

Table of Contents – Part I

Oral Session 1: Object Detection and Learning

Beyond Dataset Bias: Multi-task Unaligned Shared Knowledge Transfer	1
<i>Tatiana Tommasi, Novi Quadrianto, Barbara Caputo, and Christoph H. Lampert</i>	
Cross-Database Transfer Learning via Learnable and Discriminant Error-Correcting Output Codes	16
<i>Feng-Ju Chang, Yen-Yu Lin, and Ming-Fang Weng</i>	
Human Reidentification with Transferred Metric Learning	31
<i>Wei Li, Rui Zhao, and Xiaogang Wang</i>	

Poster Session 1: Object Detection, Learning and Matching

Tell Me What You Like and I'll Tell You What You Are: Discriminating Visual Preferences on Flickr Data	45
<i>Pietro Lovato, Alessandro Perina, Nicu Sebe, Omar Zandonà, Alessio Montagnini, Manuele Bicego, and Marco Cristani</i>	
Local Context Priors for Object Proposal Generation	57
<i>Marko Ristin, Juergen Gall, and Luc Van Gool</i>	
Arbitrary-Shape Object Localization Using Adaptive Image Grids	71
<i>Chunhuan Zhou and Junsong Yuan</i>	
Disambiguation in Unknown Object Detection by Integrating Image and Speech Recognition Confidences	85
<i>Yuko Ozasa, Yasuo Ariki, Mikio Nakano, and Naoto Iwahashi</i>	
Class-Specific Weighted Dominant Orientation Templates for Object Detection	97
<i>Hui-Jin Lee and Ki-Sang Hong</i>	
Salient Object Detection via Color Contrast and Color Distribution	111
<i>Keren Fu, Chen Gong, Jie Yang, and Yue Zhou</i>	
Data Decomposition and Spatial Mixture Modeling for Part Based Model	123
<i>Junge Zhang, Yongzhen Huang, Kaiqi Huang, Zifeng Wu, and Tieniu Tan</i>	

Appearance Sharing for Collective Human Pose Estimation	138
<i>Marcin Eichner and Vittorio Ferrari</i>	
Max-Margin Regularization for Reducing Accidentalness in Chamfer Matching	152
<i>Angela Eigenstetter, Pradeep Krishna Yarlagadda, and Björn Ommer</i>	
Coupling-and-Decoupling: A Hierarchical Model for Occlusion-Free Car Detection	164
<i>Bo Li, Tianfu Wu, Wenze Hu, and Mingtao Pei</i>	
The Pooled NBN Kernel: Beyond Image-to-Class and Image-to-Image	176
<i>Konstantinos Rematas, Mario Fritz, and Tinne Tuytelaars</i>	
Local Hypersphere Coding Based on Edges between Visual Words	190
<i>Weiqlang Ren, Yongzhen Huang, Xin Zhao, Kaiqi Huang, and Tieniu Tan</i>	
Spatially Local Coding for Object Recognition	204
<i>Sancho McCann and David G. Lowe</i>	
Semantic Segmentation with Millions of Features: Integrating Multiple Cues in a Combined Random Forest Approach	218
<i>Björn Fröhlich, Erik Rodner, and Joachim Denzler</i>	
Semi-Supervised Learning on a Budget: Scaling Up to Large Datasets	232
<i>Sandra Ebert, Mario Fritz, and Bernt Schiele</i>	
One-Class Multiple Instance Learning via Robust PCA for Common Object Discovery	246
<i>Xinggong Wang, Zhengdong Zhang, Yi Ma, Xiang Bai, Wenyu Liu, and Zhuowen Tu</i>	
Online Semi-Supervised Discriminative Dictionary Learning for Sparse Representation	259
<i>Guangxiao Zhang, Zhuolin Jiang, and Larry S. Davis</i>	
Efficient Discriminative Learning of Class Hierarchy for Many Class Prediction	274
<i>Lin Chen, Lixin Duan, Ivor W. Tsang, and Dong Xu</i>	

Oral Session 2: Object Recognition I

Grouping Active Contour Fragments for Object Recognition	289
<i>Wei Zheng, Songlin Song, Hong Chang, and Xilin Chen</i>	

