

**S+SSPR 2006**  
**Joint International Workshops on**  
**Structural, Syntactic and Statistical Pattern Recognition**  
**Hong Kong, China, August 17-19, 2006**

PROGRAM		
August 17	August 18	August 19
09:00	Opening and welcome	
09:15	Invited talk I Thorsten Joachims	
10:15	Coffee Break	
10:45	Recognition & classification I	Image analysis
12:25	Lunch	
14:00	Posters and coffee I	
15:30	Invited talk II B. John Oommen	
16:30	Image analysis	Vision
17:45	Welcome reception	
18:30	Welcome reception	
19:30	Welcome reception	
09:00	Facial image analysis I	Character recognition
10:15	Coffee Break	
10:45	Recognition & classification II	Bayesian networks
11:35	TC1 meeting	TC2 meeting
12:25	Lunch	
14:00	Posters and coffee II	
15:30	Invited talk III Tin Kam Ho	
16:30	Representation	
18:10	Feature selection	
19:30	Banquet	
09:00	Invited talk IV Robert P.W. Duin	
10:00	Coffee Break	
10:30	Special session on graph-based methods	
12:30	Lunch	
14:00	Posters and coffee III	
15:30	Clustering	Similarity & feature extraction
16:30	Facial image analysis II	
17:10	Closing	

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Legend

Invited talks		
Thursday August 17	09:15	<b>Thorsten Joachims (Cornell University, USA)</b> Structured output prediction with support vector machines
Thursday August 17	15:30	<b>B. John Oommen (Carleton University, Canada)</b> On the theory and applications of sequence based estimation of independent binomial random variables
Friday August 18	15:30	<b>Tin Kam Ho (Bell Labs, Lucent Technologies, USA)</b> Symmetries from uniform space covering in stochastic discrimination
Saturday August 19	09:00	<b>Robert P.W. Duin (Delft University of Technology, The Netherlands)</b> Structural inference of sensor-based measurements

**SSPR****Image analysis**

Thursday August 17, 10:45

10:45	A multiphase level set evolution scheme for aerial image segmentation using multi-scale image geometric analysis: <i>Wang Wei, Yang Xin, Cao Guo</i>
11:10	Experiments on robust image registration using a Markov-Gibbs appearance mode <i>Ayman El-Baz, Aly Farag, Georgy Gimel'farb</i>
11:35	Fully automatic segmentation of coronary vessel structures in poor quality X-ray angiogram image: <i>Cemal Köse</i>
12:00	Smoothing tensor-valued images using anisotropic geodesic diffusion <i>Fan Zhang, Edwin R. Hancock</i>

**Vision**

Thursday August 17, 16:30

16:30	Diffusion of geometric affinity for surface integration <i>Roberto Fraile, Edwin R. Hancock</i>
16:55	Comparative study of people detection in surveillance scenes: <i>A. Negre, H. Tran, N. Gourier, D. Hall, A. Lux, J.L. Crowley</i>
17:20	A class of generalized median contour problem with exact solution <i>Pakaket Wattuya, Xiaoyi Jiang</i>

**Character recognition**

Friday August 18, 9:00

09:00	Structural and syntactic techniques for recognition of Ethiopic character: <i>Yaregal Assabie, Josef Bigun</i>
09:25	Context driven Chinese string segmentation and recognition <i>Yan Jiang, Xiaoqing Ding, Qiang Fu, Zheng Ren</i>
09:50	Support vector machines for mathematical symbol recognition <i>Christopher Maion, Seiichi Uchida, Masakazu Suzuki</i>

**Bayesian networks**

Friday August 18, 10:45

10:45	Bayesian class-matched multinet classifier <i>Yaniv Gurwicz, Boaz Lerner</i>
11:10	Bayesian network structure learning by recursive autonomy identification <i>Raanan Yehezkel, Boaz Lerner</i>

**Graph-based methods**

Saturday August 19, 10:30

10:30	Fast suboptimal algorithms for the computation of graph edit distance <i>Michel Neuhaus, Kaspar Riesen, Horst Bunke</i>
10:55	A spectral generative model for graph structure <i>Bai Xiao, Edwin R. Hancock</i>
11:20	Considerations regarding the minimum spanning tree pyramid segmentation method <i>Adrian Ion, Walter G. Kropatsch, Yil Haxhimusa</i>

