i>	
Implicit and Explicit Graph Embedding: Comparison of Both Approaches on Chemoinformatics Applications	510
<i>Benoit Gaüzère, Makoto Hasegawa, Luc Brun, and Salvatore Tabbone</i>	
Modeling Spoken Dialog Systems under the Interactive Pattern Recognition Framework	519
<i>M. Inés Torres, Jose Miguel Benedí, Raquel Justo, and Fabrizio Ghigi</i>	

Hierarchical Graph Representation for Symbol Spotting in Graphical Document Images	529
<i>Klaus Broelemann, Anjan Dutta, Xiaoyi Jiang, and Josep Lladós</i>	
Compact Form of the Pseudo-inverse Matrix in the Approximation of a Star Graph Using the Conductance Electrical Model (CEM)	539
<i>Manuel Igelmo and Alberto Sanfeliu</i>	
A Heuristic Based on the Intrinsic Dimensionality for Reducing the Number of Cyclic DTW Comparisons in Shape Classification and Retrieval Using AESA	548
<i>Vicente Palazón-González and Andrés Marzal</i>	
Support Vector Machines Training Data Selection Using a Genetic Algorithm	557
<i>Michal Kawulok and Jakub Nalepa</i>	
A Unified View of Two-Dimensional Principal Component Analyses	566
<i>Kohei Inoue, Kenji Hara, and Kūichi Urahama</i>	
Automatic Dimensionality Estimation for Manifold Learning through Optimal Feature Selection	575
<i>Fadi Dornaika, Ammar Assoum, and Bogdan Raducanu</i>	
Novel Gabor-PHOG Features for Object and Scene Image Classification	584
<i>Atreyee Sinha, Sugata Banerji, and Chengjun Liu</i>	
Binary Gabor Statistical Features for Palmprint Template Protection	593
<i>Meiru Mu, Qiuqi Ruan, Xiaoying Shao, Luuk Spreeuwiers, and Raymond Veldhuis</i>	
Class-Dependent Dissimilarity Measures for Multiple Instance Learning	602
<i>Veronika Cheplygina, David M.J. Tax, and Marco Loog</i>	
Bidirectional Language Model for Handwriting Recognition	611
<i>Volkmar Frinken, Alicia Fornés, Josep Lladós, and Jean-Marc Ogier</i>	
Hypergraph Spectra for Unsupervised Feature Selection	620
<i>Zhihong Zhang and Edwin R. Hancock</i>	
Feature Selection Using Counting Grids: Application to Microarray Data	629
<i>Pietro Lovato, Manuele Bicego, Marco Cristani, Nebojsa Jojic, and Alessandro Perina</i>	
Infinite Sparse Factor Analysis for Blind Source Separation in Reverberant Environments	638
<i>Kohei Nagira, Takuma Otsuka, and Hiroshi G. Okuno</i>	

Sparse Discriminant Analysis Based on the Bayesian Posterior Probability Obtained by L1 Regression	648
<i>Akinori Hidaka and Takio Kurita</i>	
Conditional Variance of Differences: A Robust Similarity Measure for Matching and Registration	657
<i>Atsuto Maki and Riccardo Gherardi</i>	
A Class Centric Feature and Classifier Ensemble Selection Approach for Music Genre Classification	666
<i>Hasitha Bimsara Ariyaratne, Dengsheng Zhang, and Guojun Lu</i>	
A Local Adaptation of the Histogram Radon Transform Descriptor: An Application to a Shoe Print Dataset.....	675
<i>Makoto Hasegawa and Salvatore Tabbone</i>	
A Multiple Classifier System for Classification of Breast Lesions Using Dynamic and Morphological Features in DCE-MRI	684
<i>Roberta Fusco, Mario Sansone, Antonella Petrillo, and Carlo Sansone</i>	
A Comparative Analysis of Forgery Detection Algorithms	693
<i>Davide Cozzolino, Giovanni Poggi, Carlo Sansone, and Luisa Verdoliva</i>	
Low Training Strength High Capacity Classifiers for Accurate Ensembles Using Walsh Coefficients	701
<i>Terry Windeatt and Cemre Zor</i>	
A Novel Shadow-Assistant Human Fall Detection Scheme Using a Cascade of SVM Classifiers.....	710
<i>Yie-Tarng Chen, You-Rong Lin, and Wen-Hsien Fang</i>	
Analysis of Co-training Algorithm with Very Small Training Sets.....	719
<i>Luca Didaci, Giorgio Fumera, and Fabio Roli</i>	
Classification of High-Dimension PDFs Using the Hungarian Algorithm.....	727
<i>James S. Cope and Paolo Remagnino</i>	
Face Recognition Using Multilinear Manifold Analysis of Local Descriptors.....	734
<i>Xian-Hua Han and Yen-Wei Chen</i>	
A Genetic Inspired Optimization for ECOC	743
<i>Miguel Ángel Bautista, Sergio Escalera, Xavier Baró, and Oriol Pujol</i>	
Author Index	753