Detecting Partially Occluded Objects with an Implicit Shape Model Random Field	302
<i>Paul Wohlhart, Michael Donoser, Peter M. Roth, and Horst Bischof</i>	
Relative Forest for Attribute Prediction	316
<i>Shaoxin Li, Shiguang Shan, and Xilin Chen</i>	
Discriminative Dictionary Learning with Pairwise Constraints	328
<i>Huimin Guo, Zhuolin Jiang, and Larry S. Davis</i>	
Poster Session 2: Feature, Representation, and Recognition	
Adaptive Unsupervised Multi-view Feature Selection for Visual Concept Recognition	343
<i>Yinfu Feng, Jun Xiao, Yueting Zhuang, and Xiaoming Liu</i>	
Iris Recognition Using Consistent Corner Optical Flow	358
<i>Aditya Nigam and Phalguni Gupta</i>	
Face Recognition in Videos – A Graph Based Modified Kernel Discriminant Analysis	370
<i>Gayathri Mahalingam and Chandra Kambhamettu</i>	
Learning Hierarchical Bag of Words Using Naive Bayes Clustering	382
<i>Siddhartha Chandra, Shailesh Kumar, and C.V. Jawahar</i>	
Efficient Human Parsing Based on Sketch Representation	396
<i>Meng Wang, Zhaoxiang Zhang, and Yunhong Wang</i>	
Exclusive Visual Descriptor Quantization	408
<i>Yu Zhang, Jianxin Wu, and Weiyao Lin</i>	
Underwater Live Fish Recognition Using a Balance-Guaranteed Optimized Tree	422
<i>Phoenix X. Huang, Bastiaan J. Boom, and Robert B. Fisher</i>	
Local 3D Symmetry for Visual Saliency in 2.5D Point Clouds	434
<i>Ekaterina Potapova, Michael Zillich, and Markus Vincze</i>	
Exploiting Features – Locally Interleaved Sequential Alignment for Object Detection	446
<i>Karel Zimmermann, David Hurych, and Tomáš Svoboda</i>	
Efficient and Scalable 4th-Order Match Propagation	460
<i>David Ok, Renaud Marlet, and Jean-Yves Audibert</i>	
Hierarchical Object Representations for Visual Recognition via Weakly Supervised Learning	474
<i>Tianzhu Zhang, Rui Cai, Zhiwei Li, Lei Zhang, and Hanqing Lu</i>	

Invariant Surface-Based Shape Descriptor for Dynamic Surface Encoding	486
<i>Tony Tung and Takashi Matsuyama</i>	
Linear Discriminant Analysis with Maximum Correntropy Criterion	500
<i>Wei Zhou and Sei-ichiro Kamata</i>	
AfNet: The Affordance Network	512
<i>Karthik Mahesh Varadarajan and Markus Vincze</i>	
A Directed Graphical Model for Linear Barcode Scanning from Blurred Images	524
<i>Ling Chen</i>	
A Probabilistic 3D Model Retrieval System Using Sphere Image	536
<i>Ke Ding and Yunhui Liu</i>	
Model Based Training, Detection and Pose Estimation of Texture-Less 3D Objects in Heavily Cluttered Scenes	548
<i>Stefan Hinterstoisser, Vincent Lepetit, Slobodan Ilic, Stefan Holzer, Gary Bradski, Kurt Konolige, and Nassir Navab</i>	
Boosting with Side Information	563
<i>Jixu Chen, Xiaoming Liu, and Siwei Lyu</i>	
Generalized Mutual Subspace Based Methods for Image Set Classification	578
<i>Takumi Kobayashi</i>	
 Oral Session 3: Segmentation and Grouping	
Simultaneous Monocular 2D Segmentation, 3D Pose Recovery and 3D Reconstruction	593
<i>Victor Adrian Prisacariu, Aleksandr V. Segal, and Ian Reid</i>	
Joint Kernel Learning for Supervised Image Segmentation	607
<i>Jongmin Kim, Youngjoo Seo, Sanghyuk Park, Sungrack Yun, and Chang D. Yoo</i>	
Application of Heterogenous Motion Models towards Structure Recovery from Motion	622
<i>Rohith M.V. and Chandra Kambhamettu</i>	
 Poster Session 3: Segmentation, Grouping, and Classification	
Locality-Constrained Active Appearance Model	636
<i>Xiaowei Zhao, Shiguang Shan, Xiujuan Chai, and Xilin Chen</i>	

Modeling Hidden Topics with Dual Local Consistency for Image Analysis	648
<i>Peng Li, Jian Cheng, and Hanqing Lu</i>	
Design of Non-Linear Discriminative Dictionaries for Image Classification	660
<i>Ashish Shrivastava, Hien V. Nguyen, Vishal M. Patel, and Rama Chellappa</i>	
Efficient Background Subtraction under Abrupt Illumination Variations	675
<i>Junqiu Wang and Yasushi Yagi</i>	
Naive Bayes Image Classification: Beyond Nearest Neighbors	689
<i>Radu Timofte, Tinne Tuytelaars, and Luc Van Gool</i>	
Contextual Pooling in Image Classification	704
<i>Zifeng Wu, Yongzhen Huang, Liang Wang, and Tieniu Tan</i>	
Spatial Graph for Image Classification	716
<i>Zifeng Wu, Yongzhen Huang, Liang Wang, and Tieniu Tan</i>	
Knowledge Leverage from Contours to Bounding Boxes: A Concise Approach to Annotation	730
<i>Jie-Zhi Cheng, Feng-Ju Chang, Kuang-Jui Hsu, and Yen-Yu Lin</i>	
Efficient Pixel-Grouping Based on Dempster's Theory of Evidence for Image Segmentation	745
<i>Björn Scheuermann, Markus Schlosser, and Bodo Rosenhahn</i>	
Video Segmentation with Superpixels	760
<i>Fabio Galasso, Roberto Cipolla, and Bernt Schiele</i>	
A Noise Tolerant Watershed Transformation with Viscous Force for Seeded Image Segmentation	775
<i>Di Yang, Stephen Gould, and Marcus Hutter</i>	
Active Learning for Interactive Segmentation with Expected Confidence Change	790
<i>Dan Wang, Canxiang Yan, Shiguang Shan, and Xilin Chen</i>	
Cross Anisotropic Cost Volume Filtering for Segmentation	803
<i>Vladislav Kramarev, Oliver Demetz, Christopher Schroers, and Joachim Weickert</i>	
Author Index	815