**Similarity & feature extraction**

Saturday August 19, 15:30

15:30	A random walk kernel derived from graph edit distance <i>Michel Neuhaus, Horst Bunke</i>
15:55	Edit distance for ordered vector sets. A case of study <i>Juan Ramón Rico-Juan, José M. Iñesta</i>
16:20	Shape retrieval using normalized Fourier descriptors based signatures and cyclic dynamic time warping <i>Andrés Marzal, Vicente Palazón, Guillermo Peris</i>

SSPR Posters I	
Thursday August 17, 14:00-15:30	
Recognition & classification	
Ubiquitous intelligent sensing system for a smart home <i>Jonghwa Choi, Dongkyoo Shin, Dongil Shir</i>	
Object recognition using multiresolution trees <i>Monica Bianchini, Marco Maggini, Lorenzo Sart</i>	
A robust and hierarchical approach for camera motion classifier <i>Yulianq Geng, De Xu, Songhe Feng, Jiazheng Yuan</i>	
Time series analysis of grey forecasting based on wavelet transform and its prediction application: <i>Haiyan Cen, Yidan Bao, Min Huang, Yong He</i>	
A study of touchless fingerprint recognition system <i>Chulhan Lee, Sanghoon Lee, Jaihie Kim</i>	
Development of a block-based real-time people counting system <i>Hyun Hee Park, Hyung Gu Lee, Seung-In Noh, Jaihie Kim</i>	
A classification approach for the heart sound signals using hidden Markov model: <i>Yong-Joo Chung</i>	
Structure analysis based parking slot marking recognition for semi-automatic parking system <i>Ho Gi Jung, Dong Suk Kim, Pal Joo Yoon, Jaihie Kim</i>	
SSPR Posters II	
Friday August 18, 14:00-15:30	
Image & video	
Watermarking for 3D CAD drawings based on three components <i>Ki-Ryong Kwon, Suk-Hwan Lee, Eung-Joo Lee, Seong-Geun Kwon</i>	
Hierarchical video summarization based on video structure and highligh <i>Yulianq Geng, De Xu, Songhe Feng</i>	
Direct curvature scale space in corner detection <i>Baojiang Zhong, Wenhe Liac</i>	
Vision	
Aligning concave and convex shapes <i>Silke Jänichen, Petra Perner</i>	
Research on iterative closest contour point for underwater terrain-aided navigation <i>Wang Kedong, Yan Lei, Deng Wei, Zhang Junhong</i>	
Image-based absolute positioning system for mobile robot navigation <i>JaeMu Yun, EunTae Lyu and JangMyung Lee</i>	
An evaluation of three popular computer vision approaches for 3-D face synthesis: <i>Alexander Woodward, Da An, Yizhe Lin, Patrice Delmas, Georgy Gimel'farb, John Morris</i>	
Optical flow computation with fourth order partial differential equation: <i>Xiaoxin Guo, Zhiwen Xu, Yueping Feng, Yunxiao Wang, Zhengxuan Wang</i>	
Document analysis	
Finding captions in PDF-documents for semantic annotations of images: <i>Gerd Maderlechner, Jiri Panyr, Peter Suda</i>	
Effective handwritten Hangul recognition method based on the hierarchical stroke model matching <i>Wontaek Seo, Beom-Joon Cho</i>	
SSPR Posters III	
Saturday August 19, 14:00-15:30	
Kernel-based methods	
Transforming strings to vector spaces using prototype selection <i>Barbara Spillmann, Michel Neuhaus, Horst Bunke, Elzbieta Pekalska, Robert P.W. Duij</i>	
Shape categorization using string kernels <i>Mohammad Reza Daliri, Elisabetta Delponte, Alessandro Verri, Vincent Torre</i>	
Trace formula analysis of graphs <i>Bai Xiao, Edwin R. Hancock</i>	
A robust realtime surveillance system <i>Byung-Joo Kim, Chang-Bum Lee, Il-Kon Kim</i>	
Similarity & feature extraction	
A fast and exact modulo-distance between histograms <i>Francesc Serratosa, Alberto Sanfeliu</i>	
Using learned conditional distributions as edit distance <i>Jose Oncina, Marc Sebban</i>	
An efficient distance between multi-dimensional histograms for comparing images: <i>Francesc Serratosa, Gerard Sanromà</i>	
Graph-based methods	
Graph Embedding using commute time <i>Huaijun Qiu, Edwin R. Hancock</i>	
Graph based multi-class semi-supervised learning using Gaussian process <i>Yangqiu Song, Changshui Zhang, Jianguo Lee</i>	
Point pattern matching via spectral geometry <i>Antonio Robles-Kelly, Edwin R. Hancock</i>	
Graph-based fast image segmentation <i>Dongfeng Han, Wenhui Li, Xiaosuo Lu, Lin Li, Yi Wang</i>	
Modeling of remote sensing image content using attributed relational graph: <i>Selim Aksoy</i>	
A graph-based method for detecting and classifying clusters in mammographic images <i>P. Foqgia, M. Guerriero, G. Percannella, C. Sansone, F. Tufano, M. Ventc</i>	

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Recognition & classification I Thursday August 17, 10:45	
10:45	A speedup method for SVM decision <i>Yongsheng Zhu, Junyan Yang, Jian Ye, Youyun Zhang</i>
11:10	Generalization error of multinomial classifier <i>Sarunas Raudys</i>
11:35	Combining accuracy and prior sensitivity for classifier design under prior uncertainty <i>Thomas Landgrebe, Robert P.W. Duin</i>
12:00	Using co-training and self-training in semi-supervised multiple classifier system: <i>Luca Didaci, Fabio Roli</i>
Image analysis Thursday August 17, 16:30	
16:30	MRF based spatial complexity for hyperspectral imagery unmixing <i>Sen Jia, Yuntao Qian</i>
16:55	Effectiveness of spectral band selection/extraction techniques for spectral data <i>Marina Skurichina, Sergey Verzakov, Pavel Paclik, Robert P.W. Duin</i>
17:20	Edge detection in hyperspectral imaging: multivariate statistical approaches <i>Sergey Verzakov, Pavel Paclik, Robert P.W. Duin</i>
Facial image analysis I Friday August 18, 9:00	
09:00	Semi-supervised PCA-based face recognition using self-training <i>Fabio Roli, Gian Luca Marcialis</i>
09:25	Facial shadow removal <i>William A.P. Smith, Edwin R. Hancock</i>
09:50	A sequential Monte Carlo method for Bayesian face recognition <i>Atsushi Matsui, Simon Clippingdale, Takashi Matsumoto</i>
Recognition & classification II Friday August 18, 10:45	
10:45	Outlier detection using ball descriptions with adjustable metric <i>David M.J. Tax, Piotr Juszczak, Elzbieta Pekalska, Robert P.W. Duin</i>
11:10	HMM-based gait recognition with human profiles <i>Heung-Il Suk, Bong-Kee Sin</i>
Representation Friday August 18, 16:30	
16:30	Maxwell normal distribution in a manifold and Mahalanobis metric <i>Yukihiro Yamashita, Mariko Numakami, Naoya Inoue</i>
16:55	Augmented embedding of dissimilarity data into (pseudo-)Euclidean space: <i>Artsiom Harol, Elzbieta Pekalska, Sergey Verzakov, Robert P.W. Duin</i>
Feature selection Friday August 18, 17:20	
17:20	Feature over-selection <i>Sarunas Raudys</i>
17:45	Flexible-hybrid sequential floating search in statistical feature selection <i>Petr Somol, Jana Novovičová, Pavel Pudil</i>
Clustering Saturday August 19, 15:30	
15:30	EM cluster analysis for categorical data <i>Jiří Grim</i>
15:55	Two entropy-based methods for learning unsupervised Gaussian mixture model: <i>Antonio Peñalver, Francisco Escolano, Juan M. Sáez</i>
Facial image analysis II Saturday August 19, 16:20	
16:20	Maximum likelihood estimates for object detection using multiple detectors <i>Magnus Oskarsson, Kalle Aström</i>
16:45	Confidence based gating of multiple face authentication experts <i>Mohammad T. Sadeghi, Josef Kittler</i>

<b>SPR Posters I</b> Thursday August 17, 14:00-15:30 Multiple classifier systems
Diversity analysis for ensembles of word sequence recognisers <i>Roman Bertolami, Horst Bunke</i>
Adaptive classifier selection based on two level hypothesis tests for incremental learning <i>Haixia Chen, Senmiao Yuan, Kai Jiang</i>
Combining SVM and graph matching in a Bayesian multiple classifier system for image content recognition <i>Bertrand Le Saux, Horst Bunke</i>
AUC-based linear combination of dichotomizers <i>Claudio Marrocco, Mario Molinara, Francesco Tortorella</i>
Recognition & classification
Confidence score based unsupervised incremental adaptation for OOV words detection <i>Wei Chu, Xi Xiao, Jia Liu</i>
Polynomial network classifier with discriminative feature extractor <i>Cheng-Lin Liu</i>
Semi-supervised classification with active query selector <i>Jiao Wang, Siwei Luo</i>
Mono-font cursive Arabic text recognition using speech recognition system <i>Mohammad S. Khorsheed</i>
From indefinite to positive semi-definite matrices <i>Alberto Muñoz, Isaac Martín de Diego</i>
A multi-stage approach for anchor shot detection <i>L. D'Anna, G. Marrazzo, G. Percannella, C. Sansone, M. Ventc</i>

<b>SPR Posters II</b> Friday August 18, 14:00-15:30 Dimensionality
On optimizing kernel-based Fisher discriminant analysis using prototype reduction scheme <i>Sang-Woon Kim, B. John Oommen</i>
Sparse covariance estimates for high dimensional classification using the Cholesky decomposition <i>Asbjørn Berge, Anne Schistad Solberg</i>
Generic blind source separation using second-order local statistics <i>Marco Loog</i>
Hyperspectral data selection from mutual information between image bands <i>José Martínez Sotoca, Filiberto Pla</i>
Representation
Model selection using a class of kernels with an invariant metric <i>Akira Tanaka, Masashi Sugiyama, Hideyuki Imai, Mineichi Kudo, Masaaki Miyakoshi</i>
Non-Euclidean or non-metric measures can be informative <i>Ełzbieta Pełkalska, Artiom Harol, Robert P.W. Duin, Barbara Spillmann, Horst Bunke</i>
Biometrics
Merging and arbitration strategy applied Bayesian classification for eye location <i>Eun Jin Koh, Phill Kyu Rhee</i>
Recognizing face or object from a single image: linear vs. kernel methods on 2D patterns <i>Daoqiang Zhang, Songcan Chen, Zhi-Hua Zhou</i>
A coupled statistical model for face shape recovery <i>Mario Castelań, William A.P. Smith, Edwin R. Hancock</i>
Analysis and selection of features for the fingerprint vitality detection <i>Pietro Coli, Gian Luca Marcialis, Fabio Roli</i>
Recognizing facial expressions with PCA and ICA onto dimension of the emotion <i>Young-suk Shin</i>
Multiple classifier systems
Comparison of classifier fusion methods for classification in pattern recognition tasks <i>Francisco Moreno-Seco, José M. Iñesta, Pedro J. Ponce de León, Luisa Micó</i>
Recognition & classification
On the use of different classification rules in an editing task <i>Luisa Micó, Francisco Moreno-Seco, José Salvador Sánchez, José Martínez Sotoca, Ramón Alberto Mollineda</i>

<b>SPR Posters III</b> Saturday August 19, 14:00-15:30 Unsupervised learning
An improved possibilistic C-means algorithm based on kernel methods <i>Xiao-Hong Wu, Jian-Jiang Zhou</i>
Identifiability and estimation of probabilities from multiple databases with incomplete data and sampling selection <i>Jinzhu Jia, Zhi Geng, Mingfeng Wang</i>
Unsupervised image segmentation using a hierarchical clustering selection process <i>Adolfo Martínez-Usó, Filiberto Pla, Pedro García-Sevilla</i>
Application of a two-level self organizing map for Korean online game market segmentation <i>Sang-Chul Lee, Jae-Young Moon, Jae-Kyeong Kim, Yung-Ho Sut</i>
Clustering based on compressed data for categorical and mixed attributes <i>Erendira Rendón, José Salvador Sánchez</i>
Applications
An audio copyright protection schemes based on SMM in cepstrum domain <i>Shenghong Li, Lili Cui, Jonguk Choi, Xuenan Cu</i>
Combining features to improve oil spill classification in SAR images <i>Darby F. de A. Lopes, Geraldo L.B. Ramalho, Fátima N.S. de Medeiros, Rodrigo C.S. Costa, Regia T.S. Araújo</i>